MSBA Module 3 Feasibility Study

Preliminary Design Program

Submitted to the Massachusetts School Building Authority:
February 24, 2017

Lowell High School

City of Lowell, Massachusetts
Lowell Public Schools



Perkins Eastman | DPC

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3.1.1 Introduction

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3.1.1 Introduction

In April of 2014 the Lowell School District submitted a Statement of Interest (SOI) to the MSBA regarding the condition of the Lowell High School. Through the course of the eligibility phase, the District worked with the MSBA to define a range of configuration options that could be explored. In November of 2015 the MSBA invited the district to proceed with a Feasibility Study that would explore options for a High School of 3,520 students

Following the Eligibility period the District continued on Forming-the-Team and subsequently engaged Skanska USA Building consulting as the Owner's Project Manager and Perkins Eastman|DPC as the Architect.

The primary reason for the study as stated in the SOI is the age and condition of the existing school building(s), and the prevention of severe overcrowding expected to result from increased enrollments. In order to fully understand the existing building(s), site(s), current educational program, community concerns and overall project goals/objectives, the Feasibility Study process was outlined with several major tracks of study that occurred in an overlapping sequence, including;

1) Existing Conditions Study - the scope of the Feasibility Study included a full assessment of the Existing High School building's facilities.
    a. Architectural staff visited and cataloged the facility conditions of the Lowell High School.
    b. MEP/FP, Structural, Acoustical, Audio Visual, Code, Foodservice, Geo-environmental, and Security, consultants visited and toured the facilities.
    c. Civil Engineers and Landscape Architects visited the site(s) cataloged the conditions as well as observed the morning and evening activities.
    d. Geo-environmental and Hazardous Materials consultants performed both a phase 1 and a full survey of hazardous materials.
    e. Engineers completed a property survey at the downtown site which included all parcels except the Freshman Academy.
    f. Traffic consultants conducted a preliminary traffic study at the downtown, Wang and Cawley sites. A more detailed traffic analysis will be conducted when a final site is selected.
    g. Preliminary geo-technical exploration will be performed at the site finally selected.
    h. Historic Preservation consultants conducted a Preliminary Evaluation of the Lowell High School Existing Conditions and Historic Preservation Regulatory Review. The campus facilities include four buildings identified in the report as the 1922 Building (Kouloheras/Sullivan/Coburn Hall), Lord/Fieldhouse Buildings, Freshman Academy and the Steam Plant.

All buildings are located within either the Lowell National Historic Park and Preservation District, City Hall District or the Downtown Lowell Historic District. Work on these buildings will be subject to Massachusetts Historic Commission, the Lowell Historic Board and the National Park Service.

2) **Alternate Sites** - Different sites throughout the city were examined for a suitable alternate location for the high school. A large list of possible sites was developed which was quickly culled to six potential locations. The six sites were further analyzed in more detail resulting in further reducing the sites to three which were identified as the most suitable for a new high school. The three high school sites include; 1. Existing downtown High School location, 2. Wang Middle School / LeBlanc Park and 3. Cawley Stadium. Test fits were then studied at each site to determine the impact a school of this size would have on the site and the surrounding community.

3) **Educational Visioning** – During the months of October and November of 2016, the Lowell High School Educational Working Group (EWG), a group of approximately 50 Lowell Area Schools (LAS) administrative leaders, and Lowell High School (LHS) teachers, administrators, students, parents, and community partners, participated in three Educational Visioning Workshops run by New Vista Design and Perkins Eastman │DPC. Each workshop was a collaborative session designed to inform the LHS design process. Participants were led through a step – by - step process aimed at capturing their best thinking about LAS's/LHS's current and future educational goals and priorities, and connecting them to the best practices and possibilities in innovative school facility design.

   Educational Workshop 1 - October 14, 2016

   Agenda: Priority Goals, 21st Century Teaching and Learning Practices, Strengths, Challenges, Opportunities and Goals (SCOG Analysis), 21st Century Learning Goals.

   Educational Workshop 2 – November 1, 2016

   Agenda: 21st Century Design Patterns 1.0, Guiding Principles 1.0.

   Educational Workshop 3 – November 17, 2016

   Agenda: Blue Sky Ideas, Key Spaces and Adjacencies, Bubble and Adjacency Diagramming.

   See Appendix for presentation materials and meeting notes.

4) **Educational Programming** – based on the visioning process, public and committee input and ELT direction, the Educational Program was developed, vetted and approved via the School Committee. The space needs were developed in conjunction with the Educational Program and corroborated through the course of numerous ELT meetings and work sessions.

5) **Development of Options** – the development of alternatives began with a preliminary assessment of site options and test-fit studies at each location as mentioned above before extending into plan alternatives. New high school options were examined at the three alternate sites. One new school option was studied at the Wang and Cawley sites and two options were examined at the existing downtown site. In addition to the four new options, six various addition and renovation options were studied at the downtown site, totaling ten preliminary options studied. The ten options in addition to Base Repair were studied as follows:
    a. Base Repair (existing site)
    b. Full Renovation w/ Small Additions (existing site)
    c. Addition / Renovation Option 1A (existing site)
    d. Addition / Renovation Option 2 (existing site)
    e. Addition / Renovation Option 3 (expanded existing site)
    f. Addition / Renovation Option 4 (existing site)
    g. Addition / Renovation Option 5 (expanded existing site)
    h. New School (existing site)
    i. New School (expanded existing site)
    j. New School Wang
    k. New School Cawley

A. Summary of Deficiencies

Lowell High School (LHS) currently educates over 3,100 students in grades nine through twelve (9 – 12). The high school reflects the great diversity of the City of Lowell with students representing over 50 countries from all over the world. LHS provides a comprehensive high school offering of programs for all Lowell Public School students in grade 9 – 12, as well as ROTC, Culinary arts, and swimming. The facility also houses city-wide services programmed for the students including a community health center, bank, CCTV, DARE, UP and a thrift shop.

Lowell High School's facilities are of an age that the facilities can no longer keep pace with the instructional and program needs of the community. For any comprehensive high school, it is imperative that they maintain a current facility and curriculum. In particular, the science related program offerings are constrained due to outdated and inadequate education spaces within the buildings. Lowell High School facilities must be updated so as to support current needs and be flexible enough to meet future needs as well. The current conditions of the facilities are an obstruction to delivering a 21st Century education while improved facilities will create more opportunities for interdisciplinary teaching and will strengthen student achievement.

The facility's deficiencies are detailed in the Statement of Interest (SOI) included as the appendix , but can be briefly described as follows:

Lowell High School campus sits on four parcels on municipally owned land totaling approximately 6.6 acres. In addition to the 1922 (2.7 acres) and 1980 buildings (3.3 acres), a third building located across the street and not connected to the campus houses the Lowell High School Freshman Academy, as well as the Steam Plant which is adjacent to the Freshman Academy. The LHS Freshman Academy sits on an approximately .4 acre parcel per GIS. The site for the Steam Plant which provides heat to the school buildings is adjacent to the National Park Service Building and is approximately .2 acres. Zoning is Downtown Mixed Use District.

Generally the site is flat, fully developed and bordered either by city streets or adjacent properties. The High School occupies three separate distinct parcels that form the campus. The campus is divided by a canal, or in the case of the Freshman Academy, a city street. Students and staff are required to cross a city street or traverse the second story bridges to travel between buildings. All drop-off / pick-up take place on the adjacent city streets and sidewalks.

There is a city owned parking garage across Father Morissette Boulevard that serves both staff and students. Visitors to the school utilize on street metered parking. There are approximately 3 onsite parking spaces. There are a number of paved courtyards and walks adjacent to the main entrance and the cafeteria. The Merrimack canal runs between the 1922 building on the east side and the Lord Building and Field House on the west side of the canal. The space between is landscaped on each side and provides for a pleasant urban park-like atmosphere. Unfortunately, there is also a Trolley for tourist and visitors to the Lowell Historic Park that parallels the west side of the canal and further divides and separates the main campus. There are two connecting enclosed bridges at the second floor that span the trolley tracks and the canal to accommodate pedestrian traffic between the two buildings. The constrained site does not provide for any outside athletic or physical education opportunities, with the exception of a small irregular shaped green space adjacent to the city parking garage which is used for outside physical education classes.

Lowell High School Buildings Located in the City of Lowell Massachusetts - TOTAL: +/- 626,188 GSF
Freshman Academy- +/- 90,236 SF (1900 & 1939 portions) located at 40 Paige Street
Steam Plant – +/-3,328 SF, no additions located at Paige Street
High School - 1922 Building (Coburn/Kouloheras/Sullivan) – +/-312,052 SF (whole facility) 50 Father Morissette Blvd
High School - 1980 Buildings (Lord & Fieldhouse) –+/- 216,172 SF, no additions 50 Father Morissette Blvd
Connecting Bridges – 1980 and 1997 – 4,400 SF.

National and State Registers of Historic Places

Lowell High School is listed on the National and State Registers of Historic Places through its inclusion within both the Lowell National Historical Park & Preservation District, the City Hall Historic District and the downtown Lowell Historic District. This applies to the buildings on Kirk Street including Colburn Hall (1892), the Sullivan addition built circa 1922 and the 1997 Kouloheras addition. The 1980 sections (Lord and Fieldhouse) are within the preservation district and within the Lowell Downtown Historic District. All work on these buildings will require Lowell Historic Board and likely MHC review. Three nearby buildings also associated with the high school, the former Lowell Trade School (1901) at 68 John Street, the Lowell High School Annex (1939) at 55 French Street as well as the Steam Plant and associated smokestack on French Street are also listed on the National and State Registers of Historic Places through their inclusion within both the Lowell National Historical Park & Preservation District and the City Hall Historic District.

This report is organized in accordance with MSBA Module 3 – Feasibility Study Guidelines (updated January 2015). The Preliminary design program process took a course that, in general, included determination of the Owner's needs, assessment of existing conditions, analysis/evaluation of alternatives, and recommendation of at least three (3) distinct alternatives for further study. As part of the Feasibility Study scope of work, the Owner also requested that Perkins Eastman|DCP study and evaluate, in addition to the existing facility to review potential New Construction options for the 3,520 student enrollments; this work is presented in 3.1.6 Preliminary Evaluation of Alternatives.

In addition to the problems posed by the physical condition of the buildings, other reviews identified significant programmatic deficiencies. Some of the physical plant issues affecting the educational program are inadequate lighting, poor ventilation and cooling, and some acoustic issues. Others are the size and arrangement of certain spaces, or are simply a lack of the correct type of space. Current classroom sizes are not in compliance with MSBA standards for new construction. In addition, the current high school is not in compliance with sprinkler, seismic, energy, and ADA codes/requirements.

The feasibility study provides an analysis of the Base Repair option for the High School, addressing deficiencies as previously identified in various accreditation reports and review the problems identified in the Statement of Interest.

B. Date of Invitation to Feasibility

On April 10, 2014, the Owner submitted a Statement of Interest to the MSBA for the Lowell High School. The MSBA Board of Directors invited the Lowell School District to conduct a Feasibility Study to explore a broader range of options that included; renovations, renovation /addition and or new construction option to address the facility's deficiencies. A copy of the MSBA's Board Action Letter dated November 18, 2015 is attached in the appendix section.

C. Design Enrollment

The agreed-upon Design Enrollment Certification dated October 9, 2015 (MSBA Executed Design Enrollment Certification) calls for the Feasibility Study to consider design alternatives for a Grade 9-12 enrollment of 3,520 students from the districts. A copy of the MSBA's Design Enrollment Certification Letter is attached under the appendix section.

D. Capital Budget Statement Narrative

The Lowell School district has initiated planning to address deficiencies and issues as identified in the Statement of Interest for the Lowell High School buildings. The aim of the project is to provide adequate, safe and economical facilities that meet the MSBA's Education Program Space Standards and Guidelines for high school building. At the February 7, 2016 School Building Committee meeting the SBC recommended to the City Council to submit the PDP to MSBA and study further four options in more detail; Full Renovation w/ Small Additions, Add/Reno Option 2, Add/Reno Option 3 (with expanded site) and a New School at the Cawley Site.

It is anticipated the gross project cost of the construction range

Base Repair to be approximately $270,770,322

Full Renovation w/ Small Additions to be approximately $331,360,298

Add/Reno Option 2 to be approximately $344,087,262

Add/Reno Option 3 (Expanded Existing Site) to be approximately $334,335,971

New Bldg. at the Cawley Site to be approximately $332,458,871

The School Committee and School Building Committee have carefully reviewed and analyzed the affordability of the project. The funding source for this project would be through bonds paid through debt exclusions supported by the tax levy of the City.

The Capitol Budget Report is included in the appendix.

E. Project Directory

The project directory is included in the appendix.

F. Project Schedule

The project schedule is included in the appendix.

3.1.2 Educational Program

A. Grade and School Configuration
B. Class Size Policies
C. School Scheduling Method
D. Teaching Methodology and Structure
E. Teacher Planning and Room Assignment
F. Classroom Instruction (9-12)
G. Food Service Programs
H. Technology Policies/Program Requirements
I. Art Programs
J. Music and Performing Arts Programs
K. Physical Education Programs
L. Special Education Programs
M. Vocational Education Programs (Pathways)
N. Transportation Policies
O. Functional and Spatial Relationships
P. Key Programmatic Adjacencies
Q. Security and Visual Access Requirements
R. Other Programs

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3.1.2 Educational Program

Lowell High School, established in 1831 with a principal and 47 students, was the first public co-educational high school in the United States and one of the first integrated high schools in the nation. In 1896 Coburn Hall was erected and an adjacent building was added in 1922. The school was expanded across the canal in 1980 with the construction of a new building and field house. Expansion and renovation of both buildings occurred in 1997. In 2005, the district repurposed a nearby middle school to serve as additional space for the Lowell High School Freshman Academy.

Throughout its long life, the high school buildings have been repurposed to the extent possible to meet educational needs, but the structure only allows for minimum flexibility and usage. As the school expands in numbers and evolves into a modern educational approach, a new facility is needed to implement technology seamlessly across the building and to offer flexible spaces that support collaboration and 21st century teaching and learning.

LHS successfully completed the Fall 2015 NEASC Accreditation process and received full reaccreditation. However, the school was placed on warning for standard 7: Community Resources for Learning, which deals with budget, facilities, and the physical plant. The accreditation committee listed the following concerns (noted in the 4/22/16 Accreditation letter):

The school site and plant do not minimally support the delivery of high quality school programs and services, including but not limited to the following:

- *Leaks in the roof, the tunnel, and from sinks*
- *Temperature fluctuations where one room is considerably warm while another is considerably colder*
- *The presence of pests in the building*
- *Windows in need of repair*
- *The nurse's office which is small and not easily navigated by wheelchair-bound students*
- *The lack of full accessibility to individuals with physical handicaps*
- *The main cafeteria that is at or near capacity*
- *The lack of capacity of the electrical system resulting in the inability to support upgrades in technology*
- *The lack of natural light or adequate ventilation in art rooms*
- *The inability of the science labs in both the 1922 and the 1980 buildings to support modern science curriculum and pedagogy*
- *The lack of equitable facilities to support students in life skills programs*
- *The lack of equitable access to up-to-date technology for all students*

According to the Fall 2015 NEASC Accreditation report,

> *In the 2013-2014 school year, a comprehensive facilities assessment by OMR Architects determined that the building's needs, based on enrollment trends for the next ten years and the fluctuations in enrollment, provide justification for a renovation or for the construction of a new high school. A request has been submitted to the Massachusetts School Building Authority (MSBA) and has been accepted and is being looked upon favorably. The city of Lowell and the Lowell School Department are unified in their support for this petition to the MSBA. The adoption and funding of a comprehensive, long-range plan for programs and services, facility needs, technology, and capital improvement will ensure the ability of Lowell High School students to achieve the school's expectations for learning.*

The Lowell Public Schools are incredibly diverse. The ethnic/racial/cultural composition of the student body in the schools makes it one of the most diverse districts in the Commonwealth: African American students 7.1%, Asian students 29.4%, Hispanic students 30.1%, White students 30.1%, and all other students 3.2%. In the district, 75.1% of the student body qualifies as low-income, 15.1% are classified as Special Education, and the English Language Learner population is 26.6%. The high school reflects the great diversity of the City of Lowell with students representing over 50 countries from all over the world and speaking almost 60 different languages. Given this cultural, racial and socioeconomic diversity, Lowell High School has been successful at consistently maintaining a high graduation rate for an urban district (over 80%) and a high college attendance rate (over 85% of students seek post-secondary education at four-year and 2-year colleges and universities).

The proposed planning concepts, whether renovation or new construction, will include the scope/costs of creating a weather-tight, code compliant facility (including full accessibility) along with new mechanical (indoor air quality, heating and cooling), electrical, plumbing, fire protection, technology, communications and safety/security systems. All options have been planned to address program deficiencies, including sub-standard Nurse's Office, Cafeteria, Science Labs, Special Education (including Life Skills) and numerous other program deficiencies that do not meet MSBA guidelines or capacity needs.

The great diversity represented by the student body is expected to be celebrated in new and different ways, possibly through new means of display and broadcasting within the school, but also by having Special Education and English Language Learner (ELL) to be integrated as 2-room clusters, adjacent to regular academic classrooms (as opposed to a separate zone within the school).

A. GRADE AND SCHOOL CONFIGURATION POLICIES

Lowell High School currently educates over 3,125 students in grades 9-12. The school has twelve academic departments each led by an Academic Department Chair, nine Pathway Programs (eight currently and one in development), an academically-accelerated Latin Lyceum program, and four administrative houses that consist of a House Dean, two Guidance Counselors, a Social Worker, and two clerks. The houses in the main building are located in four different areas of the building, two in the 1980s building and two in the 1922 building. Classes are randomly scattered within the buildings, a product of repurposing space as needed, and teachers are assigned to houses based on proximity to the house office for organizational purposes only. Courses and teachers are not scheduled in a single house but rather across the building. There is a Freshman Academy program housed in a building separated from the rest of the high school by a public roadway. The Freshman Academy is its own separate house, with its own two clerks, three Guidance Counselors, and a Social Worker. Students are placed into one of three clusters in the Freshman Academy; two clusters contains two English, History, Math and Science teachers and a third super-cluster contains three English, History, Math, and Science teachers. Ninth grade students need to travel to the main buildings for physical education and other elective courses.

Proposed Change: We would like to keep our current grade and school configuration in regards to departments, pathways and administrative houses. We would like to incorporate the Freshman Academy within the new/renovated high school in its own wing, which would allow the Freshman Academy to keep its distinct program identity but make it more connected to the rest of the school and safer for students who would no longer have to cross a street to get to classes during the school day. In order to make it easier for parents to access house offices and to strengthen collaboration between house teams, one option would be to locate the house offices near the main entrance(s) and in proximity to each other. This also supports the safety and security of the building, eliminating traffic streaming in through open doors and the need to share security officers in multiple buildings. One physical plant would ensure that there is a more cooperative effort to support safety and security throughout the building.

The proposed planning concepts intend to create a distinct Freshman Academy as a small learning community within the school, but not completely isolated, as students will utilize shared programs, such as World Language Classrooms, Library/Media Center, Gymnasium and Arts/Tech programs. Class scheduling may be used to keep shared programs distinctly separate, but also intentionally mixed to expose new students to the larger high school community in a deliberate manner. The Freshman Academy will be arranged in teams of 4 classrooms (English/social studies/math and science). Freshmen currently utilize 2 teams of 8 classrooms +1 team of 12 for

3100 students. The proposed enrollment increase of 13% suggests approximately 4 teams of 8 will be needed for an enrollment of 3,520 students.

The proposed administrative program includes space for main administration, main student support as well as the suites for freshman and 4 houses (7 administration suites total). Additional space is earmarked for archived records, teacher workrooms and the career center

B. CLASS SIZE POLICIES

Lowell High School takes pride in its extensive course offerings, offering more variety than most public high schools in Massachusetts. This offers students the opportunity to not only meet core graduation requirements, but also explore their interests in a variety of areas including Business/Marketing, Culinary, Engineering, the Fine and Performing Arts, and ROTC, just to name a few. This variety does have an impact on the schedule and class sizes. There is no official class size policy in the district, though we do try to keep our college level courses below 28 at the high school. The average class size in the core academic areas of English, mathematics, science, and social studies is 24. ELL courses average 22 and Foreign Language courses average 22. Physical education average 33 and our special education courses average 7. In the elective area of art, business, culinary, and ROTC, average class sizes range from 2 to 22 with outliers ranging due to unique needs of certain programs, from 2 in the bank program, 10 in the Retail Marketing (School Store) to 60 in the band and chorus classes.

Proposed Change: There is a need for flexible classroom space for a variety of reasons to include the ability to appropriately schedule classes that are not within the average class size.

Future space needs are calculated based on the current Master Schedule, prorated for the new student enrollment (3,520 students) and an average class size of 24 students/room (same average as exists now, which results in a range between 20 and 28, sometimes a few more). Given the existing range, rooms are planned larger (at 900sf vs existing 825-850 sf average) and will include furniture layouts for 28. Some classes are deliberately smaller at 8-16 students and were tracked and calculated separately to ensure courses were not averaged-up and course offerings were not eliminated.

Note:
Planning for the future, ELL classes were calculated for a 20 student average and specialty programs, including SPED, Fine Arts, Business and Technology were based on existing sizes. Physical Education needs are based on 26 student class average.

C. SCHOOL SCHEDULING METHOD

Lowell High School is on a seven period day. The school day begins at 7:55 am and ends at 2:30 pm. There are four 25 minute lunch periods per day between two cafeteria locations, one in the main campus and one at the Freshman Academy.

Warning Bell	7:50		
Period 1	7:55	- 8:45	(50)
Period 2	8:45	- 9:35	(50)
Advisory	9:35	- 9:55	(20)
Period 3	9:55	- 10:45	(50)
Lunch 1	10:45	- 11:10	(25)
Period 4A	10:45	- 11:35	(50)
Period 4B	11:10	- 12:00	(50)
Lunch 2	11:35	- 12:00	(25)
Period 5A	11:35	- 12:25	(50)
Period 5B	12:00	- 12:50	(50)
Lunch 3	12:25	- 12:50	(25)
Period 6A	12:25	- 1:15	(50)
Period 6B	12:50	- 1:40	(50)
Lunch 4	1:15	- 1:40	(25)
Period 7	1:40	- 2:30	(50)
Dismissal	2:30		

The academic year is divided into two semesters with half year courses worth 2.5 credits, but most core courses run for a full year (with consecutive A/B semester sequencing). The master schedule is completed by the school's scheduler with input from the department chairs.

Graduation Requirements:
Students must earn a total of 90 credits, including the following minimum course requirements:

- Ten (10) credits in U.S. History and Government.
- Twenty (20) credits in English.
- Ten (10) credits in Mathematics. Students must pass Algebra IA, Algebra IB, Geometry A, and Geometry B.
- Ten (10) credits in Science.
- Ten (10) credits of Physical Education
- Five (5) credits of Health

Courses are offered in four levels: College, Honors, High Honors, Advanced Placement/Dual Enrollment.

Proposed Changes: The high school is planning to create an exploratory committee to look at schedules to see if there would be a schedule for the high school that would meet the goals of retaining a robust selection of course offerings (7 courses per semester) but with longer blocked class periods. This would not have a significant impact on room usage, but would allow for sustained blocks of teaching time.

Programming calculations are also tied to the available periods per cycle each room can be used. No immediate change to the school schedule is anticipated, but a hypothetical model was discussed that might allow longer blocks that also maintains a 35-period cycle. As such, space needs were based on a 35-period cycle.

D. TEACHING METHODOLOGY AND STRUCTURE

Lowell High School is a community of educators whose core commitment is to provide students with exceptional instruction. Teachers and administrators regularly review and refine instructional practices through scheduled sessions within academic disciplines, formal and informal observations, a new and comprehensive teacher evaluation process, and a building-based support team that serves to ensure that at-risk students are supported in ways that allow them to access the curriculum. Teachers at Lowell High School utilize instructional strategies that are consistent with the school's core values, beliefs, and learning expectations. Strategies that are implemented personalize instruction, engage students in cross-disciplinary learning, engage students to be active learners and emphasize inquiry and problem-solving skills. Opportunities exist to allow students to engage in authentic application of knowledge and skills and to self-assess their performance in those tasks. Technology is utilized in a variety of ways to assist and further the educational process. Teachers maintain expertise in their respective content areas and utilize effective content-specific practices such as formative assessments, strategic differentiation, group activities, and specific support strategies which aid struggling students. Teachers believe it is essential to have more time to collaborate and plan to share and implement additional instructional strategies that will strengthen student achievement and learning and encourage more student-centered classrooms.

Proposed Change: An area of need for the high school, as identified by the most recent NEASC Accreditation process, is to create more opportunities for collaborative planning opportunities and interdisciplinary connections. While the current facility groups together teachers in a variety of ways - some by departments (Fine & Performing Arts on one floor) and some by grade level or program needs - the administration is interested in looking at different organizational structures that would more fully support the concept of expanding areas organized for STEM classrooms, Humanities classrooms, and CVTE classrooms. Also a focus on more interdisciplinary teaching and learning would require some larger, flexible spaces where departments can bring classes together for interdisciplinary work such as

guest speakers, teach-out opportunities, learning demonstrations, and other types of interactive group learning.

- Administrative and Academic Organization/Structure:
  Currently the administrative and clerical staff are located throughout the buildings, organized into house offices consisting of house deans, guidance counselors, social workers and clerks; office space for the majority department chairs and the director of curriculum, instruction and assessment in the teachers center, student support services includes the coordinator of student support, discipline & operations specialist, parent liaisons, enrollment and student support services clerks, the main office consisting of the head of school and three clerks. The special education suite includes the department chair for special education, clerk, and educational team chairs. The athletic office has the athletic director, clerk and school bursar. Data processing office includes a scheduler, clerk and instructional specialist overseeing testing.

  The high school has 12 academic departments and nine Pathway Programs (eight currently and one in development for next year) that fall within departments. Each department requires flexible learning spaces for students and teachers to engage in both teacher-directed and student-directed learning.

  Proposed change: LHS Administration is considering clustering academic Department Head offices together by subject matter connections (Humanities, STEM, CVT) and integrating the houses into this configuration. One way to do this would be to place two house offices in a combined house and guidance suite in proximity to a department center. This would allow for administrative presence in multiple areas of a large building. Another option would be to place all the house offices into one central space near the main office, such as a house and guidance suite. The Freshman Academy, while housed within the same large building, would have a separate office suite for the Director of the Freshman Academy, Student Support Specialist, clerks, guidance counselors and the FA social worker. The Head of School, the Director of Curriculum, Instruction, and Assessment, and the Discipline and Operations Specialist would all have offices clustered near the main office. It is crucial to have adequate conference room space available for all offices.

  The proposed program/plans anticipate the equivalent of 5 House Offices Suites (including Freshman Academy), each with (2) Clerks/Waiting, the House Dean, (1) Social Worker (2) Guidance Counselors and a small Conference area. The Freshman Academy will need space for (1) Student Support Specialist and an additional Guidance Counselor (a total of 3).

A separate Main Office with Secretary/Waiting, Head of School, Bursar, Director of Curriculum/Instruction, Discipline/Operations, large Conference & kitchenette is planned along with a Main Student Support Center including Student Support Coordinator, Conference, (1) Clerk, (1) Registrar/Clerk, Waiting for 10-12, (3) Testing and (4) Parent Liaison stations/desks. A separate College/Career Center with (3) Guidance Counselors, Conference and main room with 24 computers and soft seating area.

- Curriculum Delivery Methods and Practices:
  Lowell High School's course offerings are more comprehensive in range and scope than most public high schools in Massachusetts. As such, curriculum at LHS is comprehensive in design and aims to challenge students at all academic levels. Curriculum maps are currently being revisited to have parallel structure across all departments and to use *Understanding by Design* as the philosophy behind the curriculum and instructional mapping. In terms of instruction, teachers are encouraged and guided to use a wide variety of instructional techniques, keeping student engagement and active participation at the forefront of the work. In the past few years, a major focus area has been integrating technology into instruction across all content areas. We have also developed the idea of formative and summative assessments being varied, meaningful, and authentic as we move away from using only traditional assessments and integrate more projects, presentations, demonstrations, and other non-traditional assessments across departments.

  The one area that has been identified as an important need (as indicated by the faculty in our last NEASC process) is more time for teacher collaboration, especially around sharing instructional practices and tools that will grow student learning across all levels and encourage more student-centered classroom practices.

  Priority 21st - Century Learning Goals for LHS
  (created in Fall 2016 Building Visioning Workshops):

  Empathy, Global Perspective, and Civic Engagement
  - Cultural Awareness
  - Personal, Social, and Civic Responsibility
  - Awareness of Community and Global Society
  - Multicultural Literacy

  Critical and Inventive Thinking
  - Critical Reasoning and Problem Solving
  - Agility, Adaptability, and Risk-Taking
  - Joy, Curiosity, and Imagination
  - Motivation and Creativity

  Communication and Collaboration

- Oral and Written Communication
- Teamwork and Interpersonal Skills
- Media Literacy and Digital Competence
- Accuracy of Information

Real World Interconnectivity

- Executive and Organizational Skills
- Competency in Core Skills and Content
- Career Preparation and Life Skills
- Vocational Opportunities and Certifications

Holistic Awareness

- Self-advocacy
- Wellness
- The Natural World

These 21st-century learning goals expand our existing mission statement and goals for student learning, which we are in the process of revising:

Lowell High School Mission Statement

Commitment to excellence in <u>everything</u> we do: academics, activities and citizenship.

Lowell High School provides a secure and cooperative environment where the emphasis is on mutual respect, curiosity, the free exchange of ideas, and the appreciation of education both as a process and a means to betterment.

We are a community…

- That values a curriculum incorporating the best practices of both traditional and contemporary instruction.
- That creates and supports an atmosphere promoting high expectations for student achievement.
- That strives to meet the needs of a variety of ethnic and language backgrounds, career interests, and learning capabilities and styles by providing a broad range of programmatic offerings.
- That believes student accomplishment is a shared responsibility of students, parents, staff, administration, school committee, and community.
- That provides all students the curriculum to meet school and state graduation requirements, and assesses learning continuously in a variety of ways including mandatory state testing.

Expectations for Student Learning

Lowell High School expects all students:

- To attain an understanding of the educational standards, core knowledge, skills, and concepts defined by the Massachusetts Curriculum Frameworks.
- To take increasing responsibility for educational decisions on a daily and long-term basis.
- To complete academic work both independently and cooperatively in a productive manner.
- To think critically and solve problems using inductive and deductive reasoning.
- To read effectively and communicate ideas and information using a variety of formats.
- To develop an ability to use a variety of mediums—including the creative and the technological—in the process of learning, and demonstrate their acquired learning through use of those mediums.
- To demonstrate respect for individual differences and appreciation for the diversity of a multicultural world.
- To understand and demonstrate a sense of community.

Core Values

- Responsibility
- Integrity
- Determination
- Engagement
- Respect

○ English Language Arts/Literacy:

The Lowell High School English Department is committed to supporting and encouraging students to become independent, life-long learners. All English courses are designed to build skills in effective reading, writing, speaking and listening. Through a sequential program of core courses, students are supported to read critically from a wide range of literary and informational texts, write effectively for a variety of audiences and purposes, and speak effectively in informal and formal situations. We recognize that mastering these complex communication skills is essential for successfully meeting the challenges of the 21st Century.

The English Language Arts curriculum is comprehensive in design and aims to challenge students at all academic levels. Curriculum maps have been redesigned to parallel structure in other departments and to use Understanding by Design as the philosophy behind the curriculum and instructional mapping. In terms of instruction, teachers are encouraged and guided to use a wide variety of instructional techniques, keeping student engagement and active participation at the forefront of the work. In the past few years, a big focus area has also been on

integrating technology into instruction as a core part of classrooms. We have also developed the idea of formative and summative assessment being varied, meaningful, and authentic as we move away from using only traditional assessments and integrate more projects, presentations, demonstrations, and other non-traditional assessments across departments.

- Mathematics:
  A primary goal of the Mathematics Department is for all students to achieve mathematical literacy. However, mathematical literacy includes more than students being able to do arithmetic and to solve routine mathematical problems. Mathematical literacy requires students to reason and prove, to solve real mathematical problems, to make connections, to use multiple representations of numerical information, and to communicate mathematical information to other people. All of the courses in the Mathematics Department operate with these learning goals in mind. The mathematics curriculum is comprehensive in design and aims to challenge students at all academic levels. Curriculum maps have been redesigned to parallel structure in other departments and to use Understanding by Design as the philosophy behind the curriculum and instructional mapping. In terms of instruction, teachers are encouraged and guided to use a wide variety of instructional techniques, keeping student engagement and active participation at the forefront of the work. Math teachers use various methodologies to differentiate the instruction for all learners including direct instruction, discussion, problem solving, simulation, inquiry-based investigations, and collaborative groupings. In the past few years, a big focus area has also been on integrating technology into instruction as a core part of classrooms. We have also developed the idea of formative and summative assessment being varied, meaningful, and authentic as we move away from using only traditional assessments and integrate more projects, presentations, demonstrations, and other non-traditional assessments across departments.

- Science:
  Science educators use various methodologies to differentiate the instruction for all learners including direct instruction, discussion, problem solving, simulation, inquiry-based investigations, and collaborative groupings. Science labs currently include traditional fixed benches that take up much of the room. This lack of flexibility and fixed furnishings, such as laboratory tables, limit group sizes because of safety concerns. The limited flexibility of our small, outdated science labs also includes limited storage areas. We would like to have laboratory science rooms that meet today's lab safety standards and allow us to deliver a high quality, hands-on, inquiry-based science curriculum. We envision providing appropriate opportunities for the authentic application of knowledge and skills in our science curriculum. It is essential to have the space, flexibility and equipment to provide opportunities for students to gather quality data for these authentic

experiments. Additionally, in collaboration with Middlesex Community College and U-Mass Lowell, we intend to continue to offer Dual Enrollment courses with a focus on biotechnology and medicine, chemistry, computer science, engineering, robotics, and green and renewable energy. It is essential to support interdisciplinary collaboration between science, math and engineering in order to ensure the success of these programs and the practical application of student knowledge. We must offer these opportunities to Lowell High School students as these are STEM-related fields with enormous potential for college and career opportunities

The program/plans provide large/flexible science labs in accordance with State standards. A total of 28 labs, 20 being full-sized 1,440 sf and 8 being Integrated Science classrooms at 1,000sf are proposed. 2 of the 20 are for Health and Bioscience as previously noted. All 20 large labs will have 200sf of Prep/Storage space, typically grouped in two's as 400sf, and (2) additional Prep/Storage rooms are provided for the Freshman/Maker Space. (1) Chemical Storage and a Growing Room are also provided.

- Social Studies:
  The Social Studies Department offers a four-year course of study in history and the social sciences. The content, reading materials, instructional activities, and assessments are designed to promote higher-level thinking and communication skills. All of the history and social science courses at Lowell High School adhere to the Massachusetts Social Studies Curriculum Frameworks and the Common Core State Standards. Social Studies at LHS promotes a College, Career, and Citizenship (C3) approach to student learning and engagement in social studies. The Social Studies curriculum is comprehensive in design and aims to challenge students at all academic levels. Curriculum maps are being designed to parallel structure in other departments and to use Understanding by Design as the philosophy behind the curriculum and instructional mapping. In terms of instruction, teachers are encouraged and guided to use a wide variety of instructional techniques, keeping student engagement and active participation at the forefront of the work. In the past few years, a big focus area has also been on integrating technology into instruction as a core part of classrooms. We have also developed the idea of formative and summative assessment being varied, meaningful, and authentic as we move away from using only traditional assessments and integrate more projects, presentations, demonstrations, and other non-traditional assessments across departments.

- World Languages/English Language Learners:
  It is the goal of the Foreign Language Department that every student achieves an ability to understand, speak, read and write in the target language, while at the same time developing global awareness and knowledge of different cultures.

Lowell High School offers English Language Learners (ELLs) in grades nine through twelve a comprehensive academic program to build English language proficiency and academic content knowledge. English Language Learners develop English proficiency while learning the general curriculum. Instruction also recognizes that language modalities (speaking, listening, reading, and writing) develop interdependently and, therefore, should be integrated to promote skill development. English Language Learners at Lowell High School participate in one or more program models that support English language and content knowledge development. Students' English language proficiency is assessed and academic background reviewed in order to recommend an appropriate program placement in English Language Development (ELD) classes, Sheltered English Instruction (SEI) content classes, and/or English Language Development support classes.

Both of these departments need classrooms that can serve as flexible language "lab" classrooms, with technology of our current language lab and areas of the classroom that can be used for individual listening/speaking practice as well as collaborative spaces for using the lab technology in small groups, working with direct teacher instruction, or other areas of a language classroom that would allow students to engage in discourse for language practice.

Proposed Change: To help ensure the best learning opportunities for students, all academic department teaching spaces must include:

- Modern classrooms with interactive LCD projectors, adequate whiteboard space, adequate storage, maximum natural lighting with windows that open, ample outlets for device charging, and a streamlined, moveable teacher desk and podium.
- Classrooms that are clustered into inter-disciplinary configurations to promote cross planning and discourse between academic departments.
- Multiple large, flexible group instruction spaces that can be used for combined classes, presentations, lectures, seminar, faculty meetings, and parent meetings. These could be various-sized spaces that can be split up or combined (with movable walls) to better suit the needs of the various users.
- Adequate book storage for all departments, but especially for the core departments (English, Foreign Language, History, Math and Science) where textbooks and trade books are used extensively in all classes. We would prefer to have a central storage location for many of the books but with smaller distributed book and supply storage for specific departments.

The program/plans provide large, flexible and fully integrated technology for all classroom spaces, including World Language and ELL programs. ELL rooms are

intended to be dispersed with general classrooms, but clustered or paired for inter and intra collaborative opportunities. World Language rooms are to be grouped as a department or potentially semi-dispersed by language for the same collaborative opportunities. The Freshman Academy, as a separate zone within the overall school, should have easy access to all language classrooms and will have one ELL team included within (ELL language, social studies, math and science).

Operable walls can be used between select sets of classrooms (1 per cluster) to allow large group gatherings. Likewise, select single classrooms can have sub dividable partitions to allow small group flexibility.

- Academic Support Programming Spaces:
  Lowell High School has 3 Instructional Specialists: 1 is focused on Instructional Technology Support, one is focused on classroom/instructional support, and the third is focused on academic testing support (MCAS, ACCESS, etc.). We also have number of academic tutors (part-time) who work in classrooms to support student learning; these are specifically language tutors in the Newcomers classroom and a "Read 180" tutor for additional literacy support with grade 9 students.

  (1) Office for the academic Instructional Specialist is provided with other Dept Offices, a second will use space within the Tech Center and third will use space within the MCAS room.

- Student Guidance and Support Services:
  School guidance counselors are located in house offices. A social worker is assigned to each house office and the Freshman Academy but not every social worker is physically located in the house due to space constraints.

  Proposed change: Ensure that there is space in each house office to accommodate the assigned social worker for more effective case management.

  Student Support Services suite provides for enrollment, working papers, parent liaison, and support for critical student issues including homelessness. There is a separate college and career center staffed by three guidance counselors with an attached computer lab for use of Naviance and other college/career research activities.

  As noted under Administrative and Academic Organization/Structure, the House Administration areas include (2) Guidance Counselors and (1) Social Worker. Freshman House will include a third Guidance Counselor and (1) Student Support Specialists. A separate Student Support Services Center is provided for the full school.

E. TEACHER PLANNING AND ROOM ASSIGNMENT POLICIES

Lowell High School teachers are assigned to one of 12 departments and for administrative purposes to one of four house offices or the Freshman Academy. There is one Teachers' Center which also houses the majority of the department chairs but no department centers which has hindered collaboration between teachers.

Proposed change: Moving forward the school would benefit from combined academic wings (humanities, STEM, CVT) with teacher workrooms (located near classroom clusters) and multi-media rooms that help to foster cross-curriculum collaboration and support. Teacher workroom space that is designed for both inter and intra departmental collaborative work as well as professional development would greatly enhance the ability of teachers to plan and support robust curriculum. The majority of teachers currently have their own classrooms, teaching 5 periods of a 7 period day with one 50 minute period of prep time, one 50 minute period of duty or collaborative time and a 25 minute lunch period.

Classrooms are planned at approximately 85% utilization per state requirements vs 71% per current practices. This effectively means non-ownership of classrooms; most teachers would have primary ownership, but would need to share if one period a day or, conversely, all academic teachers might share two rooms (one for 3 periods, another for 2 periods per day). In either case a dedicated work space for each teacher is required and would be provided via planning rooms dispersed throughout the school and located convenient to each teacher's classroom(s).

The new plans anticipate having (4) freshman planning rooms; (1) for each team and sized for 10+ staff, anticipating SPED & ELL specialists. (13) Additional planning rooms are to be dispersed with grade 10-12 academic classrooms/labs, including (1) with World Language. The program also provides a large seminar room (little theater) to be used for teacher seminars, professional development and other multi-purpose activities as currently occurs.

Note: the proposed number of classrooms/sci-labs are projected at fewer than exist despite a 12.5% planned enrollment increase. This is primarily due to the difference in utilization. For example; 148 core academic classrooms/sci-labs exist for approximately 3,125 students. If enrollment increases 12.5% (to 3,520), you would expect classrooms/labs to increase to approx.166, but if the utilization of those rooms increased 14%, then 166 would become 143 rooms. The program calculates 146 classrooms/sci-labs are required (including 6 scheduled small group classrooms).

F. CLASSROOM INSTRUCTION (9-12)

As described in sub-section D and broken down into each academic subject

G. FOOD SERVICE PROGRAMS

Aramark provides food service for Lowell High School. All lunches are made at the high school. The school has a full service kitchen for grades 10-12 and a warming kitchen at the Freshman Academy. Breakfast is available to all students from 7:00 am to 7:55 am. There are two breakfast carts along with the service in the cafeteria. Lunch is served daily in four 25 minute seatings between 10:45 am and 1:40 pm. in two separate cafeterias (main school and Freshman Academy). All breakfasts and lunches for students are free of charge.

The current space does not adequately accommodate all the students scheduled for lunch in the main school so many students eat in the lobby in front of Student Support Services and in the hallways outside the cafeteria.

Proposed Changes: Ensuring that the designated cafeteria space can accommodate enough students to allow for three lunch periods instead of four will have a positive impact on the scheduling process. It is also important to have a small satellite space off the main cafeteria for students who cannot function in a large space or large groups.

Kitchen and Cafeteria areas are undersized now. The design/program meets the MSBA guidelines for 3 seatings (1/3 of the student population) and is anticipated to be developed as space that has a variety of zones within to accommodate different predilections and to be more flexible for alternative and multi-purpose uses. The potential of separating the freshmen portion of cafeteria, along with a satellite server will be explored during design.

The Cafeteria is to be located for easy and flexible access of students for early and extended hours, as well as for community use. The school would like to include easy and increased access to the breakfast service.

H. TECHNOLOGY POLICIES/PROGRAM REQUIREMENTS

Technology at Lowell High School is not equitable and needs significant upgrading within classrooms and throughout the building. There is a need for reliable technology that assists in the deliver 21st century curriculum along with a robust, high-speed wireless network with enough bandwidth to support a digital learning environment.

All teachers and administrators were recently issued MacBook Air computers. The school has invested in LCD projectors and document cameras over recent years to assist in presenting material in a effective manner to students and this is a basic tool that we are striving to ensure is in every classroom.

The district has computer technicians who are assigned through an online work order process to help maintain technology for the district. Currently the high school has ten shared labs (6 PC and 4 Mac) along with 16 restricted-use computer lab classrooms (8 PC classrooms, 5 Mac classrooms, 1 language lab, 2 ROTC, 1 Maker Space). The school has been migrating to mobile technology carts shared on an as needed basis by the community (4 iPad, 3 Macbook, 1 iPad science cart and 1 Chromebook cart). The school has one technology specialist whose primary focus is helping teachers integrate technology into their classrooms. She works one-on-one with teachers, offers group trainings, and has open lab hours for teachers to drop in.

The school is moving forward with online curriculum resources as allowed by the current technology. For example, business courses are completely online. While the current facility includes 33 classrooms equipped with Apple TVs and mobile iPad carts, and ten classrooms recently outfitted with interactive whiteboards, the use of such technology is generally limited to those classrooms and the trained teachers using them. While the current budget does not contain specific earmarks for the expansion of new technology to other classrooms, the library media center, or computer labs, the school purchases digital projectors and document cameras to upgrade classrooms when the budget allows. Twenty of these setups were added to classrooms across all academic departments in 2014-15, and another ten in the 2015-16 school year. A few classrooms have older model PCs dedicated to student use, but LHS does not provide classroom sets of mobile laptop computers or other digital devices for general use by teachers or students except in the Apple TV/iPad equipped rooms or with the “rental” carts. One recent technological improvement in the past few years is the installation of wireless access points in most classrooms, which has improved connection to the Internet throughout the school via personal mobile devices. However there are still too many areas in the school where WiFi connection is weak.

Teachers in all disciplines integrate technology into instructional practices. This means the use of technology in classroom pedagogy (e.g., iPads in some classrooms, computer labs in most instructional areas, a growing number of interactive whiteboards, digital projectors and document cameras) and the inclusion of technology in student assignments and outcomes. Some of the latter technologies include Google Apps for Education such as Google Drive, Google Classroom, YouTube and Blogger, iMovie, and Keynote (on iPads and iMacs). Students use a variety of mediums to demonstrate their learning including audio, video, and cloud-based apps.

Students in graphic design, television production, and engineering classes use technologies including CAD, Photoshop, Adobe, digital cameras, Avid, etc.

Proposed Change: Moving forward the high school anticipates moving away from shared computer labs to technology embedded in all classrooms with the use of mobile computer carts that allow for greater flexibility in the use of space. Eventually the school would like to be in a position to have student 1:1 use and install an interactive projector in every classroom.

The new school will include robust infrastructure with fiber optics delivery into the building and a fully wireless environment planned for 1:1 capability in the future and designed for access to laptop and/or tablet devices. Specialty labs that require substantial computing, graphics and streaming capabilities will be outfitted as required.

All classrooms, special education/small group, arts, music, media center and flexible learning areas and conference rooms will be planned with data-projectors, document camera capability, fully wireless computing and have access to laptop or tablet cart storage/charging areas.

The (10) existing unassigned computer labs will not be replicated in the new program, but instead larger rooms and computer carts allow every classroom to become a computer lab.

The proposed program includes (12) specialty computer labs, including (5) Business/Mktg, (3) Art/Graph, (2) Engineering/Robotics, (1) Maker Space and (1) Digital Music are included in the program, along with (4) classrooms with computers; (2) ROTC + (1) World Language + (1) Math/Computer Sci. Additional computer lab settings occur within the TV/Media Studio, Library/Media with Technology Center and the Career Center.

Space is required for the existing and ongoing computer/technical support staff, equipment, work area and training lab. These spaces will be included as part of the overall Media Center that will more than double in size, per MSBA standards (from approximately 9,000sf to 22,000sf).

- Media Center/Library:
  The school has a library media center staffed by one Library Media Specialist along with two library aides. The library media center is used broadly by various departments. Teachers schedule time in the library when they need students to research material (3 classes can be scheduled at the same time), work collaboratively in groups, the library also offers instructional sessions on how to use a library or take out books. The center is also open an hour before school five

days per week and an hour after school four days per week with teachers hired to provide tutoring or homework help. The Library Media Specialist focuses on using technology as a viable research tool coordinating google docs and the use of library research databases which is the number one library skill students need for college. The library media center has a dedicated computer lab which is essential for both visiting classes and for students coming in during lunch, before/after school and advisory time that need access to computers and printing capabilities. The library also has banks of computers in the library proper. These computers allow students to access key search engines, databases and allow students to write and edit papers.

The Library Media Center also houses the Lowell High School archive which has material dating back to the 1830s.

Proposed change: The library media center needs an upgrade in technology to include a dedicated laptop cart along with a balance of quiet areas, reading areas, collaboration areas, meeting areas and storage space. The space needs to support multi-media, flexible group space and current research practices along with small alcoves for small group or one-on-one tutoring.

The current Media Center is approximately half the size of the state's standards and will be increased substantially, while also accommodating the needs of the school's Technology Center and professional training.

The new Media Center will serve as the technology hub and will be positioned to offer access to students in the morning and for extended day use. The space will be planned to accommodate 3 or more classes simultaneously with reading/soft seating areas, computer lab(s), instructional/presentation area(s) and a series of quiet/small group spaces. The space will include storage/charging for laptop carts and provide a room for Lowell High School archives.

I. ART PROGRAMS

The Mission of the Fine Arts Department of Lowell High School is to provide all students with a wide variety of high quality artistic experiences in Dance, Music, Theater and Visual Arts and to encourage creativity, the development of a unique artistic voice, and the enthusiastic pursuit of excellence in the Arts. The Philosophy of the Fine Arts Department at Lowell High School is to encourage all students to learn in, about, and through the Arts as a process of intellectual growth and self-discovery and as a contribution to the advancement of our collective cultural heritage. We believe that the creative process is essential to learning and we endeavor to provide a diverse, comprehensive, and sequential curriculum that includes creating, performing, presenting, and producing, making aesthetic judgments as well as

responding to the numerous connections between art and life. At the core of this creative work is using one's risk-taking, curiosity and collaborative abilities. We challenge students to become life-long learners who understand and appreciate the potential of the Arts. We strive to build student confidence and resiliency that fundamentally transforms students into creative thinkers with 21st-century skills.

Although Graphic Design, Digital Photography, Digital Audio and Animation are listed in the communications pathway, they are also part of the Fine Arts Pathway. Labs with the appropriate technology, data storage and file sharing systems and flexible furniture (except in Digital Audio lab due to pianos) are needed.

The program/plans provide dedicated spaces for Visual Arts in the form of separate 2D, 3D & General Art Studio, Graphics Lab, Digital Photography/Animation Lab and TV Production Classroom. Additional Dark Room, Kiln and Storage and space is provided. The size of each lab is proposed slightly larger than State standards due to the class sizes that run higher than standards.

J. MUSIC AND PERFORMING ARTS PROGRAMS

In the performing arts, a Dance Studio - large enough for 2 classes simultaneously with ballet bars, mirrored walls, appropriate flooring, sound system and technology. The chorus room should have a flexible foot print. The room does not need built in risers but the floor should be hardwood to allow dancing for show choir. Portable platform and choral risers along with sufficient storage and sound system.
The band room requires very large storage spaces due to the size of many of the instruments including marimbas, tubas, and drums. It also requires practice rooms and an office area. We would like to keep the current size of the auditorium to best meet the needs of the program and school.

The Performing Arts spaces include separate Chorus, Band, Digital Music/Piano Lab and (2) Dance Classrooms along with associated practice rooms, storage and office area. Similar to Visual Arts, the traditional Band and Chorus Rooms are proposed larger than State standards.

K. PHYSICAL EDUCATION PROGRAMS

<u>Gymnasium:</u>
The gymnasium and its supporting spaces would be the primary area for physical education instruction and on-campus athletics. It should include a flat track (ideally 6-lane, 150 or 200m) and three basketball courts (ideally 4 and not overlapping the track) for physical education, athletic team conditioning and track and field and sub-varsity basketball practices, (currently the four sub-varsity basketball teams and one

varsity basketball team practice off campus). The space would also include spectator seating with storage underneath.

An additional gym for special education/adaptive physical education instruction, would be located adjacent to the main gym, allowing for individual and class activities in support of students educational plans. The gym would have a wood floor with set up for three volleyball courts for special education physical education and interscholastic practice and interscholastic volleyball matches. Additionally, a main basketball court with 2 courts lined side by side across the main court for special education physical education and interscholastic practice is included. Spectator stands on one side of the gym with the set up for team benches and scoring table on the other side closest to the locker rooms, trainer's room. Storage needs would include wrestling mat storage for at least two mats.

The supporting spaces in the gymnasium would include:

- A shared space for weights/functional strength with a focus on Olympic-type lifting and dynamic/core training for physical education and athletics.
- Double sized (space for two wrestling mats) and divisible wrestling/multipurpose room for physical education instruction and wrestling practice. The divider would allow for combined or differentiated instructional offerings for physical education and for our large wrestling program to separate practice based on instructional level (currently our beginning/freshman wrestling practice in the Murphy Cafeteria).
- A multipurpose, flexible room with some spectator seating could be used for alternative physical education options during the day such as yoga, pilates, zumba, cheering and gymnastics (moveable equipment)

<u>Natatorium:</u>

The city of Lowell contains two major rivers and multiple canal systems; it is essential for the safety of our citizens that all students have the opportunity to learn to swim. The natatorium would include an 8-lane pool for physical education aquatics instruction, interscholastic swimming, and diving and community swimming. It would include independent access from a lobby area with restrooms for spectators/rental groups and spectator seating inside the natatorium for swim meets and community swimming.

<u>Administrative/Support:</u>

The administrative/support spaces would include an ice and water fill station for team access without entering the trainer's room. Male and female PE/coaches' offices with showers and restrooms Secure Storage for uniforms, clothing and equipment. An administrative office with a conference room. An athletic training room and locker rooms for use by physical education students and student-athletes.

The MSBA's standards are focused on meeting the needs of Physical Education as opposed to Athletics. As such, the creative/flexible use of PE teaching stations is necessary to best serve the needs of all. A total of (9) stations can be justified based on the schedule of PE courses, each station is considered to be 3000sf (half a basketball court sized gym).

The ideal gymnasium/track would require approximately more than 28,000sf (9 stations) and would not afford any other PE/athletic spaces.

The program/plans have allocated the 9 station equivalent which allows a 3 court gym with overlapping track, a weights/strength room, a 2-mat wrestling room and separate multi-purpose room (for gymnastics/cheering/yoga) with adjacent storage. The intent is to co-locate the SPED Adaptive PE gym and ROTC Multi-Purpose space within the overall PE/Athletic area for beneficial adjacencies and create an overall space that could include an overlapping 134.1m, 4-lane track (12 laps =1600m)

The state does not participate in funding Natatoriums, but the program/plans include an 8-lane, 25 yard pool as part of the project.

Separate boys' and girls' locker rooms, team rooms, athletic director's suite, coach's offices, trainer's room and storage rooms are included in the program.

L. SPECIAL EDUCATION PROGRAMS

Currently there is limited handicapped access to the 1922 building. Moving forward this needs to be addressed to ensure that all handicapped students can easily access all buildings to include doors that have handicapped access. Currently inside the 1922 classroom doorways have thresholds which limit a student's independence and mobility to freely move in/out of the room. Another obstacle for the students in being able to turn the door knob. Lever style handles in the classroom would again provide students independence in moving in/out of the classrooms.

It is also important for the steps to be color coded on the edges to allow those visually impaired students independence in getting from area to area. At present we have had a number of falls/trips on the steps due to the perceptual depth problems of some students.

The design plans are to be fully accessible, and seek to accommodate all learners, including those with sight, hearing, cognitive and physical impairments through a universal design approach. This approach focuses on inherent equity and barrier free planning for physical, sensory and cognitive differences. In other words, a fully sloped corridor would be preferred over corridors with a separate stair and ramp, to provide equal access and common experiences for the able and impaired alike. This concept carries into the treatment of wall and floor finishes and colors that should

be used to help accentuate changes-of-plane with visual cues. Acoustic considerations include recognition of mechanical system noise, and even quieting the sound of rain on roofs and window sills.

In addition to the number of classrooms that are required by the department, there are some programs that have specific needs. Each will be addressed below:

Lifeskills Classrooms *(4) - proposed to reach beyond to all Special Ed programs:*
Presently in the 1922 building one of our life skill classrooms houses a cooking area and a laundry area. This room is also the classroom for a group of 18-22 year old students. The facilities provided should be accessible to the entire special education program and not limited to a class. Although the 2 class periods a day that are free can be utilized, it does not afford students the amount of time required to learn the skills needed to successfully transition to adult independent living. The proposal is to have separate space for the kitchens, laundry, mail room and copy center allowing staff to sign up for the rooms.

Intensive Needs Full Size Classrooms *(2):*
The Intensive Needs classrooms house our neediest students in terms of physical, medical and cognitive needs. Each class must be full sized to allow for wheelchairs, standing apparatus, swings, etc. The classrooms also need to have full size sinks with running hot water to clean the tubing and machinery (food processors, blenders, etc) used to prepare food and feed students. Presently there is one small room attached to room 118 that serves as a sensory room for the students. It is small and presents an issue of movement on some days; a larger room, though not full size, would alleviate the jams that can be created. In terms of personal needs, the high school has 3 changing bathrooms for our students. There is one in the 1980 building (near the nurse's office) and 2 in the 1922 (ground and first floor). Staff are required to take students out of the classrooms in order to change students. A changing room/bathroom connected to the classrooms is ideal. These bathrooms need toilet facilities with handicap bars, changing tables, sinks, and hoyer lifts.

Autism Classrooms *(8):*
The classrooms for students with autism also require a full-size classroom to allow for movement space and planning stations for students. Even in high school we continue the process of toilet training some of our students so an attached single bathroom in each classroom is ideal. Presently our 18-22 year old class has an attached bathroom. At times students need to be able to go to a quiet area that gives them room to meltdown and then regroup. Presently in our older classroom we have a separate backroom which has been utilized consistently and effectively while in the younger class we had the school department install partitions to allow for such a space. Again it is optimal to keep these types of separations/rooms to manage the potential volatility of some of the students.

The program/plans provide (4) Life Skills classrooms grouped in two's (one for ages 14-18, the other for 18-22). The duel labs include dedicated toilets and shared kitchen, laundry and mail room areas. A separate Hygiene (wash/changing) space will be provided in a location that can be shared among the program.

The Intensive Needs Classrooms are also intended to be split-up between two age groups

The Life Skills program also includes (2) Intensive Classrooms with toilets, (8) Autism Classrooms with toilets, a shared Sensory Room and (2) Adaptive PE stations to be collocated with the main Gym.

Adjustment Program:

The Adjustment program has a social worker devoted to the program to help manage the behavioral outbursts and emotional breakdowns of students with emotional disabilities. Presently the social worker is housed central to those classrooms and has a 2-room suite to both counsel and give students space as needed. This type of arrangement needs to continue in order to afford the adjustment students the services they require. Additionally, the adjustment classrooms need to be of good size to allow space between the students and for the opportunity to complete project based activities while allowing areas for students to regroup/take space.

The program/plans provide (8) Adjustment Classrooms (2 to be located with the Freshman Academy) and space for the associated Social Worker, Counseling and Storage.

Fundamental Program:

One of the course offering in the Fundamentals Program is the Instructional Support Class which services well over 100 students. In this class we presently work on transitional skills, self-determination skills, and largely on academics from other classrooms. These subject area classes are using Google Classroom and students are regularly accessing information on Aspen. Presently many teachers teach this course with inadequate materials and space to truly service students fully. To meet the students' required work we require a large classroom (larger than the average) that can house up to 10-12 computers for students to regularly access. Our "Instructional support" classroom - solely dedicated to this class- presently houses as many as 12-16 students with a mere 4 computers. Students are continuously waiting to get on the systems to complete their work or check in on their progress/work that needs to be completed. As a school we are having students send information/work through Google Drive constantly but we cannot meet this need in our classes. In order to meet needs we need a large space with many computers and study carrels for students to use when they come to take a test. Presently students will leave a gen

education class and come to test in the IS class but we have no private/quiet space to offer them and the efforts we and the student put in are compromised. In addition, shelving is critical as the IS center should house a textbook from each classroom as well as space for every student to have an individualized binder to track their work and transitional planning.

The program/plans provides (9) half-classroom sized spaces (2 to be located with the Freshman Academy) and space for the large Instructional Support suite. The Instructional Support space must support the equivalent of 3 classes of 10-12 students working closely with specialists.

Deaf and Hard of Hearing *(1):*
The DHOH program is presently housed at the Freshman Academy. It requires a ½ size classroom with the typical classroom needs (i.e. whiteboard, computer, etc.)

Speech and Language (SPL):
Presently housed in 2 smaller rooms in the back of a classroom (#305), the SPL class requires office space as well as teaching space. There is an assistant that works with the speech therapist. A ½ size classroom would be sufficient and would also house a little space for the Occupational Therapist and the Physical Therapist to complete some paperwork. The Speech Therapist holds small groups (6-8) students that work as a group at a round table.

Administrative Needs*:*
The Special Education administrative team at LHS consists of the following: 2 Evaluation Team Chairpersons (ETC), 1 Social Worker (in addition to adjustment social worker), 2 Evaluators, 2 Psychologists, 1 Department Chair and 1 Clerk. The staff requires office space, meeting rooms and testing rooms in order to complete their work. The main office for special education must be a locked room as it contains confidential files. This room (presently #144) houses the clerk, Department Head, and ETCs and works well. Optimally, each staff member evaluating (evaluators, psychologists) would have a small office to allow them to test in their room where all the materials are located. Presently evaluations occur in a number of places - wherever there is a free spot. The teams hold over 400 meetings a year and the need for meeting rooms is critical. We presently have 2 rooms: one is located in the Students Support Services office and one is located in room #220. Social workers also need a room that is individual in order to service students. The adjustment program is a little different and is addressed above.

The program/plans provide a half classroom for the Deaf/Hearing Impaired program, Speech Office for 3 + meeting for 6, (2) Social Workers, (2) Psychologists with (2) Evaluators/Testing, (2) Meeting Rooms, a SPED Dept. Chair, (2) Team Eval. Chairs and SPED Office/Clerk.

M. VOCATIONAL EDUCATION PROGRAMS

Non-chapter 74 Programming

- Air Force ROTC

  The Air Force Junior ROTC Pathway is a four-year citizenship program designed to develop citizens of character dedicated to serving their nation and community. The objectives of AFJROTC are to educate and train high school cadets in citizenship, promote community service, instill responsibility, character, and self-discipline, and provide instruction in air and space fundamentals. The program is grounded in the Air Force core values of integrity first, service before self, and excellence in all we do. The curriculum emphasizes the Air Force heritage and traditions, the development of flight, applied flight sciences, military aerospace policies, and global awareness. Rigid academic courses in military science and leadership provide a solid foundation. The curriculum shows students how to reach their full potential while serving society through self-discipline, structure, followership, and leadership. Students are challenged by assuming various leadership positions throughout the Lowell High School Cadet Corps. Senior Cadets are responsible for organizing, planning, and coordinating all cadet operations and activities. In addition to classroom curriculum, learning includes numerous extra-curricular activities including before/after school programs, field trips, and community service activities. These activities emphasize teamwork, discipline, and community engagement.

  This program provides both classroom instruction and physical fitness training that requires multiple classrooms and a dedicated physical training space where cadets can drill and conduct physical training without disturbing other classes in the vicinity.

  The program/plans provide (5) classrooms (1 more than exists) and a 2,500sf multi-purpose space dedicated for drills, physical training, color guard, etc. per USAF standards. Additional prescriptive storage, cadet office and conference areas are provided. The ideal location for ROTC programs would be near PE/Athletic areas for shared use of spaces and with easy access to outdoors.

- Communications

  The Colleen Creegan Media Center: The Digital Media Studio requires an adjacent flexible classroom, a Digital Media Production Lab, with state of the art computers, wall monitors and secure storage where students will learn all aspects of media production - pre-production through broadcasting in a flexible, authentic environment. In addition, the Digital Media Studio should have individual editing bays with computers and updated software, a collaborative meeting space for students and digital media studio staff along with sufficient

storage to house all the equipment required to maintain a state of the art digital media production studio.

Within the actual studio, there needs to be a lighting grid with a sufficient number of light fixtures to allow for dedicated lighting cues for sets - newsroom desk, interview set, etc. A teleprompter, digital light and sound boards, the ability to add graphics and transitions, production switchers, duplication and storage, capture and playback deck, broadcast converters, video monitoring, audio monitoring, working communication between studio floor and control room and the ability to shoot/broadcast in HD. An edit/share system allowing for collaboration between digital media classes, graphic design classes, digital photography and digital audio classes.

In addition to the Digital Media Production studio and lab, additional labs for graphic design and digital photography as well as a digital audio lab that included digital pianos are essential. An edit sharing/storage system that would allow students and staff to work collaboratively - graphic design students create images and logos for TV broadcast, digital audio students create soundtracks for news segments, etc. For animation, tablets and computers are needed.

The Colleen Creegan Media Center also houses Lowell Educational Television, the educational access channel for the city of Lowell. Three staff members manage content and programming for channel 22 and let22.org as well as support LHS class activity. The studio contains a full sized media studio, edit rooms, small offices, and storage rooms. A teacher works in a media computer lab classroom where students create content for in school and city of Lowell broadcasts.

Proposed change: Locate the classroom within the media studio suite and provide students with private workspaces that allow them to focus on their media projects. It is essential to have flexible space and classroom adjacencies to allow for additional related programs to enhance the learning experience and allow for collaboration between the studio and journalism, music and digital music production, graphics, live music production, web radio production and drama and acting.

The Media Studio is replicated in the new program and ideally located with other digital media programs and/or arts programs in the plans, with classroom space nearby.

The program/plans provide equivalent square footage to what exists, with a slight increase to address the need for a larger conference/meeting room. The suite will be configured with a full-size Studio, Waiting Room, Control Room, (8) Editing Suites, Media Classroom, Equipment Room, Offices for 3 and a Conference Room

for 15. The location would ideally be clustered near other Digital Media spaces and/or with Fine Arts (Digital Photo/Animation, TV Production & Graphics).

- Culinary

  The Culinary Arts Department is designed for students interested in careers within the Food Service Industry, one of the largest and fastest growing industries in the world. This Pathway is ideally a three year program that can be tailored to one or two years on an individual basis. This Pathway integrates a rigorous academic curriculum, but it also provides "hands-on" training in a student-operated restaurant. Students are exposed to different baking and cooking techniques, a variety of table services, and customer relations. This Pathway provides a professional environment so students will culminate a basic, well-rounded education in Culinary Arts. All students complete the program with a portfolio and enough experience to secure an entry-level position within the Food Service Industry or pursue careers through higher education. Students also have the opportunity to train and test for the Serve-Safe Certification.

  Proposed change: The restaurant with its full service kitchen is not in the best location to serve the general public. It is currently in the basement and anyone being buzzed in the exterior door can go in many different directions within the school. This is a safety concern. The restaurant should be located with easy monitored access from the lobby in the same vicinity as the school store and the bank. This would keep our school businesses accessible to the general public while ensuring safety. The configuration of culinary area should be made up of the restaurant/kitchen with adjacent classroom space and an adjacent culinary lab for feeder culinary program. This would allow for more effective collaboration within the department. The other piece that is crucial is adequate storage space for inventory to include adjacent space for walk in freezers and refrigerators.

  The program/plans provide (2) Culinary Classrooms along with the Kitchen/Restaurant and associated Freezer/Cooler and Dry Storage spaces. The new spaces are sized slightly larger than the existing and ideally located for easy, but controlled access by the public and for after-hours use. The kitchen will benefit further from shared access to loading/receiving areas.

- Engineering

  Maker Space Lab - The LHS Makerspace will allow for student intrinsic motivation and self-directed learning, while engaging students in significant content by allowing for connections to curriculum. The Makerspace will reinforce or introduce to students the components of all LHS STEM disciplines.

  An unassigned Maker Space serves as pull-out space for the 9th Grade. The Science Lab sized space will have an adjacent prep room for associated storage

of materials, projects and 3D printing. The space will be located within the Freshman Academy areas.

Engineering Lab - Technology/engineering classes will be able to move seamlessly between tool-based work, lecture, group work, and non-tool-based labs. Physics and robotics classes will have direct access to woodworking and metal tools for hands-on applications. All classes in this Pathway will be able to move from paper-based lecture or group work to computer based design to manufacturing

Proposed change: The growth of this program has prompted the need for 2 Engineering labs so that all classes can have full access to this facility and educational/technology tools.

The program/plans provide (2) Engineering Labs as required to meet prorated scheduling. Each room is sized as a traditional Science Lab, but will be outfitted according to the specific needs for CADD and Robotics.

- Environmental Sustainability (in development)
  All classes in this Pathway will be able to move from classroom/academic work to hands-on, designing and manufacturing (computer-based, solar panels, etc.)

  Proposed change: With the addition of a lab, students will be able to access design and manufacturing tools in house (rather than using facilities at satellite locations - such as businesses and collaboratives).

  The program/plans provide a Science Lab sized space that will be developed as a new pathway for clean energy and sustainable design. The enrollment for this program is expected to come from other tech/engineering programs which might reduce in utilization, but provide specialized spaces to support each pathway.

- Health & Bioscience
  The Health and Bioscience Pathway is designed for students with an interest in the fields of allied health and/or the emerging field of biotechnology. The Health and Bioscience Pathway offers students a unique opportunity to gain essential classroom knowledge and practical experience within the local medical or biotechnological community.

  Proposed change: *Hospital Room Model Classroom* - Students will interact with model patients and learn how to conduct electrocardiograms, draw blood, interpret X-rays, set broken bones, and perform a range of other challenging tasks.

The program/plans provide a separate Health and Bioscience Lab as part of the overall count of Science Labs, but each is to be outfitted for the specifics of either medical assisting, including associated patient beds, mock toilet/changing room or micro/biotech which includes specialized fume hoods and clean room set-up.

The design/plans seek to create a dispersed pattern of interdisciplinary STEM and Humanities clusters, each potentially grouped as (3) science labs with (3) math classrooms vs (3) english with (3) social studies classrooms. Ideally, each cluster would have shared pull-out spaces and good visibility to foster collaboration and small-group and project-based activities. The visibility may allow a bit more independent work by students and also provides passive supervision throughout academic areas. ELL academic classrooms/labs will be woven alongside regular academic clusters in groupings of (2), as will health classrooms and special education spaces. World Language is to be grouped as a department, similar to Fine Arts, Business/Tech, ROTC and Physical Education, and located for ease of access among all grades.

Larger classrooms are critical to meet the needs of more active learning and to accommodate more flexible furniture that allows for multi-mode set-ups and better accommodates individual computing.

<u>Chapter 74 Programming:</u>

- Business Marketing & Finance

Lowell High School offers a Marketing & Finance Pathway for students interested in majoring in Business Administration in college or entering the workforce in the areas of management, finance, accounting, or marketing. The Marketing & Finance Pathway offers students authentic learning opportunities. Our students have the ability to work in the 1826 School Store, with a site in the high school and another in the downtown. Students experience the excitement and challenges of being a small business owner. Our marketing program partners with NFTE (Network for Teaching Entrepreneurship) which provides numerous hands-on learning activities and opportunities. Our partnership with the Jeanne D'Arc Credit Union allows students in the pathway to work in the Lowell High School branch of the Jeanne D'Arc Credit Union. In this branch, students learn the day-to-day operations of the banking industry. Both these valuable business opportunities allow students to earn high school credit and real world experiences while providing valuable services to the school and community.

Proposed change: The school store requires an adjacent flexible classroom (marketing retail lab) with retail and storage space to effectively provide students with real world experience in running a store, which includes customization of t-shirts, inventory control, customer service, accounting, marketing/advertising, and online

sales. Beyond the retail program there is a need for flexible, technologically-equipped classroom space that allows for the use of online business and marketing simulations, software designed specifically for these types of classes, and online research. Positioning the other four business classrooms in the vicinity of the store would be beneficial in allowing more collaboration between the teachers. The bank is currently located within the cafeteria which allows for access by students and staff but does not allow for easy public access. There is a need for a larger space for the bank. The store and the bank should be co-located with the restaurant program in a configuration that allows for access through the main lobby for security purposes.

The program/plans provide (5) Business Finance/Marketing classroom/labs, (3) of which are recognized under Massachusetts Chapter 74 Program for Marketing and include the School Store. A separate space for the Bank is provided as a pull-out component of this program.

All Business programs would ideally be located as a cluster, but the larger priority is positioning the Bank, Store and associated Classrooms near the Cafeteria, Main Entry/Lobby and easily accessible for public and afterhours uses. Separate storage for retail/supplies is provided.

N. TRANSPORTATION POLICIES

Transportation is not provided to Lowell High students to get them to and from school. If a student wishes to use the Lowell Regional Transit Authority bus, the cost of a bus pass is $20.00 per month. A survey of students conducted during the 2014-2015 school year indicated that students commute to and from school using the following methods: ride from family/friend (33%), walk (32%), ride city bus (24%), drive (11%). Daily, 11 LRTA buses transport students at drop-off and pick-up times, lining up along French Street and Kirk Street.

Approximately 83 SPED students are transported to and from LHS separately each day with 10 total of the following: specialty equipped wheelchair vans, yellow buses, and smaller vehicles.

Transportation for Athletics is extensive. Daily, about 7 buses line up at the main entrance on Father Morissette Boulevard to transport students to practices at Cawley Stadium, the boat house and other locations. Students provide their own transportation home from practice. On game days, there can be up to 4 additional buses that pick up students (also at the Father Morissette location) for transportation to games.

Note; the Educational Program does not address parking needs. The site program is articulated in section 3.1.5 Site Development Requirements. The school currently benefits from its location that utilizes city transportation, wide streets and adjacent

parking garage. Planning options that create a new school a different site will need to account for parking and transportation as part of the site program.

O. FUNCTIONAL AND SPACIAL RELATIONSHIPS

Lowell High is interested in exploring different organizational structures that would more fully support the concept of expanding areas organized for STEM classrooms, Humanities classrooms, and CVTE classrooms. LHS is considering clustering academic Department Head offices together by subject matter connections (Humanities, STEM, CVT) and integrating the houses into this configuration. One way to do this would be to place two house offices in a combined house and guidance suite in proximity to a department center. This would allow for administrative presence in multiple areas of a large building. Another option would be to place all the house offices into one central space near the main office, such as a house and guidance suite. The Freshman Academy, while housed within the same large building, would have a separate office suite for the Director of the Freshman Academy.

The broad planning goals are to organize a new or renovated school for community use and control by having a zone or zones with major activity areas, such as the PE/Athletics spaces, Auditorium, Cafeteria and Media Center able to be opened or closed in a controlled and naturally supervisable way. The Cafeteria and Media Center seek to serve as the heart of the school, one as the social core and the other as the technology hub. Both located and configured for flexible use and access to views and outdoors. The culinary program would ideally be in proximity to the lobby as well as cafeteria kitchen/loading areas. The culinary restaurant, school store and bank also need to be located near the main lobby/community use areas.

The freshman are to be zoned in a separate wing, but well connected to shared programs and major spaces. Freshman academic rooms are to be clustered as teams of 6 classrooms + 2 science labs with nearby special education, health, ELL classrooms and a teacher planning room. Other academic rooms are to be organized in STEM clusters (3 science with 3 math) and Humanities clusters (3 english and 3 social studies), but in an alternating pattern that promotes collaboration within each cluster and convenient cross-discipline connections between STEM and Humanities.

Special Education, ELL and Health Classrooms are to be dispersed with general academic areas (grades 9-12), but ideally in groups of two.

Fine-Arts, World Language, ROTC and Digital Media programs are to be clustered alike, while seeking proximity to general academics for foster potential inter-disciplinary efforts.

P. KEY PROGRAMMATIC ADJACENCIES

As described in section O above

Q. SECURITY AND VISUAL ACCESS REQUIREMENTS

Of critical importance to the Lowell High community is an environment that is safe and secure. The school currently has 32 entrances. After the start of the school day, all doors are kept locked with the exception of the main lobby door. A security guard monitors the door closest to the Freshman Academy at class changing time to allow student to enter the main school without having to go to the main entrance. The main entrance has no buzzer or electronic monitoring system to manage entrance into the building. There is a security desk in the main lobby where visitors are expected to check in and be given a visitor's pass but visitors can easily bypass the guard who might be busy checking another visitor in. The school uses the Raptor visitor system and during school hours the school has over 10,000 visits each year. The high school has approximately 110 analog cameras throughout the three buildings that are being replaced by digital cameras as the analog cameras wear out. Currently the command and control center in an emergency is the security office that has multiple camera monitors and the ability to use the intercom. This space is not secure having both an interior glass door and large ground level windows to the outside.

At its current site the high school has a neighboring facility that is of adequate size to house students in an emergency/evacuation situation. This is important factor in our safety protocols that allows us to account for both students and staff in a safe alternative environment.

Proposed Change: The plan should include an upgrade to the cameras system. The security vestibule should be configured to better monitor the main entrance to the school to include a camera and buzzer system on the door. If the high school continues to occupy multiple buildings the second building should also have a security entrance to better monitor the flow of students, staff and visitors. The school would also benefit from a secure command and control center preferably in the vicinity of the main office with multiple monitors to display footage from security cameras, an intercom system and space for a conference table. To alleviate bottlenecks and overcrowding during class changing time having multi-level bridges would be very beneficial and would limit the amount of students choosing to go outside to move between buildings. The school also needs a more robust security system that allows for automatic lockdowns of all exterior and interior doors along with a system of communicating with police and rescue. The current intercom system is past its functional life and needs to be upgraded to better meet the needs of the school.

The proposed planning concepts include a controlled main entry vestibule with security desk, adjacent SRO Office and a conference room that can function as Command/Control Center and also serve as DARE meeting space. A satellite SRO Office will be provided due to the large size of the school.

The planning layout for new or renovated facilities will be zoned for the ability to lock-off wings and control after-school use and community access. This includes locating the school store, bank, culinary and administrative houses for access from main lobby and functional areas.

R. OTHER PROGRAMS

In-House Suspension(2): The high school has two separate in-house suspension rooms, one for grades 10-12 and one for grade 9. These rooms are used all day and students do self-reflection and coursework with the assistance of the in-house teacher who acts as tutor/counselor.

Student Activities: The high school also has a student activities office that manages 32 after school activities and clubs. This office space is located in the cafeteria for easy access by students.

Nurses' office. This office has four assigned nurses. This space needs to have a reception area, private exam rooms and storage space for equipment and student records.

Outside service providers provide both academic support and health and social services:

- SCORE Mediation: Mediation office that trains students to work as mediators on student issues referred by house deans and other staff members. This space requires and office and a small meeting room.
- MCC/UMass: Programs provide intensive academic support and college/career support for 1st generation college and underserved populations. These programs require office spaces and a classroom (TRIO; Gear-Up / Talent Search / Upward Bound)
- Catie's Closet: A nonprofit that provides clothing and cosmetic items for students in need. Space needed is the size of a small classroom.
- Health Center: Lowell Community Health has a medical suite at the high school to service students with medical and mental health issues.
- Counseling Services: Outside counseling providers come into the school to support students with mental health needs.
- Safe Harbors Homeless Coordinator: Office space needed for program coordinator that assists our homeless student population.

The program includes (2) classrooms for In School Suspension, a student activities space and full Nurses' Suite per MSBA Guidelines. An office and waiting/secretary is provided for Score Mediation, along with a 3-room suite for MCC/UMass Trio programs, 2 spaces for Catie's Closet (1 with freshmen), a suite of rooms for the Community Health Center and space within the Student Support Center for Safe Harbors.

The program also provides a small space for Latino Connection and an office for substitute teachers. Counseling Services occur throughout the school, within available space.

See Appendix for further information

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3.1.3 Initial Space Summary

A. Space Summary Description

B. Proposed Space Summary Form

C. Floor Plans

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3.1.3 Initial Space Summary

A. SPACE SUMMARY DESCRIPTION

Perkins Eastman| DPC has worked collaboratively with the School District on space needs, primarily through the Educational Leadership Team (ELT), assembled for the purpose of researching, reviewing and recommending the Educational Vision and Program to the School Department and Building Committee. The ELT group included Building Committee, Superintendent's Office and Facility/Operations Representatives along with School Leadership and the Design & OPM Team.

Refer to Appendix Section T for an overview of the ELT and tasks

The program and space needs for the Lowell High School Project is based on the MSBA agreed upon enrollment projection of 3,520 students in grades 9-12. The Proposed Space Summary (following this narrative) provides an itemization of existing spaces, including separate Freshman Academy facility. The proposed space needs are tabulated based on an analysis of existing and future programs, class sizes, scheduling and pro-rated design enrollment.

The proposed spaces vary from the MSBA's default tabulations only where we believe they are justified to meet the Educational Program or maintain specific needs for Lowell. The variances between MSBA space guidelines and the proposed program are as follows;

Core Academic Spaces are proposed at **11,540sf lower** than the guideline tabulation and effectively 11 academic classrooms/labs less. This is somewhat the result of students spending time in other places (like additional Fine Arts and PE spaces), but primarily the result of Lowell's classroom averages being slightly higher than the MSBA formulas. A simple calculation shows the difference between 23 and 24 class size average in a school as large as LHS creates a difference of 8 rooms alone:

3,520 students /23 class size avg. /.85 utilization rate = 181 rooms

3,520 students /24 class size avg. /.85 utilization rate = 173 rooms

Actual program and space need calculations were based on a much more extensive analysis of the existing programs, scheduling, class sizes and utilization of spaces. Our Program Analysis tracks pupil periods (every pupil for every period of the cycle) to ensure a closed loop of accounting and to reveal academic nuances, such as deliberately larger or smaller class sizes or utilizations. The Analysis was then pro-rated and Adjusted for the design enrollment and for significant program changes that would affect the type, size or count of rooms. The program Requirements were then tabulated and reconciled with the MSBA Space Summary template.

Refer to Appendix Section H for full programming documents

The proposed 112 Classrooms + 6 Small Group (half classrooms) back-calculate at between 83 and 84% utilization, assuming a 24 student average for classrooms and 12 to 14 for small group. Actual classes typically range +/- 4 students, so classrooms are sized larger than the 850sf default (proposed are 900sf) to better accommodate class sizes of 28, along with more project-based activities.

Note; ELL classes are calculated with 20 student average, Physical Education at 26 and Special Education, Fine Arts, Business and Technology are based on existing class sizes.

Science Labs are typically calculated at a lower utilization to allow additional time for lab set-up (in this case 76%). A total of 28 labs are proposed vs. 31 per guidelines, 20 being full-sized 1,440 sf in accordance with MSBA requirements and 8 being wet-classrooms at 1,000sf for 9th grade Integrated Science.

Special Education programs are proposed at **4,260sf larger** than the guidelines. The increase is based on right-sizing current rooms for the number of occupants and activities anticipated within each (as described in the Educational Program narrative, section 3.1.2). The District understands that the proposed Special Needs program will be submitted and vetted by the Massachusetts Department of Elementary and Secondary Education (DESE).

Specific increases in Special Education needs include planning for an increasing Autism Program (6 additional classrooms needed based on actual growth in the elementary and middle schools), creating dedicated Adaptive PE space (2 stations are justified based on the frequency of scheduling) and providing an additional Adjustments & Fundamentals Classrooms per prorated enrollment calculations.

In addition to the full size rooms noted above, there is an expressed need to provide adequate offices, conference and testing rooms as proposed.

Art & Music rooms are proposed at 1,651sf less sf than existing and **5,125sf larger** than guidelines, with the same count of spaces, except for 2 additional rooms to maintain the existing Dance program and a Digital/Piano Lab. The room sizes, however, are based on the need for larger classes than otherwise anticipated in the MSBA guides. Like typical classrooms, Art Rooms are expected to accommodate up to 28 students and therefore sized larger at 1,350sf.

Art Room guidelines are 1,200sf for 25 students = 48sf/student

Planning for Art classes that spike at 28 x48sf/student =1,344sf

Similarly, Band and Chorus Rooms, currently and in the future, must accommodate more than the 50 students guidelines are based on. With actual sizes projected at 69-70 students, the rooms are sized at 2,000sf.

Music Room guidelines are 1,500sf for 50 students = 30sf/student

Planning for Band/Choir at 69-70 students x30sf/student =2,100sf

The guideline of 1,775sf for Practice and Storage has been reallocated as 1,800sf including Office and Conference space.

Vocations & Technology spaces are proposed at **2,185sf less** than guidelines, but based on actual LHS programs and the specific space needs which will continue to be tested as room and equipment layouts are studied. Business and Culinary classrooms are sized at 1,200sf per guidelines, with the exception of Marketing, which is subject to DESE standards.

Marketing is an approved Chapter 74 program that will be maintained. Space needs are complex to calculate, because they are based on full-time equivalent enrollment

(FTE), which changes year by year, by semester, daily and per period. A total of 285 students are enrolled for 306 seats, which averages 41-44 students/period, but range from 10 to 72. Prorated, these numbers climb to 321 total students, average 47-50/period with a range of 12-82. Using DESE standards at 110sf per student, these could total between 5,500sf and 9,020sf depending on how the FTE is interpreted. Our approach, instead was to calculate the number of rooms required and size them appropriately, recognizing that the 1:20 teacher/student ratio.

321stu /20per class =16 sect's x5p./cycle =80 /35p.cycle =2.3 /85% util. =2.7rms

With 2.7, or effectively 3, rooms required and 1:20 ratio, 60 student could be seen as the max seats/period, which would result in 6,600sf per DESE standards. This space summary propose the 3 marketing computer labs, sized comfortably at 1,000sf, having another 600sf pull-out space for school store and 200sf for retail storage. All spaces being slightly larger than existing.

The District understands that the proposed Marketing program will be submitted and vetted by the Massachusetts Department of Elementary and Secondary Education.

Culinary, although not an approved Ch.74 program is sized per DESE standards. The program currently has 80 students in Culinary and 120 in Foods averaging 20-27 students per period, but ranging from 18-38. Prorated, these numbers climb to 90 Culinary/136 Foods with averages at 23-31/period and a range from 21-43. Using DESE standards at 125sf/student these could total between 3,875sf and 5,375sf de depending on how the FTE is interpreted. Using the 1:15 teacher/student ratio for Culinary and typical class size for Foods, a total of 3 spaces would be required;

90stu /15per Culinary = 6sect's x10p./cycle =60 /35p.cycle =1.7 /85% util. =2rms
136stu /24per Foods = 6sect's x5p./cycle =30 /35p.cycle =.86 /85% util. =1room

With 3 rooms required, and largest projected period of 43 students, the 5,375sf calculation was used. The space summary proposed 2 classroom/labs at 1200sf + Kitchen/Restaurant at 2,975sf, totaling 5,375sf and providing spaces slightly larger than existing. An additional 600sf is provided for associated storage.

ROTC programs have specific guidelines that mandate a 5th classroom at >350 students (385 are currently enrolled, which prorates to 434 for design enrollment). ROTC classroom match academic classroom sizes at 900sf.

An ROTC Multi-Purpose/Gym is used for pull-out drills, marching, training and wellness, and cited as requiring 2,500sf based on units of 100 (2,500sf is proposed) + storage. Storage regulations are 400sf minimum, with 4sf extra for every cadet over 100 cadets, which totals 1,736sf min. (1800sf is proposed).

Health & Physical Education spaces are proposed at 3,318sf less than existing, partly due to inefficiencies, but **14,038sf more** than guidelines, which seems like allot, until you look deeper into the default calculations. The guidelines currently base locker room needs on the number of students, but office storage and gym stations are a fixed number despite a school having 500 or 3,500 students.

Our programming calculations show that 9 PE stations are required, even with large class size averages (26 students) and 84% utilization. The proposed space summary shows 9 PE stations as an 18,000sf Gymnasium (6 stations x 3,000sf), (1) Wrestling Room, (1) Weights/Functional Strength Room and (1) M.P. Room. Dance Rooms were considered for possible use as PE stations, but are already substantially utilized at an estimated 93%. PE/Athletic Storage and Offices areas are also not scaled-up per size of school in the space summary template, but given this school is 2 to 6 times the size as most schools, we have estimated larger spaces are needed. Locker Rooms, however, are shown at less sf than guidelines, partly the result of trying to counter balance other increases, but also using the existing relatively functional rooms as a guide and prorating for increased enrollment.

The Pool is a valued and vital part of the school and community offering daytime, athletic and afterschool/adult education opportunities. As only one of two pools in the City, it is critical given the surrounding context of extensive canals/waterways. It had been noted through the visioning process, that the high percentage of underprivileged families benefit substantially from having access to such facilities.

Auditorium/Drama spaces are proposed at **5,116sf larger** than guidelines which, similar to the Gymnasium, does not increase fully with the magnitude of Lowell's 3,520 students. The formulas are based on 2/3 of the student enrollment, but cap-out at 750 students (2/3 of 1,120 population). This cap seems reasonable even as many schools have populations of 1,200, 1,500 and even 2,000, but we submit that Lowell could easily be seen as the equivalent of 2 or 3 High Schools. Our proposed space summary suggests a relatively modest 1/3 of the 3,520 design enrollment, or 1,161 students x 10sf = 11,616sf. The stage is also sized slightly 1,00sf larger to accommodate the larger Band, Chorus and other productions.

A second auditorium exists within the current Freshman Academy building, but would be repurposed in renovation options that keep that building or not replicated in the case of a new or renovation option that does not keep that existing facility.

Administration & Guidance spaces are proposed at **3,920sf larger** than guidelines, but 1,718sf smaller than existing. The proposed offices are based on the counts and sizes necessary to meet the educational program including a main office, 5 separate house offices (including freshman academy) and separate student support center.

While the breakdown in office suites does create some inefficiencies, it is necessary to accommodate the volume of students and parents that need to meet with administration, guidance and support services. Additionally, the school's rich diversity and high ESL population, many entering the school system at the secondary level, along with those coming from underprivileged homes, requires an increased need for specialists and support staff.

Custodial & Maintenance spaces are proposed at approximately the same size as exists, but **2,175sf larger** than guidelines due to the fixed sizes (other than Receiving and Storerooms that are based on population). Given the sheer size of the high school, other custodial sf allowances are proposed at double the amount allocated. 6 Network/telecom rooms are proposed vs 1 in the guidelines, based on the size and spread of facilities. This number could reduce in a hyper-consolidated new plan.

Other Programs identified in the proposed space summary, **add 7,700sf** vs guidelines, but are substantially reduced from the existing 19,764sf (-12,064sf). The major reduction comes from the transition from dedicated computer labs (10 exist, totaling 8,457sf) to a plan to provide computer carts short-term, while planning for a 1:1 environment long-term. Other cuts include an unassigned freshman science lab and interactive learning center that can utilize laptops in classrooms, rather than dedicated space.

The programs being maintained and considered integral to the educational needs and objectives include the Lowell Community Health Center, Catie's Closet, MCC Trio Programs, In-School Suspension spaces and several smaller activities and services (Score Mediation Office, Latino Connection Office, Student Activities Room, Substitute's Work Space, Student Resource Officer and Dare Offices)

The bottom-line net program is proposed at 28,609nsf larger than MSBA guidelines and although sf variances ebb and flow throughout subject areas, they effectively balance each other out, reflecting the specific needs of where LHS students spend their time. The real substantive difference between proposed and MSBA guidelines can be summed-up in 4 areas;

1. Auditorium for 1/3 enroll. (+5,116sf)
2. justifying 9 vs 5 PE stations (+12,000sf)
3. desire to maintain a pool (+8,000sf)
4. intent to keep other prgms (+7,700sf)

+32,816sf

The Total Gross SF is 37,484sf larger than guidelines, based on the proposed net program with a 1.5 grossing factor applied. We understand that while 1.5 is the acceptable multiplier, it will be applied to the approved program spaces.

B. PROPOSED SPACE SUMMARY FORM

See the Attached Space Summary

C. FLOOR PLANS

See Appendix Section R for complete floor plans of all 10 Options

Proposed Space Summary v8

		3125stu/25class/.71util.=176rms	177		3520stu/24class/.85util.=172rms	172		3520stu/23class/.85util.=181rms	183		
LOWELL HIGH SCHOOL	**Existing Conditions**			**Proposed Total**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**				
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
CORE ACADEMIC SPACES			**136,088**			**157,500**			**169,040**	
	746	4	2,983							
	809	6	4,851							
	850	12	10,197							
	948	3	2,844							
	1,024	2	2,048							
Classroom - Freshman (incl Health)	849	27		900	24	21,600				
	592	2	1,184							
	724	33	23,903							
	808	15	12,114							
	850	18	15,301							
	898	10	8,975							
	964	7	6,749							
	995	9	8,953							
	1,184	1	1,184							
Classroom - Gr. 10-12 (incl. Health & ELL)	825	95		900	88	79,200				
Classroom - General		122			112		850	120	102,000	825 SF min - 950 SF max
Teacher Planning - Freshman	493	1	493	450	4	1,800				
Tchr Plng (Tch-Out, Lng, Ktch, Comp, Copy)	604	8	4,834	450	13	5,850				
Dept Off's (Eng, SS, Mth, Sci, WL/ELL, Instr)	112	6	671	125	6	750				
Teacher Develop/Training (Little Thtr + Cntrl)	3,568	1	3,568	3,600	1	3,600				
Teacher Planning		16			24		100	120	12,000	
Small Group Seminar (20-30 seats)				450	6	2,700	500	8	4,000	
Science Classroom / Lab - Freshman	978	7	6,849	1,000	8	8,000				
Science Classroom / Lab - Gr.10-12	900	19	17,100	1,440	20	28,800				
Science Classroom / Lab (incl. 3 ELL Sci)		26			28		1,440	31	44,640	3 x65% ut=20 Seats-1 per /day/student
Prep Room	156	7	1,091	200	22	4,400	200	31	6,200	
Central Chemical Storage Rm				200	1	200	200	1	200	
Unassigned Green House/Growing Room	196	1	196	200	1	200				
Clean Room (w/ Micro/Bio Tech Lab)				400	1	400				
SPECIAL EDUCATION			**21,950**			**38,500**			**34,240**	
Self-Contained SPED							950	24	22,800	assumed 8% of pop. in self-contained SPED
Self-Contained SPED Toilet	53	2	105	included as noted below			60	24	1,440	
Resource Room							500	10	5,000	1/2 size Genl. Clrm
Small Group Room							500	10	5,000	1/2 size Genl. Clrm

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	3125stu/25class/.71util.=176rms 177			3520stu/24class/.85util.=172rms 172			3520stu/23class/.85util.=181rms 183			
LOWELL HIGH SCHOOL	**Existing Conditions**			**Proposed Total**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
LIFE SKILLS (69 stu's =78 prorated)										
Life Skills CRs (2 ages +Kitch/Laund/Mail)	968	4	3,870	1,200	4	4,800				
Life Skills Hygene (Wash/Changing Room)				450	1	450				
Life Skills Intensive CR +Tlt (2 age grps)	872	2	1,744	950	2	1,900				
Life Skills Sensory CR	344	1	344	450	1	450				
Life Skills (CSA) Autism CR + Tlt & Quiet	816	2	1,632	950	8	7,600				
Life Skills PE / SPED PE				3,000	2	6,000				
ADJUSTMENTS (40 stu's =46 prorated)										
Adjustments CR	738	7	5,169	900	8	7,200				
Adjust Social Worker	165	1	165	150	1	150				
Counseling Room				200	1	200				
Storage				100	1	100				
FUNDAMNTL (190 stu's =214 prorated)										
Fundamentals - Freshman	810	2	1,619	450	2	900				
Fundamentals - Gr.10-12	545	7	3,812	450	7	3,150				
Fundamentals Instruct. Support CR (for 24+)				1,900	1	1,900				
OTHER SPECIAL NEEDS										
OT/PT (part-time)				therapy occurs in CRs						
Deaf/Hearing Impared Suite	1,066	1	1,066	450	1	450				
Speech & OT/PT (Office for 3 + mtgs for 6)	178	3	534	450	1	450				
Psych + Evaluators/Testing	299	2	598	150	4	600				
Social Worker	189	1	189	150	1	150				
PALS Mentoring Office/Conf	161	2	321	part of soc worker						
SPED Dept Chair	241	1	241	250	1	250				
SPED Eval Team Chair	237	1	237	150	2	300				
SPED Office (Clerk/Waiting/Files)	304	1	304	300	1	300				
Conference (1 for 12, 1 for 20)				600	2	1,200				
ART & MUSIC			**19,851**			**18,200**			**13,075**	
Art CR (incl. Photo/Anim, Graph, TV Prod)	1,301	6	7,803	1,350	6	8,100	1,200	6	7,200	Assumed use - 25% Population - 5 times/week
Art Workroom w/ Storage & kiln	370	4	1,482	150	6	900	150	6	900	
Band - 50 - 100 seats	2,791	1	2,791	2,000	1	2,000	1,500	1	1,500	Assumed use - 25% Population - 5 times/week
Chorus - 50 - 100 seats (incl. Drama)	2,652	1	2,652	2,000	1	2,000	1,500	1	1,500	
Ensemble						0	200	1	200	
Music Practice (incl. Guitar)	81	3	244	75	5	375	75	17	1,275	
Music Storage	256	7	1,789	500	2	1,000	500	1	500	
Piano/Digital Lab	1,186	1	1,186	1,000	1	1,000				
Fine Arts Dept Office	155	1	155	125	1	125				
Music Admin - Conf/ Off	183	4	731	300	1	300				
Dance (also uses stage)	866	1	866	1,200	2	2,400				
Dark Room	152	1	152			0				

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LOWELL HIGH SCHOOL	Existing Conditions			Proposed Total			MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
		3125stu/25class/.71util.=176rms	177		3520stu/24class/.85util.=172rms	172		3520stu/23class/.85util.=181rms	183	
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
VOCATIONS & TECHNOLOGY			28,533			36,215			38,400	
ROTC Classroom (385 stu = 434 prorated)	955	4	3,819	900	5	4,500				
Culinary Arts Classroom	1,163	2	2,325	1,200	2	2,400				
Business (Accounting/Pers-Finance/Law)	869	2	1,738	1,200	2	2,400				
Business (Mktg/Sports Mktg) **CH.74**	994	2	1,987		incl. below		Ch.74 calc's **NOT** in MSBA totals			Exist 281stu in 14 6sect.5x/wk of 35p cyc at 85% =2.4rms of
Business (Retail Mktg - CR) **CH.74**	812	1	812	1,200	3	3,600	FTE	SF/stu.	SF Reg's	Adjust to 316 in 16 5sect.x5/wk of 35p cyc at 85% =2.6 rms of
Business (Retail Mktg - Store) **CH.74**	532	1	532		incl. above		**60**	**110**	**6,600**	20:1 stu/chtr ratio (2200sf min, 12' clear), 3 rm capacity = 60
Tech Clrm. - (E.G. Drafting, Business)		12			12		1,200	12	14,400	Assumed use - 50% Population - 5 times/week
ROTC MP/Gym w/ Stor (Drills/Band)	755	1	755	2,500	1	2,500				
Culinary Arts Kitch + Restaurant (for 25-30)	2,494	1	2,494	2,975	1	2,975				
Costume Shop w/ Sewing, Storage	727	1	727	1,440	1	1,440				
Scene Shop	future conversion of storage above			1,440	1	1,440				
TV Studio (w/ cntrl, edit/scrn, off/wait, equip)	3,882	1	3,882	4,000	1	4,000				
Robotics/CADD (w/ Engnr)	1,577	1	1,577	1,440	2	2,880				
Clean Enegry Lab (w/ Engnr)	1,577	1	1,577	1,440	1	1,440				
Maker Space (w/ Freshman Integr. Sci)	1,512	1	1,512	1,440	1	1,440				
Business (Bank/Credit Union)	287	1	287	400	1	400				
Tech Shop - (E.G. Consumer, Wood)		8			10		2,000	12	24,000	Assumed use - 50% Population - 5 times/week
ROTC Off/ Conf.	788	2	1,576	800	2	1,600				
ROTC Storage (4sf/cadet, 400sf min)	254	7	1,779	600	3	1,800				
Culinary Arts Storage	216	2	432	300	2	600				
Scene Shop and Costume Storage	722	1	722	600	1	600				
Retail/Store Storage				200	1	200				
HEALTH & PHYSICAL EDUCATION			53,268			49,950			35,912	
Gymnasium (w/ 150-200m track, LJ, TJ)	28,408	1	28,408	3,000	6	18,000	12,000	1	12,000	
PE Alternatives (Wrestling 42x84)	1,960	1	1,960	3,500	1	3,500	3,000	1	3,000	
Weights & Funct Strngth	1,474	2	2,948	3,000	1	3,000				
MP (Gymnastics/Yoga/Cheering)	currently off-site			3,000	1	3,000				
Pool - 25 yd/8 lane (60'w x75'l, 10'clr +5'end)	6,895	1	6,895	8,000	1	8,000				
Gym Storeroom (incl. Gymnastics w/ MP)	1,133	1	1,133	1,400	1	1,400	300	1	300	
Pool + Towel Storage = Laundry	63	4	252	125	2	250				
Locker Rooms - Boys / Girls w/ Toilets	3,245	2	6,490	3,600	2	7,200	19,712	1	19,712	5.6 sf/student total
Varsity Lockers - Boys/ Girls w/ Toilets	870	2	1,740	1,200	2	2,400				
Phys. Ed. Storage (incl. Equipment)	258	5	1,292	250	6	1,500	500	1	500	
Athletic Director's Office (Lord 1st fl -South)	185	1	185	150	1	150	150	1	150	
AD Secr, Bursor, Conf (Lord 1st fl - South)	155	3	464	150	3	450				
Health Instructor's Office w/ Shower & Toilet	170	5	852	125	4	500	250	1	250	
Trainers Room	216	3	649	600	1	600				

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				Proposed Total						MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
MEDIA CENTER			**13,164**			**21,900**			**21,900**			**21,900**	
Media Center / Reading Room	9,137	1	9,137	21,900	1	21,900	21,900	1	21,900	21,900	1	21,900	
Computer Lab													
Tech Ctr, Stor + Training Lab (incl instr sp.)	666	3	1,998		included above								
Data Processing + Scheduler	1,036	1	1,036		included above								
MCAS/Testing Stor (incl instr specialist)	993	1	993		included above								
AUDITORIUM / DRAMA			**20,233**			**15,516**			**10,400**				
Auditorium	11,627	1	11,627	11,616	1	11,616	7,500	1	7,500	2/3 Enrollment @ 10 SF/Seat - 750 seats MAX.			
Stage	2,614	1	2,614	2,600	1	2,600	1,600	1	1,600				
Auditorium Storage (incl Prop Storage)	598	2	1,196	500	1	500	500	1	500				
Make-up / Dressing Rooms				300	2	600	300	2	600				
Controls / Lighting / Projection	233	1	233	200	1	200	200	1	200				
Theater - Freshman	3,438	1	3,438										
Stage - Freshman	691	1	691										
Dressing/Storage	217	2	434										
DINING & FOOD SERVICE			**21,955**			**25,180**			**25,180**				
Cafeteria - Freshman	4,215	1	4,215	5,000	1	5,000							
Cafeteria / Student Lounge / Break-out	10,408	1	10,408	12,600	1	12,600	17,600	1	17,600	3 seatings - 15SF per seat			
Chair / Table Storage	156	1	156	1,030	1	1,030	1,030	1	1,030				
Scramble Serving Area	2,486	1	2,486	600	1	600	600	1	600				
Kitchen - Freshman	466	1	466	1,000	1	1,000							
Kitchen	3,553	1	3,553	3,820	1	3,820	4,820	1	4,820	1800 SF for first 300 + 1 SF/student Add'l			
Staff Lunch Room	671	1	671	1,130	1	1,130	1,130	1	1,130	20 SF/Occupant			
MEDICAL			**2,215**			**2,610**			**2,610**				
Medical Suite Toilet	62	2	124	60	4	240	60	1	60				
Nurses' Office / Waiting Room	217	2	434	450	1	450	250	1	250				
Interview Room				100	8	800	100	8	800				
Examination Room / Resting	103	8	820	100	10	1,000	100	15	1,500				
Medical Suite Toilet - Freshman	47	1	47										
Nurses' Office - Freshman	126	1	126										
Exam / Resting - Freshman	332	2	664										
Lactation Room				60	2	120							
ADMINISTRATION & GUIDANCE			**15,423**			**13,705**			**9,785**				
General Office / Waiting Room / Toilet	231	1	231	300	1	300	1,760	1	1,760				
Freshman Office / Waiting Rm / Tlt	793	1	793	200	1	200							
House Office / Waiting Rm / Tlt (B, C, D, E)	509	3	1,527	200	4	800							
Teachers' Mail and Time Room	138	1	138	250	1	250	100	1	100				

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	3125stu/25class/.71util.=176rms 177			3520stu/24class/.85util.=172rms 172			3520stu/23class/.85util.=181rms 183			
LOWELL HIGH SCHOOL	**Existing Conditions**			**Proposed Total**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
Duplicating Room - C, D Houses	178	2	355	200	1	200	200	1	200	
Records Room - Main, E House	58	2	115	200	1	200	200	1	200	
Principal's Office w/ Conference Area	305	1	305	375	1	375	375	1	375	
Principal's Office w/ Conf Area - Freshman	206	1	206	150	1	150				
Principal's Secretary / Waiting	268	1	268	125	1	125	125	1	125	
Asst Principal's Office - AP1 (Discipl/Oper)	280	1	280	200	1	200	150	1	150	
Asst Principal's Office - AP2 (Dir.ofCurric)	541	1	541	200	1	200	150	1	150	
Asst Principal's Office (B,C,D,E)	265	4	1,058	150	4	600				
Supervisory / Spare Office (Accts Payable)	137	1	137	120	1	120	120	1	120	
Conference Room (Administration)	386	2	772	450	1	450	450	1	450	
Conference Room - Freshman	175	1	175	200	1	200				
Conference Room - B House	81	1	81							
Guidance Office				150	10	1,500	150	18	2,700	
Guidance Office - Freshman	187	3	562	included above						
Guidance Office - B, C, D, E House	152	8	1,219	included above						
Social Worker Office - Freshman	129	1	129	150	1	150				
Social Worker Office - B, C, D, E House	169	4	676	150	4	600				
Guidance Waiting Room - C House	292	1	292	100	5	500	100	1	100	
Guidance Waiting Room - Freshman	559	1	559	included above						
Guidance Storeroom				100	5	500	100	1	100	
Guidance Storeroom - Freshman	124	1	124	included above						
Career Center	677	2	1,354	1,030	1	1,030	1,030	1	1,030	
Records Room	included w/ Stu. Support Suite?			465	1	465	465	1	465	
Records Room - Freshman	77	1	77	150	1	150				
Kitchenette - Freshman	200	1	200	100	1	100				
Student Support Offices - Freshman	115	2	229	150	1	150				
Student Support Conf. - Freshman	230	1	230	200	1	200				
Sudent Support Suite (incl. Safe Harbors)	1,183	1	1,183	1,200	1	1,200				
Student Support Offices - Gr.10-12	85	3	256	150	3	450				
Student Support Conf. Gr.10-12	140	1	140	150	1	150				
Dir of Students	278	1	278	200	1	200				
ELL Dept Head + Testing	81	2	161	120	2	240				
Teachers' Work Room				350	5	1,750	1,760	1	1,760	
Teachers' Work Room - Freshman	386	2	772							
CUSTODIAL & MAINTENANCE			**6,775**			**6,440**			**4,265**	
Custodian's Office + Lockers	77	3	232	100	3	300	150	1	150	
Custodian's Workshop	525	1	525	500	1	500	250	1	250	
Custodian's Storage	72	26	1,884	75	10	750	375	1	375	
Recycling Room / Trash	85	1	85	800	1	800	400	1	400	
Receiving and General Supply	84	1	84	1,030	1	1,030	1,030	1	1,030	
Storeroom + Books	220	11	2,417	1,860	1	1,860	1,860	1	1,860	
Network / Telecom Room	86	18	1,548	200	6	1,200	200	1	200	

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High School Space Summary

Proposed Space Summary v8

		3125stu/25class/.71util.=176rms	177		3520stu/24class/.85util.=172rms	172		3520stu/23class/.85util.=181rms	183	
LOWELL HIGH SCHOOL	**Existing Conditions**			**Proposed Total**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
OTHER			**19,764**			**7,700**			**0**	
Unassigned Computer Lab - Freshman	868	2	1,736							
Unassigned Computer Lab - Gr.10-12	960	7	6,721							
Unassigned Science Lab - Freshman	1,385	1	1,385							
Unassigned Green House/Growing Room	207	2	413							
Spare Off, Wait, Conf (220A,B,C)	185	3	556							
Lowell Comm Hlth Center	608	1	608	1,500	1	1,500				
Lowell Comm Hlth Center - Exam	80	3	241		included above					
Lowell Comm Hlth Center - Office	103	2	205		included above					
Lowell Comm Hlth Center - File and Storage	146	3	437		included above					
Lowell Comm Hlth Center - Toilet	72	1	72		included above					
Catie's Closet - Freshman	225	1	225	350	2	700				
Catie's Closet - Gr.10-12	364	1	364		included above					
Trio - Gear Up/Talent/Upward - Freshman	473	1	473	700	3	2,100				
Trio - Upward	579	1	579		included above					
Trio - Suite (recept, wait, 2 offices, conf)	197	5	984		included above					
In School Suspension - Freshman	809	1	809	900	2	1,800				
In House Detention Gr.10-12	969	1	969		included above					
Score Mediation (Office, Entry, Stor)	132	3	395	150	2	300				
Interactive Learning Center + Storage	995	1	995		use typ CRs/laptops					
Latino Connection	228	1	228	250	1	250				
Student Activities (Lord 1st fl - North)	284	1	284	300	1	300				
Substitute Teacher's Office	127	1	127	150	1	150				
Conseling Services	occurs in available space			use typ CRs/other space						
DARE Office & Security	233	3	700	150	2	300				
SRO Office & Entry (Lord 1st fl - North)	129	2	258	150	2	300				
Total Building Net Floor Area (NFA)			**359,218**			**393,416**			**364,807**	
Proposed Student Capacity / Enrollment			3,125			3,520			**3,520**	157
Total Building Gross Floor Area (GFA)[2]			628,558			590,124			**552,640**	Does not include Ch.74 program calc's
Grossing factor (GFA/NFA)			**1.75**			**1.50**			**1.51**	

[1] **Individual Room Net Floor Area (NFA)** storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

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High School Space Summary

Proposed Space Summary v8

	3125stu/25class/.71util.=176rms 177			3520stu/24class/.85util.=172rms 172			3520stu/23class/.85util.=181rms 183			
LOWELL HIGH SCHOOL	**Existing Conditions**			**Proposed Total**			**MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)**			
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: Perkins Eastman / DPC

Name of Principal Architect: Robert Bell

Signature of Principal Architect:

Date: 21st February 2017

Version
11.24.2010

High School Space Summary

3.1.4 Evaluation of Existing Conditions

A. Executive Summary

This report examines the existing conditions of the exterior and interior of the Lowell High School which is a campus comprised of multiple buildings: the "1922 Building" (collectively includes the original 1892 Coburn Building, the 1922 Sullivan Addition and the 1997 Kouloheras Addition), the 1980 Lord Building and Field House Building, and the Freshman Academy which consists of the former 1901 Lowell High School Commercial and Manual Training Department (Trade High School) and the former 1939 High School Annex. The Steam Plant was constructed as part of the 1922 High School addition. It includes a review of all the systems and is meant to act as a snapshot of the overall facility condition at the time the reviews were completed. The consultant team has visited the existing buildings, spoken to the facilities and maintenance staff, reviewed the areas of the building applicable and relevant to their respective trades and provided a base existing conditions report as well as a summary of necessary repair scope, as applicable.

These existing conditions analyses included: review of the available construction drawings from the City Engineering Department and the High School, available drawings from the Massachusetts Archive, the Comprehensive Facilities Assessment by OMR Final Draft dated February 28, 2014, and on-site observations by Perkins Eastman|DPC and their consultants during the months of August, September and October 2016.

Perkins Eastman | DPC visited and cataloged every room and surface in the facility, any deficiencies discovered during that effort were recorded in the field and then transcribed in the office onto existing condition drawings and schedules to develop the project base repair scope for the estimator. Design Team consultants also visited the site and recorded their observations in reports. These drawings, schedules and reports are included in the appendix.

The Lowell High School is located at 50 Father Morissette Boulevard in Lowell Massachusetts. The +/- 6.6 acre campus is comprised of 4 parcels, 4 buildings and 2 bridges that span the canal totaling approximately 626,188 s.f. The condition of these buildings vary with the vintage of each and are summarized in this section.

The campus is located in the DMU (Downtown Mixed Use District) within the city. Lowell High School is located along Father Morissette Boulevard, Arcand Drive and French Street. The Freshman Academy is detached and located at the intersection of Paige Street and John Street adjacent to the Steam Plant. The two main high school structures are the 1922 Building and the Lord and Field House Building which span a segment of the National Historic Park's Merrimack Canal and Lucy Larcom Park.

On the east side of the Merrimack Canal the existing Lowell High School is listed on the National and State Registers of Historic Places through its inclusion within both the Lowell National Historical Park & Preservation District, the City Hall Historic District, and the Downtown Lowell Historic District. This applies to the buildings on Kirk Street including Coburn Hall (1892) and an addition built circa 1922; the 1997 addition is also in the National Historical Park by virtue of its attachment to the High School Building. The 1980s sections (Lord and Field House) are within the preservation district, and within the Lowell Downtown Historic District. The 1980's buildings may be deemed less historically sensitive, but all work on those buildings will require Lowell Historic Board and likely also MHC review. Three nearby buildings also associated with the high school, the former Lowell High School Commercial and Manual Training Department (a.k.a. Lowell Trade School) (1901) Located at 68 John Street, the Lowell High School Annex (1939) located at 55 French Street as well as the Steam Plant and associated smokestack on French Street are also listed on the National and State Registers of Historic Places through their inclusion within both the Lowell National Historical Park & Preservation District and the City Hall Historic District. The Lowell Trade School/Lowell High School Annex were subsequently renovated circa 1997 as the Freshman Academy.

As to be expected with facilities that have been renovated over time, the buildings have portions which comply with the ADA (Americans with Disability Act) / MAAB (Massachusetts Architectural Access Board) and other spaces that don't. A substantial renovation project would likely exceed thresholds that would require altering non-compliant areas to comply with these regulations.

In general, the various buildings have more than the minimum number of toilet facilities to address the projected enrollment of 3,520 students and approximately 500 staff. Some of the toilet room layouts are not compliant and toilet fixtures can be eliminated to allow for reconfiguration of compliant toilet rooms.

Recommendations for Future Investigations for All Buildings:

In general, the available existing information is incomplete and does not reflect the current configuration of the campus. Should the existing buildings be part of a renovation or expansion project, it is recommended that a full laser survey of the buildings be done to confirm layout and dimensions, as well as invasive testing to determine the existing structure of the older vintage buildings.

3.1.4 Evaluation of Existing Conditions

B. Developable Property

See appendix for additional information regarding Titles and Deeds.

The Lowell High School campus is bordered by Father Morissette Boulevard, the Tsongas Center and George A. Ayotte Parking Garage to the north, an office building and the Lowell Masonic Association to the south, Kirk Street and The National Park Headquarters and the Steam Plant and Freshman Academy Buildings to the east, and Arcand Drive and apartment buildings to the west. The main campus is bisected by the Merrimack Canal which has an active trolley track on the east side of the canal, and Lucy Larcom Park on the east.

Water:

Lowell Regional Water Utility (LRWU) water mains provide domestic and fire protection service to all high school buildings. A 20 inch main runs east - west in Father Morissette Boulevard which splits to a 12 in main continuing on Father Morissette and a 16 inch main running southerly in Arcand Drive. A 6 inch main runs north – south between the Merrimack Canal and the 1922 building in Lucy Larcom Park. A 20 inch main runs easterly and westerly in French Street which supplies a 6 inch main that runs northerly – southerly in Kirk Street. A 6 inch main tees into the Kirk Street main which runs easterly – westerly in Paige and Lee Streets. A 6 inch main runs northerly – southerly in Dutton Street.
See appendix for further information.

Sanitary Sewer:

Lowell Regional Wastewaste Utility (LRWWU) provides sewer service to all high school buildings. A 15 inch sewer main runs in a northerly direction in Arcand Drive which connects to a 24 inch sewer main at the intersection of Father Morissette Boulevard and then turns westerly and connects to a 48 inch sewer main in Father. Morissette Boulevard. A 15 inch sewer main beginning west of the Merrimack Canal located in Father Morissette Boulevard running westerly increasing in size to 18 and then to 24 inches. A 12 inch combined sewer runs northerly in Lucy Larcom Park connecting to a combined 12 inch sewer main in French Street. A 16 x 18 inch combined sewer main runs northerly in Kirk Street to a 24 inch combined sewer main in French Street.
See appendix for further information.

Storm Drainage:

The storm drainage service is provided through a combination of the Lowell Regional Wastewater Utility (LRWWU) by way of a combined sanitary and stormwater system, which does not meet DEP Stormwater Regulations 2008 and a separate stormwater drainage system. There is a 24 inch drain line in Arcand Drive running northerly and connecting to a combined 24 inch sewer main in Father Morissette Boulevard. There

is a 15 inch increasing to 36 inch drain line running westerly in Father Morissette Boulevard. A 15 inch increasing to 24 inch sewer main also is running westerly in Father Morissette Boulevard. A 12 inch combined sewer runs northerly in Lucy Larcom Park connects to a combined sewer in French Street that turns easterly. A 16 x 18 inch combined sewer main runs northerly in Kirk Street.
See appendix for further information.

Gas:
The city's gas service is provided through National Grid. A 6 inch gas main is located in Father Morissette Boulevard. A 4 inch gas main tee's off the 6 inch main at the intersection for Father Morissette and Arcand Drive and continues southerly in Arcand Drive. The 6 inch gas main splits at the eastern end of Father Morissette and continues southerly parallel to the Lord Building and into Merrimack Street. A 6 inch gas line runs in northerly in Dutton Street. A 4 inch gas line runs in a northerly direction in Kirk Street and tees into a 6 inch gas main running on the northern edge of French Street.
See appendix for further information.

Electrical:
The city's electricity service is provided through National Grid.
See appendix for further information.

Telecommunication/CATV:
The city's telecommunication and cable television services are provided through Comcast and Verizon.
See appendix for further information.

Soils:
Pending geotechnical investigations which will be performed when site selection is finalized.

Public Sidewalk and Private Driveway Improvements:
The paving at the main entrance to the high school between the Lord Building and Field House is in poor condition and needs replacement. HC accessible curb ramps are in poor condition and need improvements to meet MAAB requirements. Most of internal site sidewalks and all of the driveways are in poor condition requiring replacement. HC parking spaces along Father Morissette Boulevard do not meet MAAB requirements and need replacement and relocation.

Phase 1 Geo-environmental:
A Phase I Environmental Site Assessment (ESA) has been performed per ASTM E1527-13 and MGL Part I, Title II, Chapter 21: Massachusetts Oil and Hazardous Material Release Prevention and Response Act. This report also includes 75 Arcand Drive which is included as part of the "expanded" existing site options. Based on the findings Nobis Engineering recommends that a Phase II subsurface investigation be conducted including collection and analysis of soil samples and a surface geophysical survey (electromagnetic and ground penetrating radar) in the vicinity of the steam plant to determine the presence or absence of a historical underground storage tank.

See appendix for additional information.

Permitting:

Wetland Protection Act (310 CNR 10:00)

The Wetlands Protection Act ensures the protection of Massachusetts' inland and coastal wetlands, tidelands, great ponds, rivers and floodplains. It regulates activities in coastal and wetlands areas, and contributes to the protection of ground and surface water quality, the prevention of flooding and storm damage, and the protection of wildlife and aquatic habitat.

A review of the Massachusetts Department of Environmental Protection (DEP) wetland layers available on the Massachusetts Geographic Information System (MassGIS), dated April 2009 indicates a wetland resource area located along the Merrimack Canal, (and more specifically located between the 1922 Building and Lord/Field House Buildings).

Work performed within resource areas or buffer zones will require a filing of a Notice of Intent (NOI) with the Lowell Conservation Commission and the Massachusetts Department of Environmental Protection.

It appears that any proposed work within the vicinity of the Merrimack Canal may require the filing of a Notice of Intent filing with the DEP and the Lowell Conservation Commission.

Flood Plain:

Based on the Flood Insurance Rate Map (FIRM), the Community Panel Numbers 25017C0139F and 25017C0143F and both dated July 7, 2014, the Merrimack Canal is in Zone A (No base flood elevations determined). The remainder of the school building sites are located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).

Surface Water Supply Protection (310 CMR 22.20):

The Massachusetts Department of Environmental Protection (DEP) ensures the protection of surface waters used as sources of drinking water supply from contamination by regulating land use and activities within critical areas of surface water sources and tributaries and associated surface water bodies to these surface water bodies to these surface water surfaces.

The only water supply for the Lowell Regional Water Utility (LRWU) is the surface water from the Merrimack River, which has its source in the White Mountains of New Hampshire. The Intake Station is situated on the riverbank north of the city and water is pumped one half mile to the treatment plant. A review of the Massachusetts DEP resource layers available on the MassGIS indicates the High School is not located within a water Supply Protection Zone, and appears to not require permitting under 310 CMR 22.20.

Natural Heritage & Endangered Species Program:

A review of the 13th Edition of the Massachusetts Natural Heritage Atlas prepared by the Natural Heritage and Endangered Species Program (NHESP), dated October 1, 2008, indicates that the High School site is NOT located within a Priority Habitat of Rare Species or an Estimated Habitat of Rare Wildlife and that there are no vernal pools on or adjacent to the site. It does not appear that the project will require NHESP review.

Area of Critical Environmental Concern (ACEC):

A review of the Massachusetts Geographic Information System (MassGIS) dated April 2009, indicates that the site is NOT located within any Area of Critical Environmental Concern.

US EPA NPDES:

Construction Activities that disturb more than one acre are regulated under the United States Environmental Protection Agency's (EPA) National Pollution Discharge Elimination System (NPDES) Program. In Massachusetts, the USEPA issues NPDES permits to operators of regulated construction sites. Regulated projects are required to develop and implement stormwater pollution prevention plans in order to obtain permit coverage. The permitting requirement will need to be determined based upon future design options. Update for options under consideration.

Sewer Connection Permit (314 CMR 7.00):

New connections to sanitary sewers, increases in flow to existing sanitary sewers, and discharges from businesses that are not considered to be "industrial wastewater" are subject to state requirements based on their expected discharge volume:

- Discharges ≤ 15,000 gallons per day (gpd) will need only local approvals (no approvals by MassDEP)
- Discharges ≥ 15,000 gpd but ≤ 50,000 gpd must file a one-time certification statement with MassDEP within 60 days after the connection starts to be used
- Discharges > 50,000 gpd must obtain a MassDEP permit before construction

Due to the existing sewer flows from the buildings to be maintained or to increase slightly, no permitting is expected to occur. Any new sewer services may require permitting (street opening, sewer connection fee) from the City of Lowell.

Permitting Table Timeline:

Permit	Permitting Authority	Anticipated Filing Date	Anticipated Approval Date
Notice of Intent (Order of Conditions)	MassDEP & City of Lowell Conservation Commission	After 100% DD	Approval in 3 to 6 months
Planning Board Site Plan Review	City of Lowell Planning Board	From SD to DD	Up to 6 months+

(If Required)			
National Pollutant Discharge Elimination System (NPDES) with EPA Notice of Intent (NOI)	Environmental Protection Agency (EPA)	After 100% CD	Once Submitted: Close NOI at end of Construction

Zoning:

The Lowell High School is located in the DMU Downtown Mixed Use District. The site has few limitations other than a Max F.A.R. of 4 and a Minimum Frontage of 25 which the parcels well exceed. See Section 3.1.5 for additional information.

See appendix for further information.

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3.1.4 Evaluation of Existing Conditions

C. Architectural, Building Code and Accessibility

Architecture:

Prior to the construction of the existing High School buildings, the site has been developed since the early 1800's, when the Merrimack Canal and associated textile mills were constructed. The Merrimack Manufacturing Company and Boot Cotton Mills were both located to the north of the Site, and rail line was constructed to the west of the canal to serve these mills. Today this rail line still exists and is used for streetcar traffic associated with the Lowell National Historical Park. Former railroad activities likely transported and handled raw materials that were associated with the operation of the mills that surrounded and were located on parts of the site which suggests that although there is no documented release of contamination to the environment from historical site operations, the nature of historical site operations suggests that there is potential for a release to have occurred which warrants further investigations should the existing high school site be selected for a renovation or expansion project . The various campus buildings were constructed at various times as described below.

"1922 Building":

The 1922 Building is located at 38 Kirk Street. The site consists of approximately 2.7 acres situated on the east side of the Merrimack Canal and is bounded by Father Morissette Boulevard/the George Ayotte Parking Garage to north west, Kirk Street/National Park Headquarters to the east, an alley and St. Anne's Episcopal Church to the south, and Lucy Larcom Park and the Merrimack Canal to the west.

The building consists of approximately 312,052 sf and is comprised of three main sections: the original Coburn Hall Building at the south constructed in 1892, the Sullivan addition constructed in 1922, and the Kouloheras addition at the north that was constructed in 1997. The building is comprised of 3 stories, with a partial mezzanine in the original Coburn building (that was constructed at the time of the 1997 addition), plus a full basement. The 1922 Building is connected to the Lord Building via 2 pedestrian bridges consisting of approximately 4,400 sf; one at the southern end of the site which was constructed in 1980 and another at the northern end which was constructed in 1997.

The building appears to be constructed of various structural systems for each vintage. The 1892 Coburn Building is a combination of wood framing supported by steel and wood trusses at the roof, and tongue and groove wood plank on wood joists spanning to brick masonry bearing walls at the floors. The1922 Sullivan Building construction is largely unknown due to lack of existing drawings and the fact that hard finishes obscure the structure; observations and limited original drawings

suggest at least some sections of the building are reinforced concrete slab construction (concrete slabs with masonry block or tile forms, supported on masonry bearing walls). The 1997 addition is structurally separated from the 1922 building by an expansion joint, and is steel framed with metal deck spanning to steel joists and beams/girders supported by steel columns. The lowest level of the building is slab on grade with a mixture of fieldstone and concrete foundations. The bridges are long span structures comprised of concrete slab on metal deck spanning to steel joists and beam/girders supported by steel columns.

Pending confirmation of the existing construction via invasive testing, the building is likely Type IIIA, the bridge is Type IIB construction under the Massachusetts State Building Code 780 CMR 8th Addition.

The building is comprised of spaces which include: classrooms, the Cyrus Wendell Irish Auditorium, the Daniel P. Kane Courtyard Restaurant, the Lowell Community Health Center, Catie's Closet, a Teacher's Center, ROTC, various mechanical and electrical rooms. The 1922 building also includes and historic artifacts such as the Carney Medal Winner and the Distinguished Alumni wall plaques located the public spaces adjacent to the Auditorium. Due to the width of the building, academic classrooms are organized along the perimeter walls (including courtyards) to maximize natural light. There are also light wells that provide additional light into corridors. The multi-level Auditorium is located in the central northern core of the 1922 portion of the building and is accessed via a ramp and stairs off of Father Morissette Boulevard. The vertical circulation is provided by 8 egress stairs and 2 elevators. The building is accessed through 9 separate entries distributed around the building perimeter,

As noted above, it is expected that per many facilities of this era renovated over time the building has portions which comply with ADA/AAB and other spaces that don't. Areas of non-compliance include but are not limited to: exterior entries which contain stairs and no ramps, the existing HC lift at the north entry foyer adjacent to the Auditorium is technically not compliant and needs to reconsidered, Auditorium floor slopes exceeds the maximum allowable of 1:12, Auditorium Balcony and Control Room are not accessible, classroom door clearances on the push and pull sides, classroom thresholds that exceed the ½" maximum, toilet room clearances, Band and Choral rooms have tiered floors. The Teacher Work Room located in the mezzanine is not accessed by an elevator, Science rooms / labs do not have required clearances, the majority of hardware is not accessible, and signage does not reflect current room usage and does not meet accessibility requirements. In general, the buildings has more than the minimum number of plumbing fixtures to serve the potential design population and therefore reducing the number of restroom fixtures to provide accessibility will not be a problem.

The envelope components range in condition from good to poor. In general the masonry and structure do not show severe signs of distress and appear to be in good condition. The slate and copper roofs and downspouts on the original 1892 building have been recently replaced and are in excellent condition, but the existing membrane are past their useful life and experiencing water infiltration that suggests full replacement. The brick walls are in good condition with few exceptions. The

limestone and terra cotta features require some replacement; several pieces have been salvaged and could possibly be reused. The exterior walls of the 1892 and 1992 portion of the building are comprised of multiple wythes of masonry, and the 1997 addition is brick veneer with steel back-up 1997. Only the 1997 portion of the building has confirmed insulation in the exterior walls. The majority of the windows are in fair to poor condition and are difficult to operate (some will not close or open), and several seals and insulated glass units are broken. The poor condition combined with the fact that preliminary Historic discussions suggest that a window with a more historic profile would be required should a major renovation occur, suggests that all windows be replaced. The building sealants have deteriorated requiring full replacement. The exterior doors appear to have been replaced as part of the 1997 work but may need to be replaced as part of making the entrances accessible. The stairs are in poor condition and replacement is recommended. Interior doors and frames are in good to poor condition. The elevator in the 1892 building was recently replaced and is good condition with the exception of the ceiling and lights which are damaged and should be replaced. The elevator in the 1922 building is in poor condition and replacement is recommended. Some of the interior partitions are the demountable type which do not extend to the deck, and are an acoustic breach which will not meet the LEED prerequisite, and should be replaced. The majority of the interior finishes and casework are in fair to poor condition with few exceptions and replacement is recommended. The bridges are generally in fair to poor condition: the barrel vaulted aluminum and polycarbonate roof/wall system should be replaced, window systems are tired and failing and should be replaced, as should interior finishes. The HVAC, Mechanical, Electrical, Plumbing and Fire Protection Systems are in poor condition and are at the end of their useful life cycle and require replacement as further explained in Section C of this report.

1980 Buildings: Lord (Academic Building) / Field House (w/ Natatorium)

The Lord/Field House Building is located at 50 Father Morrissette Boulevard. The site consists of approximately 3.3 acres situated on the west side of the Merrimack Canal and is bounded by Father Morissette Boulevard to the north, Arcand Drive along the west, the trolley tracks/Merrimack Canal to the east and a parcel of property at 75 Arcand Drive along the South of the site, which is an office building.

Constructed in 1980 with a minor renovation and addition in 1997, the facility is comprised of two buildings totaling approximately 216,172 sf. The Lord Building is a 3 story academic building which is approximately 141,122 sf. The Field House is a 2 story athletic facility with a partial basement totaling approximately 75,050 sf. The two buildings are connected via a 2 story glazed lobby space. As noted above, the Lord Building is connected to the 1922 building via 2 pedestrian bridges; one at the southern end of the site which was constructed in 1980 and another at the northern end which was constructed in 1997. The two bridges total approximately an additional 4,400 sf. The construction type for both buildings and the bridge is Type IIB unprotected, non-combustible construction.

The Lord Building is a 3 story academic building is comprised of classrooms, science

laboratories, Murphy Cafeteria, kitchen, conference space, the Colleen Creegan Library (Ext. Building Sign, "George D. Kouloheras Library Media Center), a television studio, student support offices, administration and nurse's offices, Police Department, 1826 School Store, the Jeanne D'Arc Credit Union, the Little Theatre, and a maintenance and receiving area. The structure is a concrete slab on grade of varying thickness with building columns supported on pile foundations. The second and third floor construction consists of concrete slab on metal deck spanning to steel joists and beams/ girders supported by steel columns. The roof construction of the Lord Building is steel framed, with metal deck spanning to steel joists and beams/ girders supported by steel columns. The vertical circulation is provided by 7 egress stairs and 1 elevator. The first floor has 11 perimeter entrance areas with doors serving the facility.

The Field House is a 2 story hexagonal building with a multi-sport gymnasium, pool, wrestling room, weight rooms, locker rooms, and mechanical room located in a partial basement. The basement also contains a pool pump area. The structure is a concrete slab on grade of varying thickness and reinforcing around the pool area. The second floor construction consists of concrete slab on metal deck supported by steel framing with the exception of the structure located over the pool which is reinforced concrete slab spanning to concrete encased wide flange steel beams supported by steel columns. The roof construction consists of metal deck spanning to steel trusses, supported by steel bents which clear span the hexagonal space. The vertical circulation is provided by 2 egress stairs and there is no separate elevator in this building. The first floor has 6 perimeter entrance areas with doors serving the facility.

The configuration of the Lord building is such that the majority of the academic classrooms are located on the 2nd and 3rd floors along the perimeter; however, various lab classrooms are located in the center with no exterior light or views. Many of the administrative rooms are also without exterior light or views.

The Lord and Field House buildings have portions which comply with ADA/AAB and other spaces that don't. Areas of non-compliance include but are not limited to: Locker Room layouts and clearances, lab clearances, toilet room layout and clearances, and the Little Theatre contains tiered floors without ramps or elevators serving all levels, door clearances, some non-compliant hardware, and signage does not reflect current room usage and does not meet accessible requirements.

The overall condition of the buildings' exteriors are in fair condition with the exception of specific components, such as the cement asbestos panel which is in poor condition and should be replaced with a material that does not contain asbestos. Generally speaking, floor and roof structure appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members. The Lord Building roof is a EPDM type which is in poor condition with evidence of extensive water infiltration and should be replaced. The roof of the Field House is corrugated metal that slopes to a perimeter gutter which appears to be failing causing water to enter the wall cavity below. The exterior walls are showing signs of water infiltration from the failing roof, gutter and downspout system. The brick veneer is failing in numerous areas and

should be removed and replaced. The window and curtain wall systems are in fair to poor condition and replacement is recommended. The exterior doors and entrance systems are in fair to poor condition and replacement is recommended. The building sealants have deteriorated and replacement is recommended. The stairs are in fair condition but need finish upgrades and modifications for accessibility are required to the hand/guardrail configuration to meet MAAB/ABB requirements. The elevator controls and finishes need to be replaced. Interior doors and frames are in good to fair condition requiring selective replacement. Many of the interior partitions are the demountable type which do not extend to the deck, and are an acoustic breach which will not meet the LEED prerequisite, nor best educational best practices and should be replaced. The majority of the interior finishes and casework are in fair to good condition requiring selective replacement. The science labs are in fair to poor condition requiring reconfiguration and casework replacement.

The bridges are generally in fair to poor condition: the aluminum and polycarbonate barrel vault roof/wall system should be replaced. The aluminum panel sidewall and soffit systems are tired and failing and should be replaced, as should interior finishes. The HVAC, Electrical, Plumbing and Fire Protection Systems are in poor condition and are at the end of their useful life cycle and require replacement.

Freshman Academy-:

The Freshman Academy Building is located at 55 French Street. The site consists of approximately .4 acres on a site which is remote from the main campus and is bounded by French Street / Boarding House Park to the north, John Street / the Joseph M. Downes Garage to the east, Paige St. / Lowell Five Bank to the South, and the Steam Plant/ Lowell National Historic Park Building to the west.

The building consists of approximately 90,326 sf and is comprised of two joined buildings connected by a courtyard; the original southern building constructed in 1901 and the northern building constructed in 1939. The Building, originally the Lowell High School Commercial and Manual Training Department (a.k.a. Lowell Trade School), was subsequently renovated to become the Arts School and City Magnets middle schools circa 1985, and then renovated to become the Freshman Academy circa 1997.The 1901 building is 3 stories with a full basement and is primarily wood framed with fieldstone foundations. The 1939 building is 2 stories with a full basement and is concrete and steel frame w/ concrete foundations. The classrooms are located on the perimeter walls (and surrounding a courtyard) to provide ample exterior light (the exception being classrooms located in the lower level which utilizes smaller windows with high sills). Skylights at the lowest level provide additional light into the corridor outside of the Theatre. Pending confirmation of the existing construction via invasive testing, the building is likely Type IIIB, construction under the Massachusetts State Building Code 780 CMR 8th Addition.

The Freshman Academy building is comprised of: classrooms, administrative offices, a Cafeteria/Multi-Use Room, the J.J. Burgoyne Theatre, Catie's Closet, a Maker Space, and Nurse's Office. The current configuration is largely residual to the

previous layouts and contains numerous level changes that make for difficult circulation, and spaces that are sized for elementary students which are not appropriate for high school students. The vertical circulation is provided by 6 full egress stairs, additional partial stairs, ramps and (1) 2-sided elevator. The first floor has 6 perimeter entrances with sets of double doors serving the facility.

As noted above, it is expected that per many facilities of this era renovated over time the building has portions which comply with ADA/AAB and other spaces that don't. Areas of non-compliance include but are not limited to: 5 exterior entrances which contain stairs and no ramps (there is one accessible entrance on the west side of the building), the Theatre floor slope appears to exceed the 1: 12 maximum allowable, the stage is accessed via a ramp which exceeds 1:12 , the dressing rooms are accessed via stairs, some toilet room dimensional clearances do not meet code, a corridor ramp in the north building appears to exceed the 1:12 max. slope, and some classroom door clearances and hardware also do not comply.

The envelope components range in condition from fair to poor. The EDPM roof is in poor condition which is contributing to leaks throughout the building and full replacement is recommended. In general the structure and the masonry appear to be in satisfactory condition; there is no evidence that would indicate significantly overstressed, deteriorated or failed structural members. The windows systems are in fair to poor condition and many units do not open or close, and finishes are badly faded, and full replacement is suggested. The exterior doors are in fair to poor condition and should be replaced. All exterior sealants are deteriorated and should be replaced. The stairs are in poor condition and full replacement is suggested. The 2-sided elevator is very small and in poor condition and replacement is recommended. The interior doors and frames are in fair to good condition. The Interior Partitions are in fair to good condition. The finishes and caseworks are in fair to poor condition with few exceptions and replacement is recommended. The HVAC, Electrical, Plumbing and Fire Protection Systems are in poor condition and are at the end of their useful life cycle and require replacement.

Steam Plant:

The Steam Plant is located at 35 French Street. The site consists of approximately .2 acres and is bounded by French Street / Boarding House Park to the North, the Freshman Academy to the east, and the National Historic Park Building to the south and west.

The building is comprised of approximately 3,328 sf, and is a one story rectangle with a substantial brick chimney on the SW of the lot, and a partial basement and tunnel that connects utilities to the 1922 Building Via a tunnel and to the Freshman Academy via overhead lines. The structure is steel and concrete w/ brick bearing walls. The building is likely Type IIB, construction under the Massachusetts State Building Code 780 CMR 8th Addition.

The Steam Plant layout is an open plan which contains boilers in an open plan, with an enclosed generator. There is one stair that leads to the partial basement / tunnels.

The building is a mechanical use and technically does not need to comply with the MAAB's current requirements. The existing tunnels are accessed via stairs. No elevator is required or provided.

The envelope components range in condition from good to poor. The EPDM roof is in good condition and full replacement is not recommended. In general the structure and the masonry appear to be in satisfactory condition; there is no evidence that would indicate significantly overstressed, deteriorated or failed structural members. The windows were replaced circa 1996 and are in good condition. The overhead exterior door at the east was damaged in a fire and should be replaced. The swinging wood doors at the north are in poor condition and should be replaced. All exterior sealants are deteriorated and should be replaced. The stairs are in poor condition and full replacement is suggested. The interior doors and frames are in good condition. The Interior Partitions are good condition. The interior finishes are utilitarian brick, cmu & concrete and in fair condition except the concrete floor which appears to experience flooding at the north and may require repair. The HVAC, Electrical, Plumbing and Fire Protection Systems are in poor condition and are at the end of their useful life cycle and require replacement in the Base Repair condition. Other renovation options will likely pursue new mechanical systems within the buildings and the Steam Plant Building would not be utilized for the MEP systems and the building would be turned over to the City.

See appendix for further information.

Code:

Following is a list of applicable codes:

Code Type	Applicable Code (Model Code Basis)
Building	780 CMR: Massachusetts State Building Code, 8th Edition[1] (2009 International Building Code) (2009 International Existing Building Code)
Fire Prevention	527 CMR: Massachusetts Fire Prevention Regulations (2012 NFPA 1)
Accessibility	521 CMR: Massachusetts Architectural Access Board Regulations
Electrical	527 CMR 12.00: Massachusetts Electrical Code (2014 National Electrical Code)[2]
Elevators	524 CMR: Massachusetts Elevator Code (2004 ASME A17.1)
Mechanical	2009 International Mechanical Code (IMC)

Plumbing	248 CMR: Massachusetts Plumbing Code
Energy Conservation	2015 International Energy Conservation Code[3]
Seating	ICC 300-2012 Standard for Bleachers, folding and telescopic seating & Grandstands

1 The 9th edition of 780 CMR based on the 2015 International Codes is expected to go into effect in mid-2017.
2 The 2017 NEC is in effect as January 2017 and is based on the date the electrical permit is issued, not the building permit.
3 The 2015 IECC has been adopted and will be required to be met January 1, 2017.

International Existing Building Code

The 2009 International Existing Building Code with Massachusetts amendments allows for 3 separate compliance methods:

- Prescriptive Method (in general, altered areas must comply with the code for new construction)
- Work Area Method (level of compliance is based on the classification of work)
- Performance Compliance Method (numerical method that allows tradeoffs for deficiencies). This report is based on the Work Area Method.

Work Area and Classification of Work:

Work will likely include renovations throughout the entire interior of the buildings, installation of new MEP systems throughout, as well as the potential for an addition to the building(s). For the purposes of this report it has been assumed that the scope of work is likely to be classified as Level 3 (the highest level of renovation). This level includes the reconfiguration of spaces, the addition or elimination of doors and windows, the reconfiguration or extension of systems, and/or the installation of additional equipment in more than 50% of the aggregate area of the building. The work must comply with the following IEBC Chapters based on the level of work in each building:

Level 2 Alteration: IEBC Chapters 6 & 7

Level 3 Alternation: IEBC Chapters 6, 7 & 8

Addition: IEBC Chapter 10

Occupancy Classification:

Field House: Non-Separated Mixed Uses:

- A-3 (Exercise Areas and Locker Rooms)
- A-4 (Gymnasium and Pool with Spectator Seating)

Lord Building: Non-Separated Mixed Uses:

- E (Secondary Education)
- A-2 (Cafeteria)
- A-3 (Library and Assembly Areas)

1922 Building: Non-Separated Mixed Uses:

- E (Secondary Education)
- A-1 (Auditorium)

Freshman Academy Building: Non-Separated Mixed Uses:

- E (Secondary Education)
- A-3 (Multipurpose Spaces)

Steam Plant Building:

- U (Utility Building)

Construction Type:

Field House:

Based on conditions observed during our site visit, the Field House building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire- resistance rating).

Lord Building:

Based on conditions observed during our site visit, the Lord building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire- resistance rating).

1922 Building:

Based on conditions observed during our site visit, the 1922 building appears to be constructed with various construction materials including concrete, wood and steel structure and masonry exterior wall resulting in a minimum of Type IIIB construction (combustible interior- no fire-resistance rating; 2-hour noncombustible exterior wall). The addition at the front of the building had spray-on fireproofing on the structure, therefore the construction type could potentially be Type IIIA (combustible interior- 1- hour fire-resistance rating; 2-hour noncombustible exterior wall).

Freshman Academy Building:

Based on conditions observed during our site visit, the Freshman Academy building appears to be constructed with various construction materials including concrete, wood and steel structure

and masonry exterior wall resulting in a minimum of Type IIIB construction (combustible interior- no fire-resistance rating; 2-hour noncombustible exterior wall).

Steam Plant Building:

Based on conditions observed during our site visit, the Steam Plant building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire- resistance rating).

Building Separation:

The Field House and Lord Building are connected but appear to have a rated wall separating them and could be considered separate buildings. The 1922 Building and Lord Buildings are connected via a pedestrian walkway and could be considered as separate building if needed (if addition is built to one building) but would require additional smoke rated doors at the end of the walkway. The Freshman Academy and Steam Plant buildings are standalone buildings.

Fire Resistance Ratings:

The following table summarizes the required fire resistance ratings for the building elements of Type IIIB & IIB construction, based on 780 CMR Table 601 and other applicable code provisions:

Building Element	Fire Resistance Rating (Hrs) Type IIIB	Fire Resistance Rating (Hrs) Type IIB
Primary Structural Frame[A]	0	0
Exterior Bearing Walls including columns along the exterior wall	2	0
Exterior Non-Bearing Walls	Based on FSD	
Interior Bearing Walls	0	0
Floor Construction	0	0
Roof Construction	0	0

A. Includes beams, trusses, floor members, etc. having a direct connection to the columns (780 CMR 202).

Building Element	Fire Resistance Rating (Hrs)	Opening Protectives (Hrs)
Exit Access Corridors (780 CMR	0	0
Existing 3 stories or less Stair, Mechanical, and Elevator Shafts	Maintain Existing	Maintain Existing
Existing 4 story Stair, Mechanical, and Elevator Shafts (IEBC 703.2.1)	1	1
New shafts: (780 CMR 708.4) 3 stories or less: 4 stories:	1[A] 2	¾ 1½
Building Separation (780 CMR Table 706.4) (Between Field House and	2	1½
Emergency Electrical Room (527 CMR 12.00 700-9(D)(1))	2	1½

A. In lieu of rated shaft enclosure, if the duct connects not more than two stories, the annular space around the penetrating duct may be protected by approved noncombustible material that resists the passage of flames and smoke. If the duct connects not more than three stories, the duct also needs to have fire dampers installed at each floor line (780 CMR 716.6.1).

Interior Finishes:

The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 703.4, 803.3). All newly installed wall and ceiling finishes, and interior trim materials must also comply with 780 CMR Table

803.9 (IEBC 602.1, 602.2, 602.3). The requirements are summarized below:

Walls & Ceilings (IBC Table 803.9) – Fully Sprinklered

Use Group:	E	A
Exit Enclosures	Class B	Class B
Exit Access Corridors	Class C	Class B
Rooms & Enclosed	Class C	Class C

Walls & Ceilings (IBC Table 803.9) – Not Sprinklered (Field House)

Use Group:	A
Exit Enclosures	Class A
Exit Access Corridors	Class A
Rooms & Enclosed	Class C

Note that where exit stairs and exit access corridors serve more than one use group, the most restrictive interior finish is required. Based on our site visit, the existing interior finishes appeared to comply for all buildings

Means of Egress:

The means of egress including the number of exits and egress capacity must be sufficient for the number of occupants on all floors (780 CMR 102.6.4). All means of egress are required to be maintained.

The means of egress for the existing buildings appears sufficient for the current occupant load of the buildings. However, once renovation plans have been developed, the means of egress within the building can be further evaluated based on the calculated occupant load.

Based on observations during our site visit, there were areas of the means of egress that were not properly maintained including the following conditions that occurred throughout the buildings:

- *Storage within stairwells*
- *Broken/ missing door closing devices*
- *Fire hose used to prop door open*

Required Fire Protection Systems:

The following fire protection systems are required to maintained and provided:

- Automatic sprinkler system (IEBC 704.2.2 & MGL c. 148 s. 26G):
  - The Lord, 1922 Building and Freshman Academy buildings appear to be fully sprinklered. (The mezzanine (teacher center) in the 1922 Building was built above the third floor is not provided with sprinklers. The sprinkler system is required to be altered as the configuration of the building changes.)
  - The Field House is not provided with sprinklers. (A sprinkler system must be installed throughout the Field House if the work area exceeds 50% of the floor area. Full sprinkler protection could also be required by MGL c. 148s. 26G)
  - The presence of sprinklers could not be confirmed in the Steam Plant building however a sprinkler system would not be required even for new construction due to the use of the building.
- Fire Alarm (IEBC 704.4.1 & 804.2) – the IEBC allows existing previously approved fire alarm systems to remain regardless of the level of renovation. However full compliance with the MA Architectural Access Board's Regulations will require a compliant fire alarm system.
  - *The existing buildings currently contain a fire alarm system with*

deficient notification device coverage (no strobes in classrooms). Note that the fire alarm system must also be altered as necessary in the new construction areas to reflect the new configuration and comply with NFPA 72.

Energy Code Provisions for Existing Buildings:

The buildings are subject to the International Energy Conservation Code (IECC) including the amendments contained in 780 CMR Chapter 13. Level 2 and 3 alterations to existing buildings are permitted without requiring the entire building to comply with the energy requirements of the International Energy Conservation Code (IECC). The alterations (new elements) shall conform to the energy requirements of the IECC as they relate to new construction only (IEBC 711.1 & 808.1).

Accessibility for Persons with Disabilities:

Massachusetts Architectural Access Board Regulations:
Alterations to the building must comply with the requirements of the Massachusetts Architectural Access Board Regulations (521 CMR). For existing building alterations the requirements of 521 CMR are based on the cost of the proposed work:

Americans with Disabilities Act Guidelines:

The ADA Guidelines are not enforced by the Commonwealth of Massachusetts, they can only be enforced through a civil lawsuit or complaint filed with the U.S. Department of Justice. Compliance with the ADA Guidelines is triggered by renovations to an existing building. All renovations to the building must be made to ensure that, to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities (28 CFR Part 36 Section 36.402(a)). Alterations made to provide an accessible path of travel to altered areas and accessible facilities (i.e. provide accessible toilet facilities) are not required if the cost exceeds 20% of the total cost of the alteration (28 CFR Part 36 Section 36.403(f)). However, if the cost to meet these accessibility requirements does exceed 20%, alterations are still required to the maximum extent that the area can be made accessible without exceeding the 20% criteria (28 CFR Part 36 Section 36.403(g)). The ADA also contains less stringent dimensional requirements for some building elements in an existing building where it is infeasible to meet the requirements for new construction (ADA Section 4.1.6).

Plumbing Code:

248 CMR: The Massachusetts State Plumbing Code

The Massachusetts Plumbing Code (248 CMR) regulates the number of plumbing fixtures required throughout buildings. The minimum number of plumbing fixtures is established by 248 CMR 10.10(18) Table 1 based on the building use and the expected population as determined by the local Plumbing Inspector per 248 CMR 10.10 (18)(2).

The Plumbing Inspector must approve the building population, however, the building population can generally be based on the designer's determination of the actual number of people expected within the building. The Plumbing Code expects that the building population will be divided evenly between male and female for the purpose of determining fixture counts. Any distribution other than 50/50 must be justified to the Plumbing Inspector.

If the existing number of toilet room fixtures are altered (i.e. to make existing toilet rooms accessible) the number provided is subject to the minimum requirements of 248 CMR.

See Appendix for further information.

Evaluation of Existing Conditions

1922 Building: – Exterior


Front Elevation along Father Morisette Blvd.


West Elevation along Canal


West Elevation along Canal


West Elevation along Canal


Interior View at one of Of the Connector Bridges

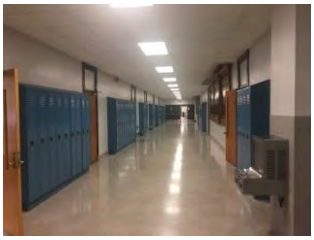

West Elevation of the 1892 Portion of Building

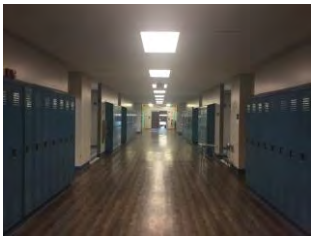

South Elevation


East Elevation along Kirk St.


Elevation of Interior Courtyard

1922 Building: – Interior

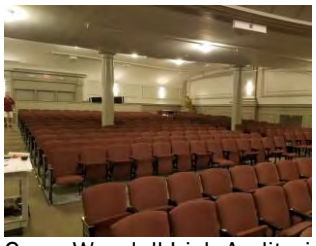

Typical 1922 Corridor

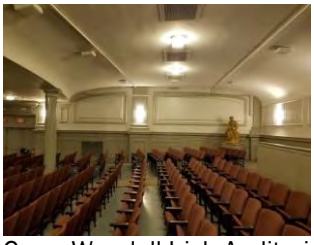

Typical 1892 Corridor

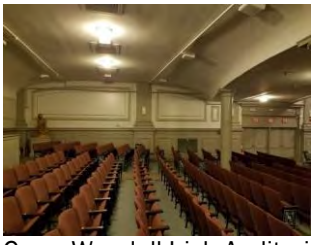

Typical 1997 Corridor/ Lobby


Cyrus Wendell Irish Auditorium


Cyrus Wendell Irish Auditorium


Cyrus Wendell Irish Auditorium


Cyrus Wendell Irish Auditorium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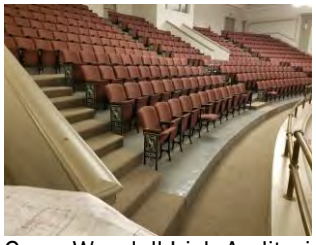
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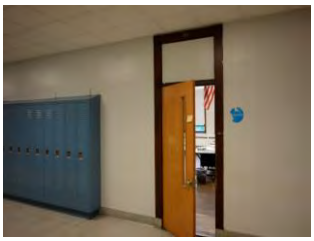

Typical 1922 Classroom


Typical 1922 Classroom


Typical 1922 Classroom


Typical 1922 Classroom


Typical 1922 Classroom

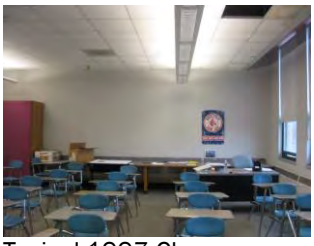

Typical 1922 Science Lab


Typical 1922 Science Lab

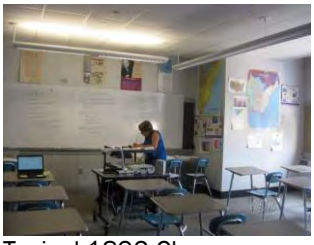

Typical 1922 Classroom

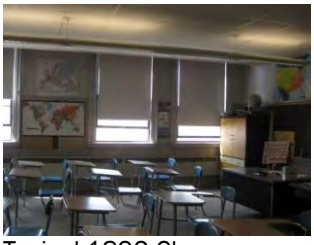

Typical 1922 Science Lab

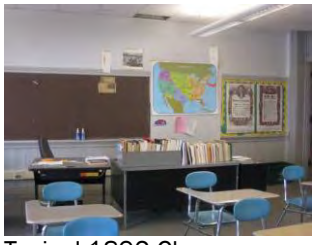

Typical 1997 Classroom

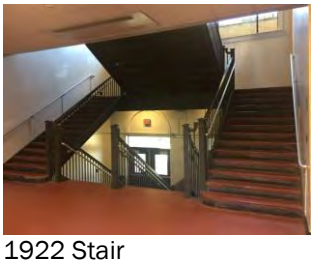

Typical 1997 Classroom

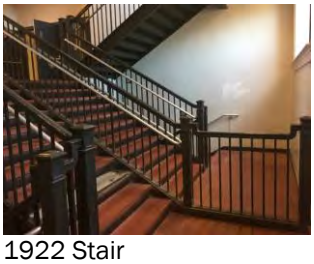

Typical 1997 Classroom

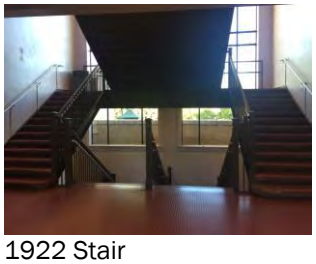

Typical 1892 Classroom

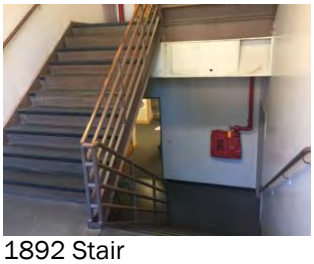

Typical 1892 Classroom

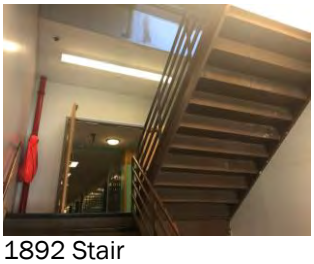

Typical 1892 Classroom

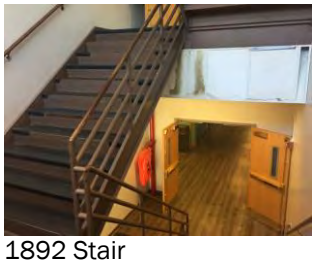

1922 Stair


1922 Stair


1922 Stair


1892 Stair


1892 Stair


1892 Stair

1980 Buildings: Lord (Academic Building) – Exterior


Main Entrance of Lord and Field House


West Elevation of Lord


West Elevation looking towards Father Morissette Blvd.



North Elevation of Lord


North bridge at NE corner

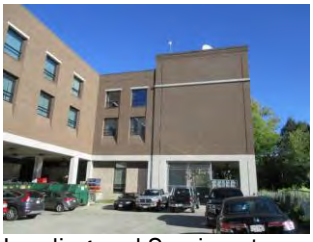

North Bridge


East Elevation along canal




South bridge at SE corner

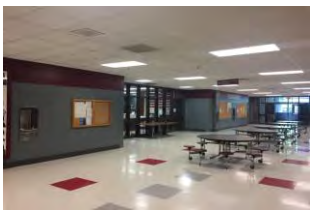



Loading and Service at South Elevation of Lord

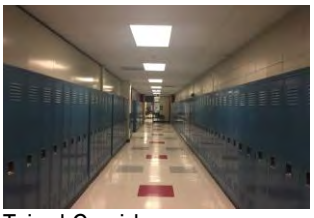


1980 Buildings: Lord (Academic Building) – Interior

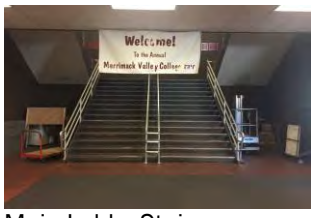

Front Lobby


Main Corridor


Main Corridor


Tyical Corridor

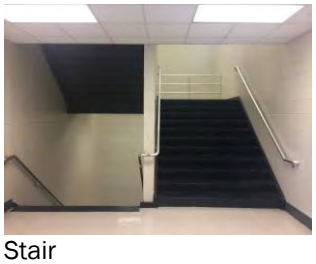

Typical Corridor

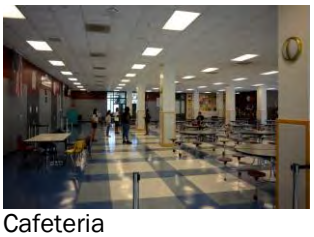


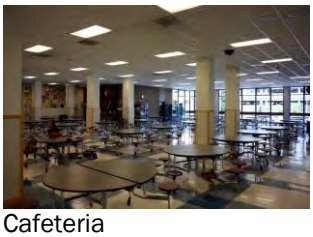
Main Lobby Stair


Stair


Stair


Stair


Cafeteria


Cafeteria


Cafeteria



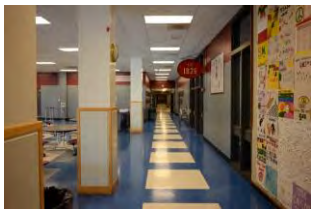
Murphy Cafe


Murphy Cafey


Murphy Cafe


Credit Union


Credit Union


Corridor Looking Towards 1826 School Store


1826 School Store


1826 School Store

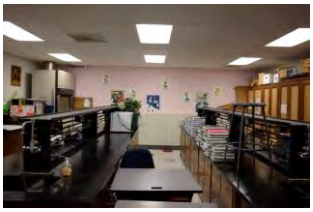

1826 School Store


Typical Classroom


Typical Classroom


Typical Classroom


Typical Science Lab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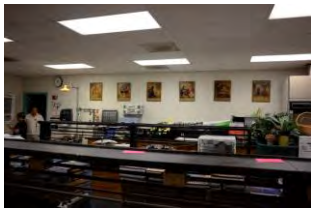
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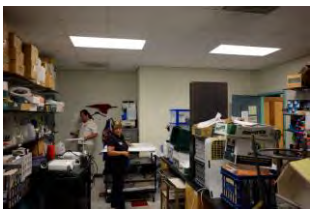
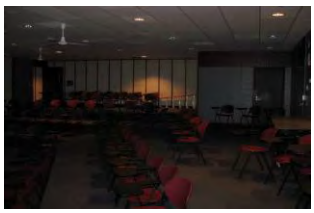
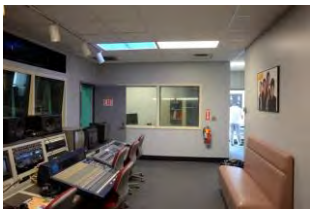

Typical Chemical Prep Room


Little Theatre


Little Theatre


TV Studio

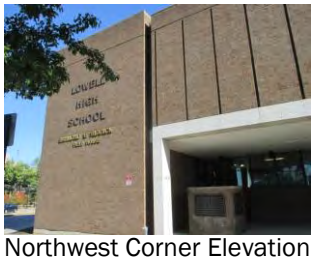

TV Studio Control Room


Colleen Creegan Media Studio

1980 Buildings: Field House (w/ Natatorium) – Exterior


Entrance along South Elevation Between Lord and Field House


Exterior Egress Door Along South Elevation



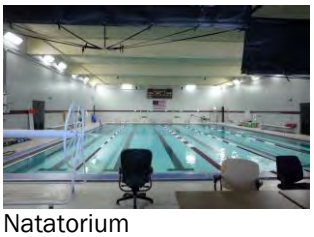
Northwest Corner Elevation

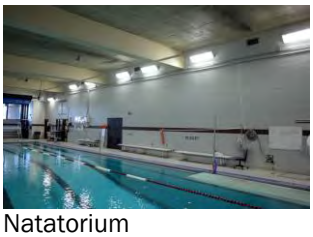

North Elevation along Father Morisette Blvd.


Water Damage is Noticable on all Elevations


Partial East Elevation at Curtain Wall connector

1980 Buildings: Field House (w/ Natatorium) – Interior


Natatorium


Natatorium


Natatorium


Women's Locker room


Woman's Locker Room


Women's Locker Room


Men's Locker Room

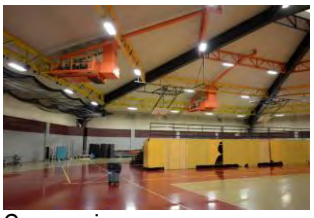

Men's Locker Room

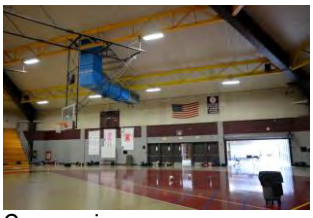

Men's Locker Room

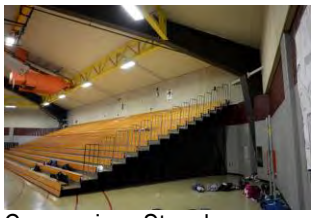

Gymnasium Foyer

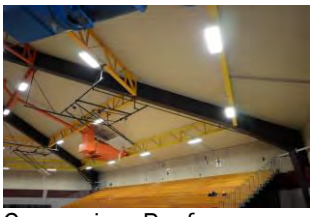

Gymnasium Foyer


Gymnasium


Gymnasium

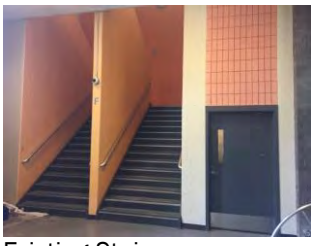

Gymnasium

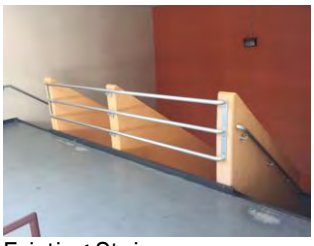

Gymnasium Stands

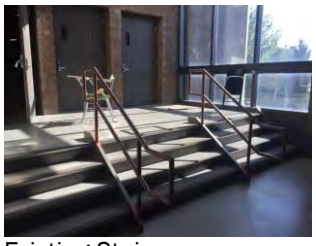

Gymnasium Roof


Gymnasium Roof


Gymnasium Roof


Existing Stair


Existing Stair


Existing Stair

Freshman Academy: – Exterior

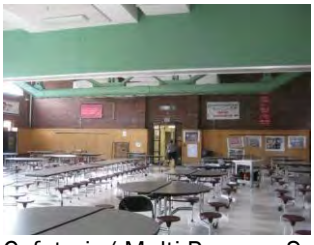

French St Elevation of 1939 Building


South Elevation of 1901 Building at corner of Paige and John Sts.


Main Entry on Paige Street

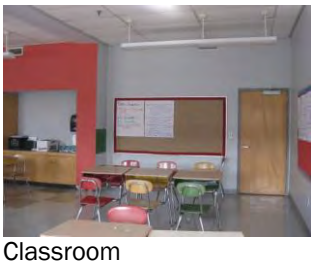

Utilities from Steam Plant to West Elevation of Freshman Academy

Freshman Academy: – Interior


Cafeteria/ Multi Purpose Space

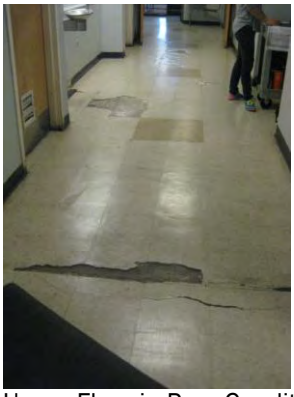

Computer Lab

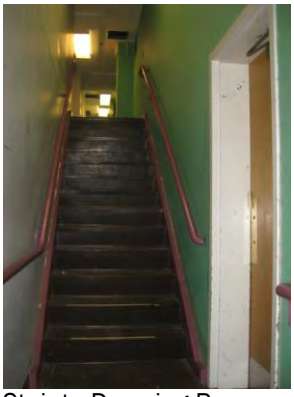

JJ Burgoyne Theatre

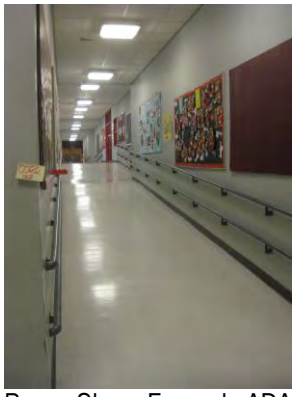

Classroom


Maker Space


Typical Stair Condition


Upper Floor in Poor Condition

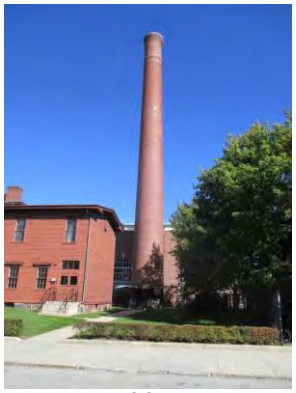

Stair to Dressing Rooms


Ramp Slope Exceeds ADA

Steam Plant:


Elevation along French St.


Utilities from Steam Plant to Freshmen Academy


Elevation of Stack


Front Doors


Interior of Steam Plant


Interior of Steam Plant


Fire Damage at Overhead Door


Interior of Steam Plant



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3.1.4 Evaluation of Existing Conditions

C. Structural

Overview:

The Lowell High School is comprised of the following buildings;"1922 Building", Lord/Field House, the Freshman Academy and the Steam Plant which are located along Father Morissette Boulevard/French Street in Lowell. The Lord/Field House building is the only building on the campus located on the west side of the Merrimack Canal. It is connected to the 1922 building by two enclosed pedestrian bridges, spanning over the canal between the buildings at their Second Floor levels. The Freshman Academy (originally the Lowell Trade School) and Steam Plant buildings are located on the east side of the High School's campus, one block over from the 1922 building.

Purpose:

The purpose of this report is to describe in broad terms: the structure of the existing buildings: to comment on the condition of the existing buildings: to comment on the feasibility of renovations to the buildings: and to identify future structural investigations should the existing buildings be renovated or expanded.

BUILDING SUMMARIES

1922 Building:

Structural Description:

The "1922 Building" consists of the three main parts: the original Coburn Hall Building, constructed in 1892, a significant classroom/Auditorium addition, constructed on the north side of Coburn Hall in 1922 (Sullivan Building), and the smaller, 1997 addition to the north end of the 1922 building (Kouloheras Addition). The 1997 addition is separated from the 1922 portion of building at each level by an expansion joint. The three-story "1922 Building" has a full basement and is located on the east side of the Merrimack Canal, which separates it from the Lord Building.

Pitched roof construction of the original 1892 section of the building is wood framed, supported by steel and wood trusses. First, Second and Third Floor construction of the 1892 portion of the building consists of tongue and groove wood plank on wood joists spanning to brick masonry bearing walls.

Due to a lack of original drawings and the presence of hard finishes which obscure the structure, the flat roof construction of the 1922 portion of the building is largely unknown. However, our observations and limited original drawings suggest that at least some sections of the building are reinforced concrete slab construction (concrete slabs with masonry block or tile forms, supported on masonry bearing walls).

Flat roof construction of the 1997 addition is steel framed, with metal deck spanning to steel joists and beams/girders supported by steel columns. The First, Second and Third Floor construction of the 1997 addition consists of concrete slab on metal deck spanning to steel beams supported by steel girders and columns.

Lowest level construction is a concrete slab on grade with a mixture of fieldstone and concrete foundations.

Structural Conditions/Recommended Repairs:

Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members. Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements. Structural/structurally related conditions observed on site that need to be addressed include exterior masonry repairs, steel lintel repair/replacement, roofing/roof drainage issues, anchorage of masonry walls and partitions and railing code compliance.

Lord/Fieldhouse Building:

Structural Description:

The Lord/Field House Building is a steel and concrete framed building comprised of a three-story Academic Building and a two-story Field House/Natatorium that are connected by a glazed lobby. The Lord Building, located on the eastern bank of the Merrimack Canal, was constructed in 1980 and underwent minor renovations and an addition in 1997. Two enclosed pedestrian bridges, spanning over the canal, connect the Second Floors of the Lord and "1922 Building".

Roof construction of the Academic Building is steel framed, with metal deck spanning to steel joists and beams/girders supported by steel columns. Field House roof construction consists of metal deck spanning to steel trusses, supported by steel bents which clear span the hexagonal space. Second and Third Floor construction of the Academic Building consists of a concrete slab on metal deck spanning to steel joists and beams/girders supported by steel columns. Second Floor construction of the Field House is similar, with the exception of the structure located over the Pool. Floor construction in this area consists of a reinforced concrete slab spanning to concrete encased wide flange steel beams, supported by steel columns. First Floor construction for both buildings consists of a concrete slab on grade, varying in thickness and reinforcing. Building columns are typically supported on pile foundations, as is the small, steel framed addition on the south end of the Academic Building constructed in 1997.

Structural Conditions/Recommended Repairs:

Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members. Foundations appear to be performing adequately; there are no signs of significant, total or differential

settlements. Structural/structurally related conditions observed on site that need to be addressed include exterior masonry repairs, steel relieving angle repairs, soffit repair/replacement, cement board panel replacement, concrete pool deck repairs, anchorage of masonry walls and partitions and roofing/roof drainage issues.

Freshman Academy:

Structural Description:

The Freshman Academy is comprised of an original, three-story wood and steel framed structure, with a full basement, constructed in 1900 (one block east of the 1922 Building), fronting Paige Street. An attached, two-story steel and concrete framed addition (of similar size), with a partial basement was constructed in 1939 on the north side of the original building. The facility underwent significant renovations 1985.

The original (1900) building is primarily wood framed. Third and Second Floor construction consists of wood flooring over wood joists. First Floor construction is similar, with wood floor joists spanning to large steel trusses which clear span the Cafeteria and Theater spaces below. The 1939 (addition) portion of the building is concrete and steel framed, with roof construction consisting of metal deck spanning to steel joists and beams/girders. Second Floor construction consists of concrete slab on metal deck spanning to steel joists and beams/girders. First Floor construction consists mainly of concrete slab on grade construction. Floor construction over the middle third of the addition (where a basement is present below) is concrete slab on metal deck, spanning to steel joists. The central Courtyard, located at the First Floor between the 1900 and 1939 buildings, is constructed with metal deck spanning to wide flange steel beams. Three steel framed skylight openings allow natural light to pass into the basement corridor below. The lowest level construction is concrete slab on grade.

Structural Conditions/Recommended Repairs:

Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members. Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements. Structural/structurally related conditions observed on site that need to be addressed include exterior masonry repairs, steel lintel repair/replacement, anchorage of masonry walls and partitions, subfloor deterioration, drifting snow loads and roofing/roof drainage issues.

Steam Plant:

Structural Description:

The Steam Plant is steel and concrete framed with brick bearing walls. Roof construction consists of concrete slab over steel trusses which clear span the space to brick bearing walls on building's north and south sides. First Floor construction consists of concrete slab on grade with concrete pads below the larger pieces of equipment.

Structural Conditions/Recommended Repairs:

Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members. Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements. Structural/structurally related conditions observed on site that need to be addressed include exterior masonry repairs (particularly the chimney), and the anchorage of masonry walls and partitions to the roof structure.

FUTURE STRUCTURAL INVESTIGATIONS:

With the exception of the Lord Building (including the Field House/Natatorium) and the 1997 addition to the "1922 Building", limited structural documentation was available. In particular, there were no structural documents for the 1922 addition to the "1922 Building" and the Freshman Academy (both the original building and the 1939 addition). Accordingly, if major renovations to these buildings are ultimately proposed, FBRA recommends that finishes be removed in selected locations, so the general details of the floor and roof construction in these buildings can be determined. This information will be crucial in determining the structural feasibility of reinforcing, modifying, adding to, or removing portions of the existing floor and roof construction, as well as the approximate costs involved in doing so.

See appendix for further information.

3.1.4 C. HVAC, Electrical, Plumbing & Fire Protection

Purpose:
The purpose of this report is to describe in broad terms: the mechanical and electrical systems of the existing buildings: to comment on the condition of the existing systems: and to comment on recommended upgrades to these systems.

HVAC:

General:

Due to the overall age and relatively poor condition and performance of the existing HVAC and automatic temperature control systems, we recommend that all HVAC and ATC Control systems should be replaced. The existing HVAC system should also be upgraded to meet current code requirements for ventilation and energy efficiency, and energy conservation measures (such as energy recovery, variable speed drives for fans and pumps, low pressure ductwork and piping distribution system design, and state of the art direct digital controls and building energy management system) should be designed as part of a new replacement HVAC system. In general, replacing the current High School Buildings including the "1922 Building" (Coburn Hall/Sullivan Addition/ Kouloheras Addition); Lord/Field House; Freshman Academy and Steam Plant, HVAC system with a high performance HVAC system would consist of the following:

1922 Building:

These buildings are primarily heated by a shell and tube steam to hot water heat exchanger that is located in the basement mechanical room. Steam and condensate piping is routed from the mechanical room to the Steam Plant via an underground tunnel. Steam condensate is returned to the Steam Plant by a condensate pump. Hot water is circulated throughout the building with the use of (2) end suction base mounted Bell & Gossett pumps (model 1510 pumps, equipped with 25 HP motors). VFD drives have been installed in recent years for the pumps. The pumps, heat exchanger, condensate pump, and associated piping and valving appears to be in poor condition and beyond their useful expected service life.

A 106 ton Carrier indoor chiller, which is associated with a refrigerant outdoor condenser, is installed in a basement mechanical room. Chilled water is delivered to several rooftop units through the use of (2) end suction base mounted Bell & Gossett pumps. The indoor chiller and associated outdoor condensing unit appear to be nearing the end of their useful service life. Gas fired Roof Top Units provide ventilation air throughout the majority of the building. Some of the units are provided with chilled water coils, which are served by the chiller, for dehumidification purposes and provide constant volume to the rooms for ventilation.

Typical classrooms throughout this building are provided with overhead ducted distribution systems with ceiling mounted diffusers and a combination of sidewall or ceiling supply and exhaust registers for ventilation purposes. Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork. Wall mounted fin tube radiation at the exterior walls are utilized as the main heat source for the spaces. The majority of classrooms have operable windows for natural ventilation. The majority of rooms are provided with pneumatic (typically Barber Coleman) heating system thermostats while some rooms are equipped with new DDC temperature sensors for monitoring through the building management workstation. Currently, several classrooms (often up to 3 classrooms) are controlled by one control valve. Most of the basement classrooms are heated and ventilated by classroom ceiling suspended horizontal unit ventilators. The units appear to be in poor condition and in need of replacement.

The Auditorium and Stage is served by a rooftop unit that provides heating and cooling through a ducted distribution system that terminates at the ceiling level with decorative grilles which are integrated into the ceiling design. Return air is captured below the stage through vertical grilles on the face of the stage and on the sidewall of the Auditorium. This space has a new DDC sensor for temperature monitoring and control.

The majority of corridors located with this building do not appear to have code required ventilation air. In addition, the heating equipment directly installed for the corridor areas appears to be minimal and in poor condition.

We recommend the following HVAC system repairs and replacements. These buildings should be served by the Steam Plant Building's new hot water heating boiler plant. All existing steam and hot water heating equipment shall be replaced with new hot water heating equipment. All existing steam heating and condensate distribution piping systems, existing steam to hot water heat exchangers, and condensate return pumps shall be removed. All existing terminal heating units and associated steam/hot water piping should be replaced. All existing rooftop and indoor air handling units, and exhaust fans, should be replaced with new units, and upgraded where possible to include energy recovery ventilation and variable air volume control to provide increased energy efficiency. Ventilation systems shall be provided for areas of the existing buildings that are not currently provided with code required ventilation. All existing ductwork distribution systems should be replaced. The existing chiller and associated chilled water piping system should be replaced, potentially with a larger chiller and distribution system in order to provide air conditioning to areas that are currently provided with air conditioning by inefficient split system and window type AC units. Lastly, a new direct digital (DDC) control automatic temperature control and building energy management system should be installed to control all new HVAC systems and equipment.

Lord/Field House (1980) Building:

The majority of the Lord Building is heated, ventilated and air conditioned by rooftop air handling units. One large gas-fired heating, DX cooling VAV Multi-Zone unit that serves the Library and Media Studio was installed in 1997, while the majority of

remaining rooftop units were installed in 2005. The rooftop units that were installed in 2005 are equipped with direct expansion cooling components, supply and exhaust fans, filter sections, and hot water coils. Hot water for each rooftop is generated through the use of instantaneous gas fired water heater boilers. This current heating system associated with these rooftop units has been failing on a constant basis and high number of water heaters have been replaced and continue to fail.

The majority of building areas are served by overhead ducted distribution system with ceiling mounted diffusers and a combination of low, high sidewall return and ceiling supply registers for heating, ventilation and cooling purposes. Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork. In general, much of the terminal heating equipment that is installed is in poor condition and in need of replacement. Several areas have exterior wall areas that do not have fin tube radiation heating, which can cause higher energy use and reduced thermal comfort control. Many corridors throughout the building are not provided with code required ventilation air.

The Pool area is served by one indoor gas/oil fired air-handling unit located in a mechanical room in the basement. The Field House is provided with (4) gas fired indoor air handling units with a single discharge and inlet grille. The Pool and Field House air handling unit systems are generally in poor physical condition and past their expected useful service life.

Many areas have been reported to have inadequate thermostat control, and experiences times when the room/areas are too hot and/or too cold.

We recommend the following HVAC system repairs and replacements. A new high efficiency gas fired hot water plant should be installed to serve the Lord/Field House Building, and to replace the individual rooftop unit boilers. New high efficiency boilers, insulated hot water piping distribution, accessories, pumps equipped with VFDs, and new boiler plant direct digital controls shall be installed to serve the buildings' hot water heating systems. All existing terminal heating units should be replaced with new hot water heating units. All existing rooftop and indoor air handling units, and exhaust fans, should be replaced with new units, and upgraded where possible to include energy recovery ventilation and variable air volume control to provide increased energy efficiency. Ventilation systems shall be provided for areas of the existing buildings that are not currently provided with code required ventilation. All existing ductwork distribution systems should be replaced. Existing split system and window type AC units should be replaced with new high efficiency AC systems. A new direct digital (DDC) control automatic temperature control and building energy management system should be installed to control all new HVAC systems and equipment.

Freshman Academy:

The Freshman Academy is primarily heated by the central Steam Plant via a shell and tube steam to hot water heat exchanger that utilizes steam from the Steam Plant to provide hot water to the building. Hot water is circulated throughout the building with the use of (2) constant flow end suction base mounted Bell & Gossett pumps. Condensate is returned to the Steam Plant via a condensate receiver and duplex pump

set. The shell and tube heat exchanger, condensate pump and hot water pumps appear to have corrosion on the surfaces and appear to be in poor condition and in need of replacement. Many sections of piping insulation appears to be missing or damaged.

One gas fired constant volume rooftop unit is provided for ventilation purposes for the Cafeteria, Theatre and internal areas of the building. The majority of the classroom and administration areas of the building is ventilated by a constant volume central indoor hot water heating and ventilation unit located in the mechanical room. The H&V (heating and ventilation) unit has a supply air fan, filter section and hot water heating coils. The rooftop and indoor H&V units are generally in poor condition and in need of replacement. These units are functioning poorly and are beyond their expected useful service life.

The cafeteria and auditorium have exposed ducted distribution systems that provide tempered air to the spaces. Wall mounted fin tube is also utilized in these spaces for supplemental heat. The fintube radiation and enclosure are in poor condition and in need of replacement.

Typical classrooms throughout this building are provided with overhead ducted distribution systems with ceiling mounted diffusers and a combination of low, high or ceiling returns for ventilation purposes. In many classrooms the supply and return grilles are located too close to one another. Wall mounted fin tube radiation at the exterior walls are utilized as the main heat source for the spaces. Temperature control for individual spaces utilize thermostatic control valves located on the supply side of the fin tube radiation. These valves provide a dial type control where increasing or decreasing the dial will lower or increase the space temperature. These are ineffective when trying to maintain a constant comfort level within the space. Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork.

The Maker Space was recently renovated and is air conditioned by three (3) ductless AC units that are piped to exterior wall mounted air cooled condensing units. The AC system appears in very good condition. The Maker Space is heated by hot water fin tube radiation heating and is ventilated by the central H&V air handling system. The fintube radiation and associated enclosure are in poor condition and in need of replacement.

We recommend that the Freshman Academy building be served by the Steam Plant Building's new high efficiency hot water heating boiler plant. All existing steam and hot water heating equipment shall be replaced with new hot water heating equipment. All existing steam heating and condensate distribution piping systems, existing steam to hot water heat exchangers, and condensate return pumps shall be removed. All existing terminal heating units and associated steam/hot water piping should be replaced. All existing rooftop and indoor air handling units, and exhaust fans, should be replaced with new units, and upgraded where possible to include energy recovery ventilation and variable air volume control to provide increased energy efficiency. Ventilation systems shall be provided for areas of the existing buildings that are not currently provided with code required ventilation. All existing ductwork distribution systems should be replaced. Existing split system and window type AC units should be

replaced with high efficiency VRF type AC systems. Lastly, a new direct digital (DDC) control automatic temperature control and building energy management system should be installed to control all new HVAC systems and equipment.

Steam Plant:

The main campus heating plant consists of (2) gas-fired steam Cleaver Brooks tube style boilers, each having a capacity of 24,493 MBH natural gas input. The Boilers are Cleaver Brooks Model CBI700.600.015ST boilers, which were installed in 1996. The boilers appear to be in fair physical condition on the exterior, however the boiler internal shell and tubes surfaces show signs of wear and corrosion. The boilers are nearing the end of their expected useful service life of 25 years. The Steam Plant feeds steam to the Coburn (1892) /Sullivan (1997 Addition)/ 1922 Building and Freshman Academy Building. Condensate return travels back to the boilers through the use of a triplex pump condensate receiver and deaerator boiler feed unit, which was manufactured by Shipco. Breeching associated with each boiler consists of a double wall positive pressure system that combines into a common header and exits the building into a masonry stack located adjacent to the Steam Plant. Combustion air for boilers is provided through high wall mounted louvers, which are equipped with dampers which are interlocked to the boilers. Gas fired vertical unit heaters are utilized for spatial heating requirements. The Steam Plant is tied into the school's direct digital control building management system that is manufactured by Siemens.

ELECTRICAL/TELECOMMUNICATIONS/SECURITY:

General:

In general, the majority of the Electrical systems have reached their life expectancy with some equipment at approximately 50% of its expected life. The equipment that has reached the end of its useful life is in poor condition. Due to the condition of these systems and the fact that some systems do not comply with current codes, or do not meet current standards of expected efficiency and performance, it is recommended that new Electrical systems be provided with some exceptions that will be further detailed below.

1922 Building:

Portions of the existing electrical distribution system was installed in the 1990s and some are original vintage. Panelboards in general are located in corridors and are not separated by load type. Branch circuits are in poor condition and the apparent use of extension cords and plug strips indicates a lack of receptacles. The electrical distribution system should be replaced as described below in any renovation/repair program.

The interior lighting in the building in general is T8 fluorescent however, in most cases light levels quality is not what would be considered acceptable in current lighting design practice. The lighting and lighting controls should be upgraded to meet current

energy codes as well.

The emergency power system does not separate optional standby and life safety loads therefore it is not in compliance with current code. The emergency system is served by the generator in the power plant. Any renovation or base repair will require a generator/emergency systems upgrade as described below.

The fire alarm system notification coverage and type is not in compliance with current code. The fire alarm system should be replaced with a new addressable voice evacuation system as required by the building code in "E" use groups.

A new 4,000 ampere service will be provided with new distribution panels to accommodate power, lighting, and mechanical loads. New energy efficient LED lighting controlled with a new addressable networked lighting control system will be provided. The control system will be interfaced with the BMS system via BacNet over IP protocol. A 250 KW diesel generator will provide emergency power to a new code compliant emergency distribution system. The fire alarm system will be upgraded to a new addressable voice evacuation system to comply with current code. New systems that are required by code that were not previously required will be provided, such as a two-way communications systems and a BDA system for Public Safety communications.

The existing classroom intercom system and clock system is beyond its serviceable life, in same locations it is failing and should be replaced in a renovation or base repair program.

The data cabling has been updated over the years to keep up with the emergency educational technology devices. Telephone and data cabling infrastructure should be upgraded in order for the school to be prepared for 21st Century learning.

The data system will consists of 10 gig fiber optic backbone cabling, horizontal wiring will consist of CAT 6 UTP for both telephone and data. Wireless access locations will be provided with multiple CAT 6A UTP cables to ensure wireless density as well as one hundred percent coverage.

A new central paging system will be provided and integrated with the telephone system which will be synched with wireless clocks that act as transceivers and tie back to a master clock head end.

The buildings are equipped with an access control system, video management system, and intrusion detection system. There is extensive camera coverage however, the cameras are a mix of analog and IP type. All cameras will be upgraded to megapixel IP type cameras with new CAT 6 cabling to replace analog cabling for non-IP cameras. The VMS software should be upgraded and standardized on throughout the facility, cameras should be added in areas that lack coverage.

The access control system will be upgraded and standardized on throughout the facility. Additional doors should be provided with access control to meet the operational needs of the school from partitioning the building to lock down situation.

The intrusion system will be integrated with the video management system and the

access control system.

Lord/Field House (1980) Building:

The existing electrical distribution system is in poor condition. Panelboards in general are located in corridors and are not separated by load type. Branch circuits are in poor condition and the apparent use of extension cords and plug strips indicates a lack of receptacles. The electrical distribution system should be replaced as described below in any renovation/repair program.

The interior lighting in the building in general is T8 fluorescent however, in most cases light levels quality is not what would be considered acceptable in current lighting design practice. The lighting and lighting controls should be upgraded to meet current energy codes as well.

The emergency power system does not separate optional standby and life safety loads therefore it is not in compliance with current code. The emergency system is served by the generator in the power plant. Any renovation or base repair will require a generator/emergency systems upgrade as described below.

The fire alarm system notification coverage and type is not in compliance with current code. The fire alarm system should be replaced with a new addressable voice evacuation system as required by the building code in "E" use groups.

A new 4,000 ampere service will be provided with new distribution panels to accommodate power, lighting, and mechanical loads. New energy efficient LED lighting controlled with a new addressable networked lighting control system will be provided. The control system will be interfaced with the BMS system via BacNet over IP protocol. A 250 KW diesel generator will provide emergency power to a new code compliant emergency distribution system. The fire alarm system will be upgraded to a new addressable voice evacuation system to comply with current code. New systems that are required by code that were not previously required will be provided, such as a two-way communications systems and a BDA system for Public Safety communications.

The existing classroom intercom system and clock system is beyond its serviceable life, in same locations it is failing and should be replaced in a renovation or base repair program.

The data cabling has been updated over the years to keep up with the emergency educational technology devices. Telephone and data cabling infrastructure should be upgraded in order for the school to be prepared for 21st Century learning.

The data system will consists of 10 gig fiber optic backbone cabling, horizontal wiring will consist of CAT 6 UTP for both telephone and data. Wireless access locations will be provided with multiple CAT 6A UTP cables to ensure wireless density as well as one hundred percent coverage.

A new central paging system will be provided and integrated with the telephone system which will be synched with wireless clocks that act as transceivers and tie back to a

master clock head end.

Freshman Academy:

The existing electrical distribution systems are in poor condition. Branch circuits are in poor condition. The electrical distribution system should be replaced as described below in any renovation/repair program.

The interior lighting in the building in general is T8 fluorescent however, in most cases light levels/quality is not what would be considered acceptable in current lighting design practice. The lighting and lighting controls should be upgraded to meet current energy codes as well.

The Freshman Academy does not have an emergency generator; all emergency lighting is done through Bodine ballasts. This is a burden on maintenance to properly test the emergency ballasts. An emergency generator and distribution system as described below should be provided.

The building contains a conventional obsolete fire alarm control system with non-compliant notification appliances. The fire alarm system should be replaced with a new addressable voice evacuation system as required by the building code for "E" use groups.

A new 1,600 ampere service will be provided with new distribution panels to accommodate power, lighting, and mechanical loads. New energy efficient LED lighting controlled with a new addressable networked lighting control system will be provided. The control system will be interfaced with the BMS system via BacNet over IP protocol. A 250 KW diesel generator will provide emergency power to a new code compliant emergency distribution system. The fire alarm system will be upgraded to a new addressable voice evacuation system to comply with current code. New systems that are required by code that were not previously required will be provided, such as a two-way communications systems and a BDA system for Public Safety communications. The communications systems will be upgraded to meet 21st Century learning requirements.

Steam Plant:

The Steam Plant Building will reuse the existing 1,000 ampere and 2,500 ampere services. New branch circuit distribution systems will be provided which consists of a system of sub-panels and feeders to accommodate the lighting upgrades and mechanical upgrades. The existing 105 KW generator will be utilized and the emergency distribution will be modified to accommodate the mechanical upgrades to ensure critical mechanical systems are on emergency power.

The buildings are equipped with an access control system, video management system, and intrusion detection system. There is extensive camera coverage however, the cameras are a mix of analog and IP type. All cameras will be upgraded to megapixel IP type cameras with new CAT 6 cabling to replace analog cabling for non-IP cameras. The VMS software should be upgraded and standardized on throughout the facility,

cameras should be added in areas that lack coverage.

The access control system will be upgraded and standardized on throughout the facility. Additional doors should be provided with access control to meet the operational needs of the school from partitioning the building to lock down situation.

The intrusion system will be integrated with the video management system and the access control system.

PLUMBING & FIRE PROTECTION:

General:

The campus is comprised of five buildings. The Field House shares domestic cold water, and gas services with the Lord Building and 1922 Building. It also shares its fire protection services with the Lord Building. The 1922 Building has its own fire protection service. The Freshman Academy has its own domestic cold water service, fire protection service, and fire pump. The Steam Plant also has its own domestic cold water service, and shares its gas service with the Freshman Academy. The only building not provided with sprinklers is the Field House.

In general, for all five buildings, the piping is past its useful life. Hot water is supplied by a combination of electric water heaters and old gas-fired hot water storage tanks, decreasing efficiency. The following existing conditions report provides more information on each of the buildings along with a summary of recommendations

1922 Building:

Fire Protection:

The 1922 Building sprinkler system is served by a 4" water line, entering the east side of the building. The service is located in the basement, underneath Stair C. The building has sprinklers throughout, with FDV connections in the hallways. One exception is the Teacher's Work Room on the third floor, which is not provided with sprinklers. Protection will need to be provided in this area. The auditorium stage also has FDV's at each end, as required by code.

Plumbing:

The waste and water piping in the 1922 building is past its useful life, and it is recommended to replace it. The building contains bathroom cores as well as art rooms, janitor's closes, lab rooms and a teaching kitchen. The fixtures in the bathrooms are not low-flow and it is recommended to replace them. The sinks in these lab rooms do not appear to be connected to an acid neutralization tank. A central neutralization system for each sink should be added. The emergency eyewashes do not appear to be served by tempered water, which is required to meet code. The hot water comes from the two domestic storage heaters in the basement

of the Field House. The building has different types of drinking fountains throughout, and include some handicapped accessible units. Some were out of service.

There are multiple art rooms in the basement. They each have an art sink. Only one of the art sinks had a solid's interceptor. A solids interceptor should be added per plumbing code.

The teaching, Culinary Kitchen, is located in the basement. It contains equipment that is served by the building's gas line. The kitchen did not have visible floor drains, and the grease interceptor that serves the 3-bay sink is in poor condition.

Lord/Field House:

The Lord and Field House are served by a 6" domestic cold water service that enters through the basement of the Field House. Two gas-fired domestic hot water storage heaters are also located in the basement, and account for the hot water for the Lord Building, Field House, and 1922 Building. It is recommended that the gas-fired storage tanks be replaced with new High Efficiency gas-fired hot water heaters. The 6" waste for the Field House exists on the west side, and the 6" RWL exists on the north.

The two buildings together contain locker rooms, bathroom cores, and labs. The fixtures in the bathroom cores, like with all other buildings, are outdated, and it is recommended to replace them.

The Field House contains a swimming pool, as well as large women and men's locker rooms. The lockers rooms have communal showers, as well as individual shower stalls. Per 248 CMR 10.10, "In shower rooms or in an area that multiple shower heads are installed and the individual shower space, ara, stall, the floor is designed and pitched so that waste water from one shower head area does not flow over the floor area serving another shower head area". The communal showers and the locker room showers and the "Type 2" showers may not meet these requirements.

The Lord Building houses lab rooms. The sinks in these lab rooms do not appear to be connected to an acid neutralization tank. A central neutralization system or local 5 gallon acid neutralization for each sink should be added. The lab also has gas connections, and an emergency gas shutoff located a few inches from the floor, in the back of the classrooms. They should be located at the exit door of the rooms, per code. The emergency eyewashes do not appear to be served by tempered water, which is required to meet code.

Freshman Academy:

The entire Freshman Academy is sprinklered and appears to meet NFPA 13 requirements. Standpipe and FDVs are located on each floor, in the stairwell. The sprinkler service and a 50P fire pump assembly is located in a closet, next to the domestic cold water service.

The domestic cold water service for the building enters at the fire sprinkler room. The electric water heater in that same room provides the building's hot water. It is recommended that the heater be replaced with a new energy efficient gas-fired hot

water heater. The building has bathroom cores, as well as Life Skills rooms which contain sinks and gas-fired stoves.

There is a serving kitchen on the Ground Floor. The purpose of it is mostly for heating and serving food. No actual cooking is done. It is served by its own hot water heater, located in the kitchen itself.

Steam Plant:

The Steam Plant is protected with upright heads. It shares the fire protection services with the Freshman Academy. The building contains a domestic cold water service as well as a domestic hot water heat exchanger. The hot water and hot water recirc. Run between the heat exchanger and the Freshman Academy. On the side of the building is the gas service and meter which serves both the Steam Plant and Freshman Academy. There is flooding in the Steam Plant and the drainage system may need to be modified.

RECOMMENDATIONS:

Fire Protection:

- All existing sprinkler piping and heads in the 1922 Building, Lord and Freshman Academy should be removed and replaced with a new fire suppression system throughout in accordance with NFPA 13. Existing services to building may be able to be reused pending confirmation of condition.
- A major renovation would require sprinkler heads be installed throughout the Field House in accordance with NFPA 13.

Plumbing:

- Per ASHRAE and ASPE, water piping and insulation have a life expectancy of 225-30 years. Piping is past its use life. Consider replacing all water, waste and vent piping in all buildings.
- Replace all bathroom fixtures with new low-flow, sensor operated faucets and flush valves.
- Provide new roof drains on all flat roofs being replaced.
- Replace all existing electric water heaters with high efficiency gas fired water heaters.
- Grease traps in the kitchens are past their useful life and should be replaced.
- Complaints regarding lack of floor drains in the teacher kitchen; floor drains should be added.
- Emergency gas shut offs should be located by the exit door all lab rooms.
- Emergency eyewashes did not appear to be served with tempered water. Tempered water loop needs to be added per plumbing code.

- Lab sinks did not appear to have an acid neutralization system. A central neutralization system or local 5 gallon acide neutralization for each sink should be added per plumbing code.
- Replace gas fired domestic hot water storage tanks in Field House with high efficiency gas heaters.
- Add floor drains or modify floor slop of showers in locker rooms to meet 248 CMR 10.10 requirements.
- Add solid interceptors to all art sinks.
- Modify drainage system in the Steam Plant to prevent future flooring.
- Add regular and handicapped fountains to all buildings to meet code requirement of 1 drinking fountain per 75 people.

See appendix for further information.

3.1.4 Evaluation of Existing Conditions

C. Foodservice

School Foodservice:

The Lowell High School's cafeteria kitchen serves the typical school lunch program offering a wide variety of food options at multiple service points. The student participation is steady but service is slow due to many factors with the obvious one being that the serving area is not maximized for ultimate flow and throughput. Additionally, it is remotely located from the kitchen forcing the misplacement of labor assets so that management can deal with food transport.

The production kitchen is antiquated and poorly equipped in some cases. It serves two remote serving areas located in the Lord Building and one in the Freshman Academy. Over the years as menu offering and production standards have changed so has the equipment. Unfortunately, the existing infrastructure did not offer any flexibility. Equipment was placed where it could be accommodated and not where it needed to be placed. As a result much of the kitchen flow is in conflict. Lastly, as the program has grown the storage capacities have not. In one example the kitchen staff added walk-in freezer but that additions had come at the expense of displacing some other function.

A complete reorganization is warranted. The future kitchen and servery design must be focused on adequate facilities, flexible future growth, and direct adjacency of the serving area. Additionally, this facility will also need to be positioned so that it can adequately ship product to other schools and programs throughout the campus and district.

Culinary:

The Culinary Arts program located in the 1922 building is well attended. However, the facility in which the program operates is in dire need of a complete reorganization. The program, in order to meet demand is trying to do too much in an undersized facility that is not properly equipped. There are cooking pieces not located beneath exhaust hoods. There is not enough adequate space for students to set up learning stations. For example a row of tables where students can set up and safely learn knife skills such as chopping and dicing. The culinary program also supports a retail restaurant that is equipped with a bakery display case and salad bar and seating for small groups. The restaurant dining area is open to serve community groups, teaching staff, and is available for special functions and catering.

The future culinary teaching kitchen must be organized to accommodate two main programs, baking and hot food production. These two programs must be organized so that are separate but also share common functions such as pot washing, storage, and use of a common food preparation area used to teach basic culinary skills. The

restaurant component must be placed so that it is convenient to street access while also maintaining a secure point of entry to the school.

See appendix for further information.

3.1.4 Evaluation of Existing Conditions

C. Hazardous Materials

1922 Building:

1.0 INTRODUCTION:
UEC was contracted by Perkins Eastman to conduct a determination survey for hazardous materials at Lowell High School,1922 Building.

2.0 FINDINGS:
Asbestos Containing Materials (ACM)
Various types of asbestos containing materials were found during the survey. The following suspect materials were either found or assumed to contain asbestos.

1. Lab table was found to contain asbestos.
2. Soft black glazing caulking for borrowed lite was found to contain asbestos.
3. Hard grey glazing caulking for borrowed lite was found to contain asbestos.
4. Light grey/white vinyl floor tile was found to contain asbestos.
5. Mastic for vinyl floor tile under plywood/carpet was found to contain asbestos.
6. Glue daub for ceiling plaster was found to contain asbestos.
7. Hard grey glazing caulking for vision lite in metal door was found to contain asbestos.
8. Exterior door framing caulking was found to contain asbestos.
9. Exterior residue door framing caulking on brick was found to contain asbestos.
10. Glue holding blackboard was assumed to contain asbestos.
11. Pipe insulation was assumed to contain asbestos.
12. Stage fire curtain was assumed to contain asbestos.
13. Underground sewer pipes were assumed to contain asbestos.
14. Damproofing on exterior and foundation walls was assumed to contain asbestos.

Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures
Visual inspection of various equipment such as light fixtures, thermostats, exit signs and switches was performed or the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury.

PCB's in Caulking:

Building materials and caulking were assumed to contain PCB's.

Lead Based Paint (LBP):

LBP was assumed to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility.

Airborne Mold:
Indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building

utilization, geographic location and season, the indoor airborne levels are considered high.

Radon:
The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

3.0 RECOMMENDATIONS/REQUIRED TESTING:
Destructive testing of the exterior walls and excavation around foundation walls will be required to be performed to expose any suspect ACM (damproofing/flashing) and would need to be performed during the design development phase of the project.

Testing for PCB's is not required to be performed by the EPA and is not recommended.

Lord/Field House:

1.0 INTRODUCTION:
UEC was contracted by Perkins Eastman to conduct a determination survey for hazardous materials at Lowell High School, Lord Building/Field House.

3.0 FINDINGS:
Asbestos Containing Materials (ACM)
Various types of asbestos containing materials were found during the survey. The following suspect materials were either found or assumed to contain asbestos.

15. Soft black glazing caulking for borrowed lite was found to contain asbestos.
16. Vertical white caulking in CMU wall was found to contain asbestos.
17. Mastic for white with black/grey vinyl floor tile was found to contain asbestos.
18. Mastic for older caramel vinyl floor tile was found to contain asbestos.
19. Exterior window soft brown glazing caulking was found to contain asbestos.
20. Exterior transite panel was found to contain asbestos.
21. Exterior transite panel covering vertical steel column was found to contain asbestos.
22. Exterior window glazing caulking for transite panel was found to contain asbestos.
23. Glue holding tectum deck at the pool building was assumed to contain asbestos.
24. Exterior black damproofing behind brick at foundation was found to contain asbestos.
25. Exterior flashing protruding from brick was found to contain asbestos.
26. Exterior hidden caulking for transite panel encasing vertical steel column was found to contain asbestos.
27. Glue holding blackboard was assumed to contain asbestos.
28. Underground sewer pipes were assumed to contain asbestos.

Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures
Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed or the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury.

Mercury in Rubber Flooring:
Samples results of the rubber flooring indicated the presence of high level of mercury. Mercury was assumed to have leached into the concrete slab. Sampling would be required to determine extent of contamination/leaching.

PCB's in Caulking:

Building materials and caulking were assumed to contain PCB's.

Lead Based Paint (LBP):

LBP was assumed to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility.

Airborne Mold:
Indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered high.

Radon:
The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

3.0 RECOMMENDATIONS/REQUIRED TESTING:
Destructive testing of the exterior walls and excavation around foundation walls will be required to be performed to expose any suspect ACM (damproofing/flashing) and would need to be performed during the design development phase of the project.

Testing for PCB's is not required to be performed by the EPA and is not recommended.

Freshman Academy:

1.0 INTRODUCTION:
UEC was contracted by Perkins Eastman to conduct a determination survey for hazardous materials at Lowell High School, Freshmen Academy.

4.0 FINDINGS:
Asbestos Containing Materials (ACM)
Various types of asbestos containing materials were found during the survey. The following suspect materials were either found or assumed to contain asbestos.

1. Soft black glazing caulking for vision lite in metal door was found to contain asbestos.
2. Soft black glazing caulking for borrowed lite was found to contain asbestos.
3. Purple sink damproofing was found to contain asbestos.
4. Tan sealant around sink drain was found to contain asbestos.
5. Black mastic in speaker box was found to contain asbestos.
6. Underground sewer pipes were assumed to contain asbestos.
7. Damproofing on exterior and foundation walls was assumed to contain asbestos.

Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures

Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed or the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury.

PCB's in Caulking:

Building materials and caulking were assumed to contain PCB's.

Lead Based Paint (LBP):

LBP was assumed to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility.

Airborne Mold:

Indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered high.

Radon:

The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

3.0 RECOMMENDATIONS/REQUIRED TESTING:

Destructive testing of the exterior walls and excavation around foundation walls will be required to be performed to expose any suspect ACM (damproofing/flashing) and would need to be performed during the design development phase of the project.

Testing for PCB's is not required to be performed by the EPA and is not recommended.

Steam Plant:

1.0 INTRODUCTION:

UEC was contracted by Perkins Eastman to conduct a determination survey for hazardous materials at Lowell High School, Steam Plant.

5.0 FINDINGS:

Asbestos Containing Materials (ACM)

Various types of asbestos containing materials were found during the survey. The following suspect materials were either found or assumed to contain asbestos.

1. Pipe insulation was assumed to contain asbestos. The insulation was found in metal elevated enclosure leaving the plant to Freshmen Academy.
2. Exterior flashing protruding from foundation was found to contain asbestos.
3. Underground sewer pipes were assumed to contain asbestos.
4. Damproofing on exterior and foundation walls was assumed to contain asbestos.

Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures

Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed or the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury.

PCB's in Caulking:

Building materials and caulking were assumed to contain PCB's.

Lead Based Paint (LBP):

LBP was assumed to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility.

Airborne Mold:

Indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered high.

Radon:

The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

3.0 RECOMMENDATIONS/REQUIRED TESTING:

Destructive testing of the exterior walls and excavation around foundation walls will be required to be performed to expose any suspect ACM (damproofing/flashing) and would need to be performed during the design development phase of the project.

Testing for PCB's is not required to be performed by the EPA and is not recommended.

See appendix for further information.

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3.1.4 Evaluation of Existing Conditions

D. Site - Site Survey & Infrastructure

Lowell High school is located at 50 Father Morissette Boulevard in Lowell, Massachusetts. Lowell High School consisted of five (5) buildings:

- 1922 Building
- Lord Building
- Field House Building
- Freshman Academy
- Steam Plant

The following is a summary of infrastructure utilities available. The summary is based on record plans, on site survey by Consultant Engineers and Lowell Regional Wastewater Utility. See appendices for further detailed information.

Water Service:

All five buildings of the Lowell High School are connected to the Lowell Regional Water Utility (LRWU) water system.

- 1922 Building:
  - Two (2) existing 4-inch water services under the sidewalk on the easterly side of the building and connected to an existing 6-inch water main located in Kirk Street near Paige Street.
  - One (1) existing 6-inch fire service with a post indicator valve (PIV) that connects to the southerly side of the building. The fire service connects to an existing 6-inch water main located between the 1922 Building and the Merrimack Canal.
  - Two (2) fire hydrants appear to be within 500 feet of the westerly side of the 1922 Building and Merrimack Canal. One (1) hydrant is located at the corner of Kirk and Lee Streets.
- Lord/ Field House Buildings:
  - One (1) single 8-inch cement-lined ductile iron water service that provides both domestic and fire service to both buildings which is located under the sidewalk and connected to an existing 20-inch water main in French Street near Arnand Street.
  - The post indicator valve (PIV) on the existing 8- inch water service
  - The 8-inch water service splits into a 6-inch fire service ad a separate 6-inch domestic water service prior to entering the building.
  - Fire department siamese connection located at the northwest corner of the Field House Building
  - One (1) fire hydrant approximately 150 feet from the water services on French Street between the Lord/ Field House Buildings.

- Freshman Academy:
  - One (1) existing 4-inch domestic water service under the sidewalk and connected to an existing 6-inch water main located in Paige Street.
  - One (1) existing 8-inch fire service under the sidewalk and connected to an existing 6-inch water main located in Page Street.
  - One (1) fire department siamese connection on fate face of the southerly side along Paige Street.
  - One (1) fire hydrant approximately more than 300 feet on John Street located between Paige Street and French Street
- Steam Plant:
  - One (1) existing 2-inch domestic water service located on the westerly side of the building connected to the existing 6-inch water main via a tunnel to the 1922 Building
  - One (1) existing 4-inch fire service that is connected to the existing 6-inch water main via a tunnel to the 1922 Building with a double check back flow preventer in Kirk Street.
  - The existing water service is a 6-inch diameter (type unknown) pipe installed under the entry drive and sidewalk to a 10-inch main in South Franklin.
  - One (1) fire department siamese connection the northwest corner of the building on French Street.
  - One (1) fire hydrant approximately 100 feet of the building near the intersection of French Street and Kirk Street.

Sewer Service:

All five buildings of the Lowell High School are connected to the Lowell Regional Wastewater Utility (LRWWU) sewer system.

- 1922 Building:
  - One (1) 8-inch sewer service lateral and two (2) 6-inch sewer service laterals serve the building.
  - The 8-inch sewer service lateral near the northwest corner of the building and one (1) 6-inch sewer service lateral near the southwest building corner exists on the westerly side of the building and connects to the existing 12-inch combined sewer main near the Merrimack Canal.
  - The other 6-inch sewer service lateral exits on the easterly side of the building and connects to an existing 12-inch combined sewer main near Lee Street.
- Lord/ Field House Buildings:
  - Four (4) sewer service laterals that serve the buildings
    - The first sewer service is a 6-inch vitrified clay (VC) pipe that exits the westerly side of the Field House Building and connects to a sewer manhole located in the intersection of Arnand Street and French Street.

        - The second sewer service is a 6-inch VC pipe that exits on the northeasterly side of the Field House Building and connects to a 15-inch sewer main at an existing sewer manhole located in French Street.
        - The third sewer service is an 8-inch VC that exits on the northeasterly side of the Lord Building
        - The fourth sewer service is a 4-inch VC pipe that exits the Lord Building approximately 10 feet from the third service. The 4-inch sewer service connects to an acid neutralization manhole that then connects to the 8-inch sewer service and connects to a 15-inch sewer main at a sewer manhole located in French Street.
- Freshman Academy:
    - One (1) 6-inch sewer service lateral serves the school. The sewer service exits the school near at the middle of the northerly side of the building and connects to an existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main at a manhole located in French Street.
- Steam Plant –
    - One (1) 8-inch sewer lateral serves the building. The sewer service exits the school and connects to the existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main in French Street.

Storm Drainage:

- 1922 Building:
    - Several catch basins on the westerly side of the building that connect to the existing 12-inch combined sewer line near the Merrimack Canal.
    - One (1) 6-inch storm drain line that discharges from the approximate southerly center of the building at the alley that then discharges to an existing catch basin and then drains via an 8-inch storm drain line to the existing combined sewer system at a sewer manhole located in the sidewalk of Kirk Street.
    - One (1) 8-inch storm drain line discharges from the northwest corner of the building and connects to an existing storm drain line located on the westerly side of the building near the Merrimack Canal.
    - One (1) 4-inch foundation drain – connects to the 12-inch combined sewer line. It appears that the current drainage system is not in compliance with the current DEP Stormwater Regulations (2008)
    - Four (4) downspouts on the southerly side and two (2) on the westerly side which discharge to grade.
- Lord/ Field House:
    - Lord building's roof drainage is routed internally and into the storm water system on Father Morissette Blvd.
    - One (1) 6-inch vitrified clay (VC) drain pipe for roof drainage of the Field House to combined sewer manhole on Father Morissette Blvd. It appears that the current drainage system is not in compliance with the current DEP Stormwater Regulations (2008).
    - A third closed drainage system composed of catch basins, drain manholes and reinforced concrete pipe (RCP) collects surface

stormwater from the driveway to the loading dock discharging to a manhole and then into a 12-inch storm drain line that discharges to a combined sewer system in Arnand Drive. It appears that the current drainage system is not in compliance with the current Department of Environmental Protection (DEP) Stormwater Regulations (2008).

- Freshman Academy:
  - Freshman Academy's roof drainage is routed internally and into a single 12 inch storm drain service lateral and connects to an existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main at a manhole located in French Street.
- Steam Plant –
  - Steam Plant's roof drainage is routed internally into the building and appears to discharge via two (2) 4-inch roof drain pipes into an 18-inch combined sewer line located in French Street.

Flood Plain

Based on the Flood Insurance Rate Map (FIRM), Community Panel Numbers 25017C0139F and 25017C0143F and both dated July 7, 2014, the Merrimack Canal is in Zone A (No base flood elevations determined). The remainder of the school building sites are located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).

Electrical

- 1922 Building:
  - Main Service provided via a switchboard prior to the 1990s, is back-fed through a 500 kVA dry type transformer.
  - The second switchboard is manufactured by FPE and is rated at 1,600 amps, 120/208 volt, 3 phase.
  - Emergency power is provided via a generator at the power plant. There is an Olympian transfer switch present in the emergency electric room. The transfer switch feeds emergency and optional standby loads.
- Lord/ Field House:
  - Main service provided via a 3,000 amp, 277/480 volt, 3 phase Switchboard located in the receiving area main electric room.
  - Emergency power is provided via a 100 kW generator located adjacent to 750 KVA transformer. The generator serves emergency lighting throughout and walking kitchen refrigeration transformers.
- Freshman Academy:
  - Main service provided via a rated 1,200 amp, 277/480 volt, 3 phase which feeds a 300 kVA dry type transformer with a 1,000 amp, 120/208 volt, 3 phase distribution panel.
  - Emergency power is provided via an emergency generator which supplies lighting and exit signs.

- Steam Plant:

- Main service provided consists of two switches and meters. The services are rated at 1,000 amp, 277/480 volt, 3 phase and 2,500 amp, 277/480 volt, 3 phase.
- Emergency power is provided via a 105 kW natural gas emergency generator. There are emergency battery units throughout as well.

Survey:

A land survey of the parcel which contain the Field House, Lord Building, 1922 Building, and the 75 Arcand Drive Property which is being considered for some expanded existing site options was performed by Nitsch Engineering. The Freshman Academy was not surveyed because of the Owner's requirement to consolidate the Freshman on a single campus. A survey will need to be performed if the renovation or expansion of this building is further considered.

See appendix for further information.

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3.1.4 Evaluation of Existing Conditions

D. Site - Environmental Assessment (Phase 1)

Nobis Engineering, Inc. (Nobis) completed a Phase I Environmental Site Assessment (ESA) of six parcels of land located in the downtown area of Lowell, Massachusetts (the site). Five of these parcels are owned by the City of Lowell and are used as facilities and infrastructure for Lowell High School. The sixth parcel is currently privately owned and occupied by a pediatric dentistry office.

The Site is located within an area of mixed residential, commercial, and recreational use, including multiple parking garages, historical sites, a park, apartment buildings, and commercial space. The Site is made up of six buildings, all within a two city-block radius. The Lord Building, Field House, 1922 Building, the Freshman Academy, and the steam plant building are currently owned by the City of Lowell and are part of the Lowell High School complex. The 75 Arcand Street property is not owned by the City and is currently operated as a pediatric dentist's office. The Lord Building and Field House (50 Father Morissette Boulevard) are located on the western portion of the Site, with the 75 Arcand Street property abutting them to the south. A narrow park, the Lucy Larcom Park, and the Merrimack Canal are located to the east of the Lord Building and Field House, separating them from the 1922 Building. The 1922 Building connects to the Lord Building via two enclosed, glazed bridges which span across the canal and park below. The Freshman Academy and the steam plant are approximately one city block to the east of the 1922 building, with the steam plant building abutting the Freshman Academy to the west.

The Phase I ESA identifies several Recognized Environmental Conditions (RECs) associated with the historical use of the subject properties.

Recognized Environmental Conditions:

The RECs identified in the Phase I ESA can be used to evaluate potential subsurface environmental issues that might be encountered should a construction or renovation project be undertaken on one or more of the six parcels included in the assessment. The following are conclusions with respect to the potential impacts of subsurface environmental conditions on future redevelopment efforts for Lowell High School:

- The Site has been developed since the early 1800s, when the Merrimack Canal and associated textile mills were constructed. The Merrimack Manufacturing Company and Boott Cotton Mills were both located to the north of the Site, and a rail line was constructed to the west of the canal to serve these mills. Today this rail line still exists and is used for streetcar traffic

associated with the Lowell National Historical Park.

- Former railroad activities likely transported and handled raw materials, chemicals, and hazardous materials associated with the operation of the mills. Also, railroad operations and maintenance activities themselves typically utilize OHM such as creosote or arsenic-laced railroad ties, herbicides, lubricating oils, diesel fuel, and diesel exhaust, which commonly result in releases of heavy metals, pesticides/herbicides, and petroleum-related contamination along railroad corridors. Any disturbance of soil within the former railroad corridor should consider the possibility that residual contamination is present due to historical use.

- The mills operated until the mid-1900s before closing down and falling victim to urban renewal efforts in the 1960s, which completely changed the configuration of streets in the portion of the Site that is currently occupied by the Lord Building and the Field House. For over 100 years, the portion of the Site located to the west of the Merrimack Canal was occupied by tenement homes associated with the mill, but also a small portion of the mill complex itself. The extreme northwest corner of the Site, the current location of the Field House, was formerly occupied by a "Finishing Mill" that was part of the Merrimack mill complex. The finishing process in a textile mill could have included application of dyes, bleaches, or other chemicals to prepare the textile for its end use. Any disturbance of soil in this portion of the Site should consider the possibility that residual contamination is present due to historical use.

- In 1920, the Steam Plant was constructed at the corner of Kirk and French Streets. Based on the review of historical maps, it appears that the Steam Plant was initially fired by coal, and a "coal bin" was present between the Steam Plant and the Freshman Academy. Residual coal and/or coal ash contains high levels of semi-volatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs). Any disturbance of soil in this portion of the Site should consider the possibility that residual contamination is present due to historical use.

- Review of Lowell Fire Department records revealed that the High School facility has/had a 12,600-gallon "below grade" "Faber Burner" tank located on French Street. The tank's contents were not listed, nor was the installation date, removal date, or any sort of inspection date. Fire Department records do not provide any additional details regarding the tank. This tank may have been a storage vessel for oil that was used to fuel the boilers in the Steam Plant before it was converted to natural gas, or used to heat one of the school buildings. The exact location of this tank is unknown, but is likely to be near the Steam Plant along French Street. According to City representatives, this tank is no longer in service. However, any subsurface exploration performed in the vicinity of the Steam Plant should consider the possibility that this tank is still in place, and that petroleum products may have been released to the environment.

In summary, if construction or renovation activities (or pre-design activities) are expected to disturb soils, or if excess soils are expected to be generated during construction, considerations should be made for the management of environmental media. For example, if soils are expected to be displaced in order to construct a foundation for a new building, these soils should first be evaluated to determine if they have been impacted by OHM. Typically, pre-characterization of soils consists of the collection of soil samples from the area to be disturbed, and analysis of soil samples for a wide range of potential contaminants to determine the presence or absence of contamination, and to meet the requirements of an off-site reuse/disposal location, should these soils be surplus material unable to be reused within the project site.

The typical suite of laboratory analyses for pre-characterization soil samples includes volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, total petroleum hydrocarbons (TPH) by EPA Method 8100, and heavy metals by EPA Methods 6010/6020. Other analyses may be added based on site-specific knowledge of former operations. There are several nuances, including exemptions and variances that can be applied if specific observations of urban fill materials are made, that might be applicable to the Site as subsurface information is collected and evaluated. A Licensed Site Professional (LSP) should be involved with any soil management evaluations that are made during pre-design or construction, to ensure compliance with all applicable environmental laws and regulations.

Subsurface Investigation:

Given the identification of RECs on the Site, a Phase II investigation may be warranted during the pre-design phase of the project to determine the presence or absence of OHM in soils at the Site. At a minimum, Phase II investigations should include the following:

- Surface geophysical survey (electromagnetic and ground penetrating radar) in the vicinity of the Steam Plant to identify subsurface anomalies that might indicate the presence of an abandoned underground storage tank. This survey might be followed up with test pitting to identify the source of any anomalies.

- Collection of soil samples from Site areas where disturbance of soils is anticipated. The objective of this investigation would be to determine whether OHM is present in soils. This information would be used to determine the appropriate health and safety precautions that should be taken by construction workers, as well as to identify potential reuse or disposal options for excess soils generated during the project. Shallow soil samples (0 to 2 feet below ground surface) can be collected using hand augers. A small drilling rig (Geoprobe® or equivalent) would be required to obtain deeper soil samples.

Further information can be found in the full Phase I Environmental Site Assessment report found in the appendix.

See appendix for further information.

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3.1.4 Evaluation of Existing Conditions

D. Site - Geotechnical

This section of the study to follow in a subsequent submission pending final site selection.

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3.1.4 Evaluation of Existing Conditions

A. Overview of Existing Building and Site

B. Developable Property

- Determination of Legal Title of Actions to Obtain
- Determination of Availability for Development
- Determination of Historic or Other Registrations
- Determination of Development Restrictions

C. Existing Building (s)

- Building Code and Accessibility
- Structural Assessment
- Building Systems
- Hazardous Materials

D. Existing Site(s)

- Site Survey and Infrastructure
- Environmental Assessment (Phase 1-21E)
- Geotechnical, Soils & Borings

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3.1.5 Site Development Requirements

A. Overview of Site Programming

B. Site Access and Circulation

C. Parking and Paving

D. Emergency Access, Safety and Security

E. Trash Removal, Deliveries and Maintenance

F. Utilities and Services

G. Code Requirements

H. Zoning Requirements

I. Orientation/Location Considerations

J. Preliminary Outdoor Program

K. Site Specific Narratives

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3.1.5 Site Development Requirements

A. Overview of Site Programming

As part of the feasibility study the city requested that the design team examine alternative sites throughout the city to be considered for a location of a new high school. Seventy-five sites were identified from the Lowell 2013 Open Space Plan. Many of the sites were quickly eliminated due to size, ownership or known site restrictions resulting in 7 sites identified as being worth studying further.

The 7 sites include; the Existing HS Location, Cawley Stadium, Wang MS/LeBlanc Park, South Common Park, Regatta Field, Rollie's Farm and Carlisle Street. All sites were evaluated based on: environmental constraints, usable acreage, location, suitability and access to public transportation.

Please refer to the appendix for the Site Selection Analysis for the full breakdown and evaluation of each site.

Existing Site: Lowell High School is located along Father Morissette Boulevard and Arcand Drive. The Freshman Academy is detached and located at the intersection of Paige Street and John Street adjacent to which is the Steam Plant. The two main high school structures are the Lord building and the 1922 Building which span a segment of the National Historic Park's Merrimack Canal and Lucy Larcom Park.

Existing Site Expanded: The expanded site includes an adjacent 1.4 acre parcel located south of the existing Lord and Field House building at 75 Arcand Drive. The site borders the trolley tracks to the east the Masonic building to the south, Arcand Drive to the west and Lowell High School to the north.

Cawley Site: The Cawley Site is located between Rogers Street, Douglas Road, Village Street and Clark Road. The site is approximately 45 to 47 acres depending upon which maps are used, and includes approximately 6.5 Acres located within the town of Tewksbury. The actual acreage is pending a final site survey. Assessor's Map and GIS vary slightly, (GIS area +/- 45 acres, Assessor's Map indicates +/- 47.1 acres). The site is split between zones SSF and RR in Lowell and R40 in Tewksbury. The site is currently home to the Martin Athletic Complex which includes the Cawley Memorial Stadium, Martin Softball Field, Carvalho Field, Stoklosa Field, Desmond Field, Machado Field and a practice softball field and multi-use field.

B. Site Access and Circulation

The majority of students walk, bike or use public transportation (buses) to get to school. The breakdown is as follows: approximately 1/3 walk, 1/3 are dropped off by car and 1/3 drive or take public transportation. There is not a dedicated drop off and

according to staff, cars back up on Father Morissette Boulevard and surrounding streets in the mornings and afternoons. Student arrivals begin at 6:15 am with the majority of arrivals being between 7:30 and 7:55. Dismissal for all is at 2:30.For the student population in wheelchairs 10 vans drop off at 7:15 am and pick up at 2:05 pm. There are 7 contracted buses that take students after school to different sports facilities throughout the city.

Pedestrian circulation includes walking to and from the parking garage across Father Morissette Boulevard at the beginning and end of the day. Circulation during the school day includes walking along the public sidewalks between the buildings, along the Canal Park and through the skywalks across the canal. There is a lot of activity of students coming and going on and off campus throughout the day.

Program Existing Site: It is assumed that the overall access and circulation patterns to the school would generally not change with the exception of freshmen being on campus. Students would continue to use the public bus system, walk, bike or drive to school. Site program should include improvements to all entrance plazas (specifically along Father Morissette Boulevard where after school buses line up) to ensure that they are well lit, ADA compliant and have adequate amounts of bike racks, benches for seating and trees for shade. Though not on the school property, all major street crossing connecting into the site should be improved, this includes the connection from the George Ayotte Parking Garage. Pedestrian connections should be provided around all new and existing buildings.

Program Expanded Existing Site: Same as the Existing Site Program above except that by adding the adjacent property site circulation can be improved and it will also provide direct access to Dutton Street which will improve public safety access around the building.

Program Cawley Site: Cawley site is located outside the city center and may need additional dedicated bus services to access the school. The program for site access will be to separate parent and bus drop-off areas as much as possible internally in order to separate student/parent/ bus vehicle conflicts. Sidewalks and bicycle friendly circulation should be provided around the school and accessing the adjacent athletic complex. Bus services for this site are under discussion with the City and the bus service company.

C. Parking and Paving

Current Program: The majority of staff, visitors and students use the George Ayotte parking garage located at 1 Post Office Square Lowell (garage capacity of 1,200). Additional parking is found at the Joe Downes Garage located at 75 John Street or street parking. All parking garages are owned and managed by the City of Lowell. Parking in the George Ayotte garage is free for school employees. Student parking passes cost $17 a month. Currently, it is estimated there are accommodations available for 624 vehicles for the Lowell High School needs as also accommodates UMASS Lowell.

Future school parking needs estimates include 700 (for staff and students) 35 handicap spaces and 40 visitor spaces for a total of 775 spaces. Required Parking spaces are approximate and will be further verified by Lowell High School.

Program Existing Site: All parking aside from a select amount of handicapped parking spaces will be offsite. The George Ayotte Parking Garage has a capacity of 1,200 spaces and additional parking spaces are available on street or in the Joe Downes Garage. A new site program should include creating as many handicapped parking spaces on site as possible and at a minimum replicating the 3 spaces currently there. The existing HC spaces are currently located to the south of the Field House.

Program Expanded Existing Site: Same as the Existing Site Program above except that by adding the adjacent property site circulation can be improved allowing a direct connection to Dutton Street and allowing additional onsite parking spaces .

Program Cawley Site: The program for the site development should include new, well lit, clearly defined staff, student and visitor parking. Parking should be approximately 775 spaces including handicapped spaces. This number will be further vetted by the school and city. Parking should be located as close to the school as possible but there can be overlap with other parking lots on site that service the field areas. In the current site plan, the proposed parking spaces have been reduced to only 608 on the Cawley site plan to accommodate the possibility of two new fields that replicate (2) of the fields displaced by the new school. Final field and parking layout is pending further discussions with the City and Lowell High School.

D. Emergency Access, Safety and Security

Currently there is fire and emergency access around the existing school except for fire truck access along the canal.

Program both sites: Design will comply with all public safety and building codes.

E. Trash Removal, Deliveries and Maintenance

Current Program: A loading dock and trash/recycling area is located on the south side of the Field House. Deliveries to the school involve the following:
1. Food 3 times /week
2. Paper products 1 time/month
3. Miscellaneous deliveries all go to the loading dock

Trash Removal includes the following:
1. (1) 40 yard recycling dumpster located by the dock- removed as needed
2. (2) 10 yard dumpsters located by loading dock –removed every day
3. Food waste is not recycled

Existing and Expanded Existing Site: Access for deliveries and trash removal for the proposed Full Renovation, Addition/Renovation Option 1A, Addition/Renovation Option 2, Addition/Renovation Option 4, and New School on Existing Site will be from Arcand Drive along the southwest side of the site. Loading, custodial, and food service facilities are located at the rear of Lord building. Similarly, access for deliveries and trash removal for Addition/ Renovation Option 3, Addition Renovation Option 5, and New School on Expanded Existing Site will also be accessed from Arcand Drive with the service drive connecting through the expanded site to Dutton Street which is parallel to the Merrimack Canal. Loading, custodial, and food service facilities are located at the rear of the Lord building and on the east side of the new Fieldhouse.

Cawley Site: For the proposed Cawley site scheme, access for delivers and trash removal will be primarily from Clark Road along the Northern edge for the property. Loading, custodial, and food service facilities are located along the first floor of the northwest corner of the new building extending for a portion along the northern edge.

F. Utilities and Services

EXISTING HS SITE

Water:

There are existing Lowell Regional Water Utility (LRWU) water mains in the surrounding streets. There is an existing LRWU 20-inch water main located in Father Morissette Boulevard and French Street with two (2) fire hydrants; a 6-inch LRWU water main in Kirk Street with one (1) hydrant; a 6-inch water main in LRWU Paige Street with one (1) hydrant; and a 6-inch LRWU water main in the former Anne Street with three (3) hydrant

Sanitary Sewer:

There are existing Lowell Regional Wastewater Utility (LRWWU) sanitary sewer and combined sewer mains in the surrounding streets. In Father Morissette Boulevard, there is an existing LRWWU 15-inch sanitary sewer main that flows westerly in Father Morissette Boulevard that flows into an 18-inch sanitary sewer main and then into a 24-inch sanitary sewer main near Arcand Drive. In the former Anne Street, there is an existing LRWWU 12-inch combined sewer line that flows in a northeasterly direction and connects to a 24-inch combined sewer main in French Street, then flows in an easterly direction in French Street. In Kirk Street, there is an existing 16”x18” inch combined sewer line that flows in a northeasterly direction and connects to the existing 24-inch combined sewer main in French Street. In Arcand Drive, there is an existing 15-inch sewer main that runs in a northerly direction and connects to the existing 24-inch sewer main in Father Morissette Boulevard.

Storm Drainage:

There are existing Lowell Regional Wastewater Utility (LRWWU) combined sewer mains and storm drain mains in the surrounding streets. In Arcand Drive, there is an existing LRWWU 18-inch storm drain that flows in a northerly direction and connects to the existing LRWWU 36-inch storm drain in Father Morissette Boulevard. In Father Morissette Boulevard, there is an existing LRWWU 15-inch storm drain that flows westerly and connects to the 36-inch storm drain at the intersection of Arcand Drive and Father Morissette Boulevard. In Anne Street there is an existing 12-inch combined sewer line that flows in a northeasterly direction and connects to a 24-inch combined sewer main in French Street. In Kirk Street there is an existing 16"x18" inch combined sewer line that flows in a northeasterly direction and connects to the existing 24-inch combined sewer main in French Street.

CAWLEY SITE

Water:

There are existing Lowell Regional Water Utility (LRWU) water mains in the surrounding streets. There is an existing LRWU 8-inch water main located in Douglas Road and an existing LRWU 8-inch water main in Village Street.

Sanitary Sewer:

There is an existing Lowell Regional Wastewater Utility (LRWWU) sanitary sewer main located in Douglas Street. There is a 36-inch LRWWU sanitary sewer main that flows in a northerly direction in Douglas Street that flows into a 42-inch LRWWU sanitary sewer main near Wedgemere Drive and then into a 48-inch LRWWU sanitary sewer main at the intersection of Douglas Street, Glenmere Street and Windward Road.

Storm Drainage:

There is an existing Lowell Regional Wastewater Utility (LRWWU) 36-inch storm drain main located off Douglas Street and within the Cawley Site that runs in a northerly direction that appears to discharge to the existing wetlands located to the north of the site.

Due to the site's proximity to wetland resource areas, the proposed stormwater management system will be designed according to Mass DEP stormwater standards, which require (AC 2/17: Bill this was in a previous iteration and is now missing – confirm inclusion.)

See appendix for further information.

G. Code Requirements

EXISTING HS SITE

Water:

Based on Record Documents, the buildings have existing 4-inch to 6-inch domestic water connections and fire protection connections to the existing LRWU water mains in the surrounding streets. The plumbing report indicates the desire to replace all existing building water services. The existing domestic and/or fire protection service connections to the surrounding streets shall be cut and capped at the main with the tees and gate valves removed.

New domestic and fire service connections to the main shall be made. Connections to the LRWU main will be reviewed and approved by the LRWU as part of their review process and will be constructed with cement lined ductile iron pipe and either tapping sleeves and valves or tees and gate valves. A flow test will be required to determine if the existing water main in the surrounding streets will have enough water pressure for the building's proposed domestic and fire protection needs. Final sizing, number, and location of building water services will be determined by the Plumbing and Fire Protection Engineers.

Inside the building, the LRWU will require installation of new domestic meter with a Meter Transmitter Unit ("MTU") as part of the BWSC's Automatic Meter Reading ("AMR") system and will require backflow prevention installed on both the domestic and fire protection service connections to meet LRWU standards.

Fire protection services will be coordinated with and approved by the Lowell Fire Department. Proposed building Fire Department Connections will be located within 100 feet of a fire hydrant and will be coordinated with the plumbing engineer and the Lowell Fire Department. Additional fire hydrants will be provided as required by the Lowell Fire Department and/or Fire Protection Engineer.

Sanitary Sewer:

New building sanitary sewer services will be designed to connect to the existing Lowell Regional Wastewater Utility (LRWWU) sanitary sewer mains in the streets with tee connections and in compliance with LRWWU regulations. Acidic wastes from chemistry labs or other uses such as MEP systems will require neutralization prior to discharge into the main, and any interior floor drains will be directed to this system. It is not anticipated that an exterior sewer pump system will be required for the building, new or renovated. Final sizing, number, and locations of the building sanitary sewer services will be determined by the Plumbing Engineer.

The building, whether new or renovated, will include a cafeteria with a minimum of 100 seats; therefore; the LRWWU will require a grease trap structure for the kitchen

waste service sized to meet the Department of Environmental Protection (DEP) guidelines. Based on the DEP guidelines and 310 CMR 15.000 (Title V), grease trap sizing is calculated at 15 gallons per day (gpd) per seat, yielding a minimum grease trap size for the building of 1,500 gallons.

Storm Drainage:

The site has a wetland resource (floodplain to the Merrimack Canal) near it and may require the filing of a Notice of Intent (NOI) with the Lowell Conservation Commission and the Massachusetts Department of Environmental Protection.

Soil testing will be required to categorize the onsite soils, identify seasonal high groundwater elevations, and determine infiltration rates. The stormwater management system for the proposed school will be designed to meet the Department of Environmental Protection's (DEP) Stormwater Management Standards to the maximum extent practicable for a developed/redevelopment site.

CAWLEY SITE

Water:

An existing Lowell Regional Water Utility (LRWU) 8-inch water main in Douglas Road and 8-inch water main in Village Street will provide water for the new school. A new cement-lined ductile iron water service loop will need to be provided for both fire service water (indoor sprinkler systems and outdoor hydrants) as well as the domestic water service. A flow test will be required to determine if the existing water main in the surrounding streets have enough water pressure for the building's proposed domestic and fire protection needs. Final sizing, number, and location of building water services will be determined by the Plumbing and Fire Protection Engineers. Review and approval with the LRWU will be required.

Inside the building, the LRWU will require installation of new domestic meter with a Meter Transmitter Unit ("MTU") as part of the LRWU Automatic Meter Reading ("AMR") system and will require backflow prevention installed on both the domestic and fire protection service connections to meet LRWU standards.

Fire protection services will be coordinated with and approved by the Lowell Fire Department. Proposed building Fire Department Connections will be located within 100 feet of a fire hydrant and will be coordinated with the plumbing engineer and the Lowell Fire Department. Additional fire hydrants will be provided as required by the Lowell Fire Department and/or Fire Protection Engineer.

Sanitary Sewer:

New building sanitary sewer services will be designed to connect to the existing Lowell Regional Wastewater Utility (LRWWU) sanitary sewer main in Douglas Street with PVC SDR 35 pipe and tee connections and in compliance with LRWWU

regulations. It is unknown at this time if an exterior sewer pump system will be required for the proposed school. Final sizing, number, and locations of the building sanitary sewer services will be determined by the Plumbing Engineer.

The new building will include a cafeteria with a minimum of 100 seats; therefore; the LRWWU will require a grease trap structure for the kitchen waste service sized to meet the Department of Environmental Protection (DEP) guidelines. Based on the DEP guidelines and 310 CMR 15.000 (Title V), grease trap sizing is calculated at 15 gallons per day (gpd) per seat, yielding a minimum grease trap size for the building of 1,500 gallons.

Acidic wastes from chemistry labs or other uses such as MEP systems will require neutralization prior to discharge into the main, and any interior floor drains will be directed to this system.

Storm Drainage:

The site has wetland resources (floodplain, wetlands, etc.) located on it and will require the filing of a Notice of Intent (NOI) with the Lowell Conservation Commission, the Massachusetts Department of Environmental Protection, and, depending on the proposed site design, possibly with the Tewksbury Conservation Commission.

Soil testing will be required to categorize the onsite soils, identify seasonal high groundwater elevations, and determine infiltration rates. The stormwater management system for the proposed school will be designed to meet the Department of Environmental Protection's (DEP) Stormwater Management Standards to the maximum extent practicable for a developed/redevelopment site.

See appendix for additional information.

Phase 1 Geo-environmental:

Existing HS Site:

A Phase I Environmental Site Assessment (ESA) has been performed per ASTM E1527-13 and MGL Part I, Title II, Chapter 21: Massachusetts Oil and Hazardous Material Release Prevention and Response Act. This report also includes 75 Arcand Drive which is included as part of the "expanded" existing site options. Based on the findings Nobis Engineering recommends that a Phase II subsurface investigation be conducted including collection and analysis of soil samples and a surface geophysical survey (electromagnetic and ground penetrating radar) in the vicinity of the steam plant to determine the presence or absence of a historical underground storage tank.

See appendix for further information.

Cawley Site:

Preliminary research by Nobis indicates that the Cawley Site appears to have been initially developed as athletic fields prior to 1938, and been used for this purpose since. There are several registered underground storage tanks to the south of the Cawley Site along Rogers Street, and one known release site (Release Tracking Number 3-2076) located within 1,500 feet of the site. Should this site be selected, Nobis recommends that a Phase 1 ESA be done.

H. Zoning Requirements

EXISTING HS SITE:

Based on the City of Lowell, Massachusetts Zoning Map, updated May 13, 2014, the existing HS site is located in the Downtown Mixed-Use District (DMU). Parcels located to the east of the Merrimack Canal also have an Artist Overlay District

Portion of Section 5.1 Table of Dimensional Regulations

No building or structure shall be built nor shall any existing building or structure be enlarged which does not conform to the regulations as to maximum ratio of floor area to lot area, minimum lot sizes, minimum lot area for each dwelling unit or equivalent, minimum lot frontage, minimum setback dimensions of front, side and rear yards, minimum open space, and maximum height of structures, and all other dimensional requirements in the several districts as set forth in the Table of Dimensional Regulations, except as hereinafter provided. [Ord. 11-29-05, 4-18-06, 4-3-07, 9-27-11]

Dimensions (in feet or square feet unless otherwise noted)

DISTRICT	**DMU**
TYPE OF USE	All permitted uses
Maximum FAR	4
Minimum Lot Size	----
Minimum LA / DU	----
Minimum Frontage	25
Front Yard Setbacks: Minimum	----
Front Yard Setbacks: Maximum	----
Front Yard Setbacks: Projections	----
Front Yard Setbacks: Porches	----
Front Yard Setbacks: Garages	----
Minimum Side Yard	----
Minimum Rear Yard	----
Minimum UOS / DU	----
Maximum Height	----
Maximum Stories	----

----Denotes no dimensional requirement.
* Front setbacks in these districts shall be consistent with existing setbacks on the block.
† Side and rear yard setbacks in these districts must be at least 15 feet when abutting a residentially-zoned lot.
** Minimum residential frontage in these districts may be reduced by special permit under the provisions of Section 5.1.1 (7).

Portion of Section 6.1.4 Table of Parking Requirements

Off-street parking facilities shall be provided as follows. All requirements based on square footage refer to gross floor area unless otherwise noted. The shared parking chart identifies the percentage of the established required parking spaces that must be provided for each time period in shared parking situations.

	Zone	Min. Parking Req.
INSTITUTIONAL, RECREATIONAL & EDUCATIONAL USES		
c. High School	Where Permitted	6 spaces per instructional room

Shared Parking Chart					
Weekdays 8AM-5PM	Weekdays 6PM-12AM	Weekdays 12AM-6AM	Weekends 8AM-5PM	Weekends 6PM-12AM	Weekends 12AM-6AM
100	50	5	10	5	5

CAWLEY SITE:

The Cawley site is located in three (3) zoning districts: Two (2) are located in Lowell and one (1) is located in Tewksbury. Based on the City of Lowell, Massachusetts Zoning Map, updated May 13, 2014 the zoning districts in Lowell are the Regional Retail District (RR) and Suburban Neighborhood Single Family District (SSF). The parcel in Tewksbury is based on a Town of Tewksbury Zoning Map dated October 2015 and is located in the Residence 40 (R40) District with a Flood Plain Zoning Overlay that covers a portion of the site.

CITY OF LOWELL – Portion of Section 5.1 Table of Dimensional Regulations

No building or structure shall be built nor shall any existing building or structure be enlarged which does not conform to the regulations as to maximum ratio of floor area to lot area, minimum lot sizes, minimum lot area for each dwelling unit or equivalent, minimum lot frontage, minimum setback dimensions of front, side and rear yards, minimum open space, and maximum height of structures, and all other dimensional requirements in the several districts as set forth in the Table of Dimensional Regulations, except as hereinafter provided. [Ord. 11-29-05, 4-18-06, 4-3-07, 9-27-11]

Dimensions (in feet or square feet unless otherwise noted)

DISTRICT	**SSF**	**RR**
TYPE OF USE	All permitted uses	All permitted uses
Maximum FAR	0.35	2
Minimum Lot Size	10000	----
Minimum LA / DU	10000	----
Minimum Frontage	90**	25
Front Yard Setbacks: Minimum	25	----
Front Yard Setbacks: Maximum	----	----
Front Yard Setbacks: Projections	22	----
Front Yard Setbacks: Porches	17	----
Front Yard Setbacks: Garages	30	----
Minimum Side Yard	10 SUM 25	0†
Minimum Rear Yard	25	40
Minimum UOS / DU	750	----
Maximum Height	35	----
Maximum Stories	2.5	----

----Denotes no dimensional requirement.
* Front setbacks in these districts shall be consistent with existing setbacks on the block.
† Side and rear yard setbacks in these districts must be at least 15 feet when abutting a residentially-zoned lot.
** Minimum residential frontage in these districts may be reduced by special permit under the provisions of Section 5.1.1 (7).

CITY OF LOWELL – Portion of Section 5.2.3 Construction near Wetlands.

No new building or structure shall be constructed nor shall any existing building or structure be enlarged within fifty (50) feet of an existing wetland or body of water, except by special

permit, and with the express written approval of the Lowell Conservation Commission, following a public hearing. No septic field shall be constructed or an existing septic field enlarged within seventy-five (75) feet of an existing wetland or body of water. No building permit for construction within one hundred (100) feet of a wetland or within the boundaries of floodplain shall be valid prior to the effective date of a wetlands determination of the applicability and/or the issuance of an order of conditions.
See section 5-120 of the Code of Ordinances of the City of Lowell for the Lowell Wetlands Regulations.

CITY OF LOWELL – Portion of Section 6.1.4 Table of Parking Requirements

Off-street parking facilities shall be provided as follows. All requirements based on square footage refer to gross floor area unless otherwise noted. The shared parking chart identifies the percentage of the established required parking spaces that must be provided for each time period in shared parking situations.

	Zone	**Min. Parking Req.**
3. INSTITUTIONAL, RECREATIONAL & EDUCATIONAL USES		
c. High School	Where Permitted	6 spaces per instructional room

Shared Parking Chart					
Weekdays 8AM-5PM	Weekdays 6PM-12AM	Weekdays 12AM-6AM	Weekends 8AM-5PM	Weekends 6PM-12AM	Weekends 12AM-6AM
100	50	5	10	5	5

Section B of APPENDIX A, TABLE OF USE REGULATIONS in the Town of Tewksbury Zoning By-Laws dated June 2016 appears to indicate that the "Use of land or structures for educational purposes on land owned or leased by the Commonwealth or any of its agencies, subdivisions or bodies politic or by a religious sect or denomination, or by a nonprofit educational corporation" is an allowed use in the R40 district.

TOWN OF TEWKSBURY – APPENDIX B Table of Dimensional Regulations

DISTRICT	**R40**
TYPE OF USE	All permitted uses
Minimum Lot Area	1 acre
Minimum Frontage	150 ft.
Minimum Side and Rear Yard	15 ft
Maximum Building Height (stories/ ft)	2.5/ 35ft
Maximum Building Coverage (% of lot)	15

APPENDIX C, TABLE OF PARKING REQUIREMENTS in the Town of Tewksbury Zoning By-Laws dated June 2016

Principal Use	**Required Spaces**
Use of land or structures for educational purposes on land owned or leased by the Commonwealth or any of its agencies, subdivisions or bodies politic or by a	One (1) space for each staff position, plus one (1) space for each five (5) persons of rated capacity of the largest auditorium, plus one (1) space for each student vehicle which can be expected at any time on the premises

religious sect or denomination, or by a nonprofit educational corporation	

I. Orientation/Location Considerations

Program: A priority throughout the early planning process has been to maintain ideal north-south facing classrooms. This is seen as a critical component to creating high-performance educational spaces that can both improve learning and save energy through the controlled use of daylight.

J. Preliminary Outdoor Program

LHS uses two City-owned facilities- Shedd Park and in Martin Athletic Complex. These two complexes accommodate the majority of the high school's athletic programs. The Cawley Complex has a brand new track and a synthetic turf football field (10 years old but still in good condition.) Both complexes are maintained by the City and students are bused to them. The Martin Athletic Complex is about two miles from LHS. The crew team uses UMASS Lowell facilities and the hockey team utilizes the Tsonga Center. Gymnastics and swimming is located in the existing school field house. Due to constant use of the multi-use fields at the Martin Athletic Complex the fields do not have time to rest causing less then optimum surface conditions. The athletic department would benefit from an additional full sized multi-use field.

Currently the existing high school does not have green space directly around the school for use by athletics or during gym class. Occasionally gym classes and teams will use the small lawn area outside of the Tsonga center across from the school.

Currently the stretch of greenspace flanking the canal is used for photography and art classes. The majority of this space is part of the Lowell National Historical Park.

Program Existing Site: The school would benefit from a lawn area that is within the school campus and can be accessed by foot in less than 5 minutes and able to be used during gym class.

Flexible, multi-purpose outdoor space for students should be considered to include dining, performance space and classroom space as well as a welcoming main entrance plaza. Though space is limited, the current High School Site spans the Lowell National Historical Park specifically the Lucy Larcom Park and is within a few blocks of Boarding House Park and Kerouac Park all of which are rich educational spaces.

Smaller plaza areas and sidewalks surrounding the school should be programmed with benches, adequate lighting, bike racks, trash receptacles and shade trees for both safety and to maximize the use of these streetscape edges.

Site program should include and exterior lawn area or green courtyard within the schools boundary that can be used for gym class and after school athletic programs and ROTC and SPED). It is anticipated that LHS will continue to use Shedd Park and Martin Athletic Complex to meet its athletic program needs.

Program Cawley Site: Flexible, multi-purpose outdoor space for students should be considered to include dining, performance space and classroom space as well as a welcoming main entrance plaza. Outdoor space for students should showcase environmental stewardship though stormwater management and highly visible low impact development techniques. A wetland is located within the northeast quadrant of the site and could potentially be used as a sustainable learning area and a part of a larger trail system.

All exterior spaces including large entrance plazas, outdoor classrooms, sidewalks to parking areas and connections to fields should include site amenities such as benches, tables, lighting, bike racks and shade trees.

Currently many of the Lowell High school athletic programs use Martin Athletic Complex. Located on a portion of this site the new high school has the advantage of being directly adjacent to the Martin Athletic Complex including the new track and synthetic football field, Stoklosa Alumni Field (baseball) and Carvalho Field (Soccer and Lacrosse). Locating the school on this site would displace the following fields:

- Martin Softball field,
- Desmond Field (Freshman Football and spring javelin practice)
- Machado Field (JV and varsity football),
- Softball practice field and a
- Field hockey/lacrosse field.

New site program can include (1) new multi-use field and (1) Softball field.

Athletic programs currently using Shedd Park including tennis and JV softball and baseball will continue to use those fields. Crew will continue to use the UMASS Lowell facilities.

K. Site Specific Narratives

Cawley Site: Currently the existing High School is located within the city center and able to utilize the public bus system. The Cawley site is roughly 2 miles outside of the city center. There are currently bus stops located along Rogers Street and Douglas Road. It is estimated that if the school was located on this site additional dedicated bus service would be required. Currently the site is programmed for between 13-26 buses. This number is under review by the city, transit authority and school and will be refined based on their findings.

The Cawley Site has multiple access points off of Douglas Rd, Village Street, Clark Road and Rogers Street. There is currently a parking lot accessed off of Douglas Road. It is noted that this is a residential street. New school program should include both a bus a parent drop off. New circulation Drives should be accessed off of Village Street and or Clark Road to minimize additional traffic on Douglas.

Ongoing investigations have identified that a portion of the Cawley Site is possibly restricted by an Article 97 agreement between the City and the State. Conclusions pending further investigations.

See appendix for further information.

3.1.6 Preliminary Evaluation of Alternatives

A. Analysis of School District Assignment Policies

B. Tuition Agreements

C. Rental Acquisition of Existing Buildings

D. Code Upgrade (Base Repair) Option

E. Renovation/Addition Option(s)

F. New Construction Option(s)

G. Summary of Evaluations & Conclusions

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3.1.6 Preliminary Evaluation of Alternatives

A. Analysis of School District Assignment Policies

The Lowell Public Schools (LPS) is one of the largest districts in Massachusetts, currently enrolling more than 14,150 students in grades PreK-12. The District consists of 28 schools, including an early childhood center, a PreK-2 STEM Academy, 13 elementary schools (predominantly PreK-4), 2 PreK-8 schools, 9 intermediate schools (typically 5-8), a career academy and 1 High School (grades 9-12).

The City schools have no additional capacity, nor a desire to relocate students or additional grades to the other schools. The preference would be to keep all grades and the projected enrollment on one campus for Lowell High School.

B. Tuition Agreements

Lowell Public Schools does not have any tuition agreements with other districts.

C. Rental or Acquisition of Existing Buildings

There are no rental properties or potential acquisitions known to the District that might be made available for school use.

D. Code Upgrade Option (Base Repair)

The base repair study addresses the scope of work required to bring the current facility into conformance with applicable codes, including egress and accessibility, to repair the facilities to be weather tight and address all building systems, including mechanical, electrical, plumbing and fire protection.

BUILDABLE ACREAGE = 6.6
FULL SITE/ALL BUILDINGS

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 628.0k
RENOVATION = N/A
NEW/ADDITIONS = N/A

RELATIVE COSTS
TOTAL PROJECT = $270.8m
EST CITY SHARE = $73.2m



The Base Repair scope and costs provide a perspective of the relative cost of 'doing nothing'. Cost estimates were in the magnitude of $271m Total Project Cost which measures approximately 70-85% of the relative Add/Reno or New Construction Options, but does not meet the space needs (room types/count/sizes), nor the Educational Program objectives. The existing buildings would also remain with windowless labs, problematic solar orientation, inefficient facilities and limited access to green space. It was noted that the repair project, not meeting the school's Educational Program, would not be part of the MSBA's Core Program, but might seek funding through the Emergency Repair or other program(s).

The duration of repairs to the existing building was estimated at 4years and would require a significant number of modular classrooms, along with temporary gymnasium spaces.

E. Renovation/Addition Option(s)

The range of renovation options studied consist of a Full Renovation of existing buildings (including the existing Freshman Academy) and 5 Addition/Renovation scenarios that add or rebuild portions of the Field House and Lord Building and a few that look at the potential to expand the existing site by acquiring adjacent property.

Full Renovation Option keeps all existing High School facilities, excluding the steam plant. Despite the gross size of the facilities that exceeds the program x1.5 grossing factor, small additions are required because of inefficiencies and the need to enlarge specific spaces (in specific locations), despite excess space elsewhere.

This option creates the proper space needs (room types, counts & sizes) and is able to locate some programs in their desired clusters and/or adjacencies, but many exceptions are caused by fitting spaces within the constraints of the existing facilities. The major shortcomings are having the freshman isolated from other shared programs, having the Gym, Library, Cafeteria & Auditorium spaces separated, rather than grouped or semi-clustered as a community core and heart to the school.

BUILDABLE ACREAGE = 6.4
6.6 TOTAL ACRES EXIST
- .2 ACRE STEAM PLANT

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 641.6k
RENOVATION = 623.7k GSF
NEW/ADDITION =17.9k GSF
(1 & 2 STORY ADDITIONS)

RELATIVE COSTS
TOTAL PROJECT = $331.4m
EST CITY SHARE = $116.5m



Pro's/Con's

+ Down Town Location is Ideal for Transportation & City/Social Services
+ Adjacent Parking Garage (covered/controlled & no maintenance)
+ Meets All Space Needs (room types/counts/sizes)
+/- Renovated Layout/Adjacencies Meet Some Educational Objectives
- Community Use/Activity Areas Spread & Split-Up among Buildings
- Freshman Academy is Remote (inefficient space use + safety concerns)
- Solar Orientation is Problematic (approx. 45 deg. off direct N/S exposure)
- Windowless Classrooms/Labs Remain
- Limited Access to Green Space
- Inefficient Operations (due to size and existing building envelope)

Construction/Phasing

- Anticipated 5yr Duration
- Significant Temporary Classrooms (Modulars) Required
- Temporary Gymnasium Spaces and/or Alternatives Required

Relative Costs

+ This Option is the Lowest Cost

Addition/Renovation Option 1A keeps all existing facilities, except the Freshman Academy (FA) and steam plant. Consolidates all grades onto the main campus and builds new program space over the canal and in front/back of the Lord Building. The new program spaces over the canal would be in the form of 2-story construction (connecting floors 2 & 3 of the existing buildings).

Although extensive reuse of existing facilities does not allow ideal configuration for all educational program objectives, it does integrate the Freshman Academy into historic Coburn Hall and creates opportunities for a new, more centralized entry/lobby core.

BUILDABLE ACREAGE = 6.0
6.6 TOTAL ACRES EXIST
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 617.4k
RENOVATION = 529.1k GSF
NEW/ADDITION =88.3k GSF
(2 & 3 STORY ADDITIONS &
NEW 2-STORY BRIDGES)

RELATIVE COSTS
TOTAL PROJECT = $341.0m
EST CITY SHARE = $132.5m



Regulatory permissions for air-rights require additional investigations if this option were to proceed as one of the preferred alternatives.

Same Pro's/Con's as Full Renovation, except;
+ Freshman Consolidated onto Main Campus (into Colburn Hall Building)
+ Former Freshman Facility Available for Reuse
+ Creates New Face/Entry to the School & Centralized Lobby/Cafeteria
+ New 2-Tier Bridges Improves Interior Circulation/Safety

Construction/Phasing
+/- Anticipated 4½yr Duration
- Some Temporary Classrooms (Modulars) Required
- Temporary Gymnasium Spaces and/or Alternatives Required

Relative Costs
+ This Option is in the Lower 1/3 of Costs to the City

Addition/Renovation Option 2 rebuilds the Field House (FH) in the same general location as the existing, but in a more efficient and functional shape that also provides room on site for a new Freshman Academy building and small courtyard. This option would require a temporary solution for PE/Athletics while the new FH and 5 story FA/technology wing are constructed, but thereafter requires no modulars since the 5 story wing would create a 60 classroom equivalent of new space. Freshman would remain in their existing facility for the full duration of construction allowing the new wing to serve as temporary swing space for other programs.

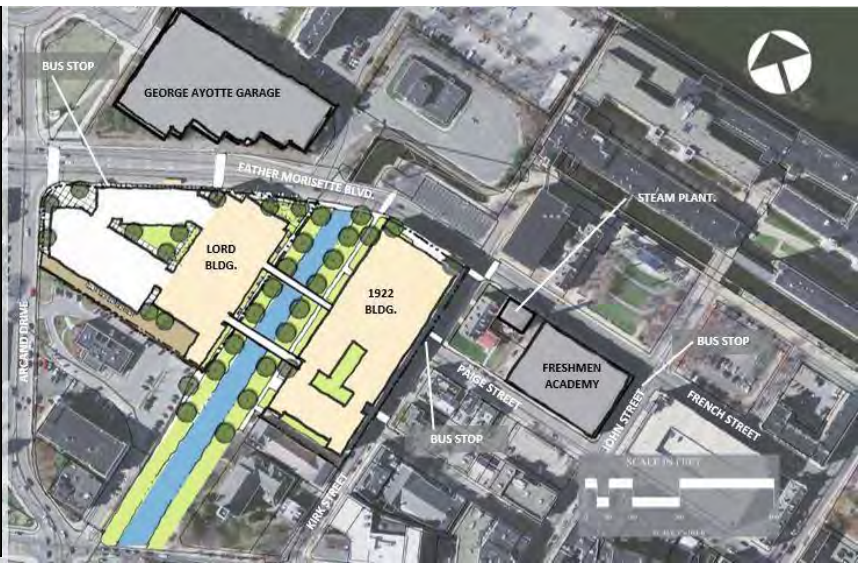
BUILDABLE ACREAGE = 6.0
6.6 TOTAL ACRES EXIST
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 624.1k
RENOVATION = 454.1k GSF
NEW/ADDITION =170k GSF
(2 STORY FH, 5 STORY FA
& NEW 2-STORY BRIDGES)

RELATIVE COSTS
TOTAL PROJECT = $344.1m
EST CITY SHARE = $135.6m



Same Pro's/Con's as Option 1A, except;
+ New Freshman Academy (ideal layout/adjacencies & solar orientation)
+ New Field House (more efficient/flexible and diverse, multi-purp. spaces)
+ Modest Green Space Created

Construction/Phasing
+/- Anticipated 4yr Duration
+ Few or No Temporary Classrooms (Modulars) Required
- Temporary Gymnasium Spaces and/or Alternatives Required

Relative Costs
+ This Option is also in the Lower 1/3 of Costs to the City

Addition/Renovation Option 3 on Expanded Existing Site – This option takes a look at the potential benefits or drawbacks of acquiring additional land adjacent to the Lord Building/Field House. The primary benefits of doing this would be to avoid the need for any modulars, including no temporary gymnasium spaces and to create a large outdoor green space that can be utilized by PE/Athletics, ROTC and other programs.

The resulting plan also takes advantage of having more space for new construction by cutting light-wells into the Lord Building, displacing approximately 6k sf of program into new construction, but eliminating windowless classrooms/labs.

BUILDABLE ACREAGE = 7.4
6.6 TOTAL ACRES EXIST
1.4 ADJACENT PARCEL
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
.5a ON-SITE +.5a NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 638.7k
RENOVATION = 447.5k GSF
NEW/ADDITION =191.2k
(2 STORY FH, 5 STORY FA
& NEW 2-STORY BRIDGES)

RELATIVE COSTS
TOTAL PROJECT = $334.3m
EST CITY SHARE = $126.4m



Same Pro's/Con's as Option 2, except;
+ Does Not Require PE/Athletics Alt. or Off-Site During Construction
+ Virtually No Windowless Classrooms (Lights Wells Created in Lord)
+ Large Green Space Created
+ New Kitchen/Mechanical/Loading

Construction/Phasing
+/- Anticipated 4½ yr Duration
+ No Modulars Required; Phasing is Minimally Disruptive

Relative Costs
+ This Option is also in the Lower 1/3 of Costs to the City

Addition/Renovation Option 4 rebuilds the entire Western portion of the site including the former 3 story Lord Building as a narrower 5 story structure resulting in no windowless space and allowing a driveway or plaza along the canal-side. This option is similar to Option 2, except that the complete reconstruction of Lord significantly complicates phasing and requires extensive modulars. Reconstruction of portions of Lord would need to occur with the new FH and FA or would restrict use of them after.

Despite more new construction than previous options, the taller/narrower Lord Building forces some public use programs onto upper floors and splits the cafeteria on two floors. Spaces can be zoned for community/activity but occurs more vertically.

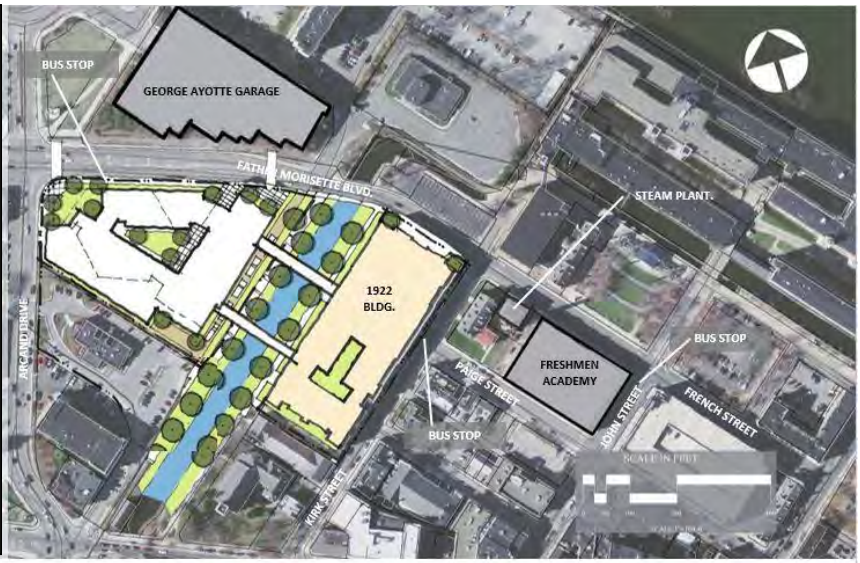
BUILDABLE ACREAGE = 6.0
6.6 TOTAL ACRES EXIST
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 619.0k
RENOVATION = 312.8k GSF
NEW/ADDITION =306.2k
(2 STRY FH, 5 STRY OTHER
& NEW 2-STORY BRIDGES)

RELATIVE COSTS
TOTAL PROJECT = $376.4m
EST CITY SHARE = $165.8m



Same Pro's/Con's as Option 2, except;

+ New Lord Building Allows Driveway or Canal-Side Plaza
+ Virtually No Windowless Classrooms
+/- Cafeteria is Split on Floors (creating separate freshmen area)
- Not All Programs that Prefer Ground Level Access Fit in that Floor
- Solar Orientation Not Ideal for Majority of Classrooms

Construction/Phasing

- Anticipated 5yr Duration
- Significant Temporary Classrooms (Modulars) Required
- Temporary Gymnasium & Cafeteria Spaces and/or Alternatives Required

Relative Costs

- This Option is in the Higher 1/3 of Costs to the City

Addition/Renovation Option 5 on Expanded Site is similar to Opt. 4, except it utilizes the adjacent parcel for larger green space and no temporary gym spaces (like Opt. 3).

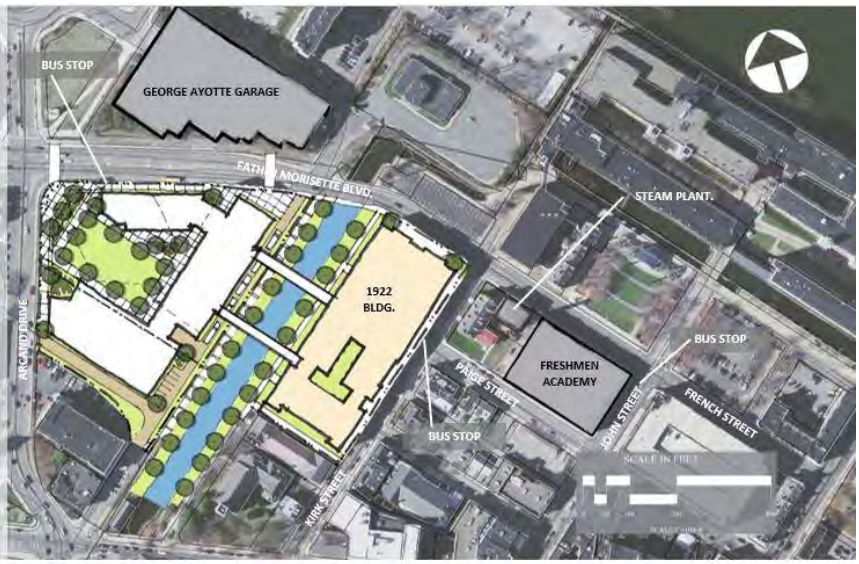
BUILDABLE ACREAGE = 7.4
6.6 TOTAL ACRES EXIST
1.4 ADJACENT PARCEL
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
.5a ON-SITE +.5a NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 620.9k
RENOVATION = 312.8k GSF
NEW/ADDITION =308.1k
(2 STORY FH, 5 STORY FA
& NEW 2-STORY BRIDGES)

RELATIVE COSTS
TOTAL PROJECT = $386.4m
EST CITY SHARE = $174.0m



As with Opt. 4, however, the complete reconstruction of Lord significantly complicates phasing and requires extensive modulars. It also forces program onto upper floors and creates a more vertical community/activity zone.

Same Pro's/Con's as Option 3, except;
+ Does Not Require PE/Athletics Alt. or Off-Site During Construction
+ New Lord Building Allows Roadway Passage through the Site
+/- Cafeteria is Split on Floors (creating separate freshmen area)
- Not All Programs that Prefer Ground Level Access Fit in that Floor
- Solar Orientation Not Ideal for Majority of Classrooms

Construction/Phasing
- Anticipated 5½yr Duration
- Significant Temporary Classrooms (Modulars) Required

Relative Costs
- This Option is the Most Costly

F. New Construction Option(s)

The range of and new construction options included a study on the existing site, the expanded existing site and the 2 most viable alternative sites.

New Construction on Existing Site assumes the 1922 Building and Freshman Academy will not be demolished and instead would be returned to the City for reuse. The remaining site at only 3.3 acres creates a dense vertical layout for the new school that is fraught with compromises. In this study, windowless labs, bad solar orientation and major community activity areas on upper floors are forced as a result of the small footprint. Although construction might be accelerated in a condensed new-build, extensive modulars would be required and likely located remotely.

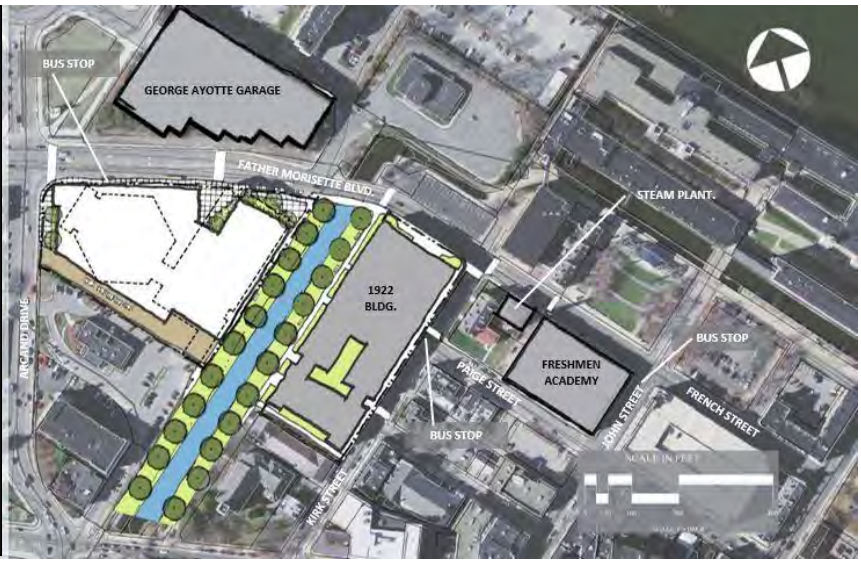
BUILDABLE ACREAGE = 3.3
6.6 TOTAL ACRES EXIST
-2.7 ACRE 1922 BLDG
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 594.0k
(NEW 6 STORY, HIGH RISE)

RELATIVE COSTS
TOTAL PROJECT = $350.6m
EST CITY SHARE = $156.8m



Pro's/Con's
+ Down Town Location is Ideal for Transportation & Services
+ Adjacent Parking Garage (covered/controlled & no maintenance)

+ General Benefits of All New Construction
  - ✓ Meets All Space Needs (room types/counts/sizes)
  - ✓ Meets Most Educational Objectives (locations/adjacencies)
  - ✓ Freshman Academy Wing (ideal org layout/clusters)
  - ✓ New Field House (more efficient/flexible and diverse spaces)
  - ✓ Efficient Operations (due to size and new building envelope)
+ Former Freshman & 1922 Facilities Available for Reuse
+ No Bridges or Split Buildings
- 6-Story, Vertical Plan (High Rise) Forces Many Programs Up
- Solar Orientation Not Ideal for Majority of Classrooms due to Tight Site
- Windowless Science Labs due to Tight Footprint
- Limited Access to Green Space

Construction/Phasing
+ Anticipated 3½yr Duration
- Extensive Temporary Classrooms (Modulars) Required
- Temporary Gymnasium & Cafeteria Spaces and/or Alternatives Required

Relative Costs
- This Option is in the Mid-Higher 1/3 of Costs to the City

New Construction on an Expanded, Existing Site is similar to the New on Existing, but given a bit more space, this option reduces to 5 story construction with better zone for community/activity areas and classroom wings arrayed for good solar orientation.

Although construction might be accelerated in a condensed new-build, extensive modulars would be required and likely located remotely.

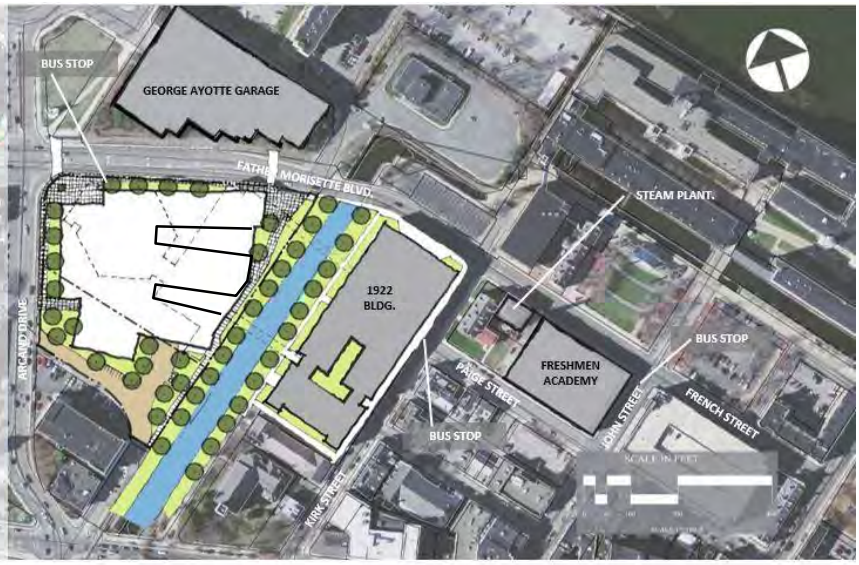
BUILDABLE ACREAGE = 4.7
6.6 TOTAL ACRES EXIST
1.4 ADJACENT PARCEL
-2.7 ACRE 1922 BLDG
- .6 ACRE STEAM/FA BLDG

GREEN SPACE (SEP. LOT)
APPROX .5 ACRE NEARBY

PARKING (via GARAGE) =
1,200 TOTAL CAR CAPACITY
APPROX. 624 LHS PASSES

BUILDING (GSF) = 576.5k
(NEW 5 STORY BLDG)

RELATIVE COSTS
TOTAL PROJECT = $355.4m
EST CITY SHARE = $166.0m



Same Pro's/Con's as New on Existing, except;
+ 5 Story/Not High Rise Construction
+ Creates Ideal Community Use/Activity Zone
+ Good Solar Orientation for All Classrooms/Labs
+ Virtually No Windowless Classrooms

Construction/Phasing
+ Anticipated 3½yr Duration
- Extensive Temporary Classrooms (Modulars) Required
- Temporary Gymnasium & Cafeteria Spaces and/or Alternatives Required

Relative Costs
- This Option is in the Mid-Higher 1/3 of Costs to the City

New Construction on Wang Site – Without an adjacent parking garage, city transit and park land, a new Lowell High School requires an estimated 16 acre minimum to meet the space needs of building, parking, site circulation and playfields. At 14.7 useable acres, the shortfall at the Wang Site is seen in limited green space and insufficient parking at 430 vs the 750 to 800 anticipated.

Aside from the limited site size, there are also concerns with co-locating the High School with the Middle and Elementary Schools already on site. The access roads are an additional concern, being relative narrow and within a thickly residential area.

New construction does allow a more ideal 4 story plan, with proper orientation of the double-wide classroom wing and clear zoning of community use/activity areas. The new plan also allows for very efficient and effective clustering of rooms and labs to better promote interdisciplinary collaboration.

BUILDABLE ACRES = 14.7
56 TOTAL ACRES EXIST

GREEN SPACE (ON-SITE)
APPROX 2 ACRES

PARKING = 430 CARS

BUILDING (GSF) = 571.5k
(NEW 5 STORY BLDG)

RELATIVE COSTS
TOTAL PROJECT = $325.7m
EST CITY SHARE = $142.3m



Same Pro's/Con's as New on Expanding, except;
+ More Ideal 4 Story Building
+ Ample Access to Green Space
+/- Parking & Busses on Site (requires bussing plan, but less athletic travel)
- Limited Walkability & Public Transit
- Co-Located with Elementary & Middle School
- Close Proximity to Neighborhoods (Building & Traffic Impact)
- Not Close to City Services

Construction/Phasing
+ Not Complex Phasing, No Educational Disruption

- Field Replications Required (1 Soccer + 2 Little League Fields) at alternative site to be determined.

Relative Costs
- This Option is in the Middle 1/3 of Costs to the City

New Construction on Cawley Site utilizes a similar (ideal) plan to Wang, but bends to the shape of the site. The building footprint is deliberately kept off the City owned parcel to the East because it falls within the Town of Tewksbury. This portion of the site is used for the majority of parking instead.

Although the parking is listed at 608 (also below the target 750-800 spaces), this site has enough space, but comes down to a balance between count of spaces vs field replication. This site offers the advantage of being co-located with significant athletic fields to create a more traditional school campus. Roadway access is considered more accommodating, although there are concerns for travel through nearby neighborhoods (particularly Douglas and Clark Roads).

BUILDABLE ACRES = 20.0
34 TOTAL ACRES EXIST,
NOT INCL. THE STADIUM

GREEN SPACE (ON-SITE)
AMPLE ACCESS TO FIELDS

PARKING = 608 CARS

BUILDING (GSF) = 571.5k
(NEW 5 STORY BLDG)

RELATIVE COSTS
TOTAL PROJECT = $332.5m
EST CITY SHARE = $148.3m



Same Pro's/Con's as New on Wang, except;
+ Adjacent to Major Fields, incl. the Football Stadium
+ Not Co-Located with Other Schools

Construction/Phasing
+ Not Complex Phasing, No Educational Disruption
- Field Replications Required (1 Softball, 2 practice Football). Note; This Site Plan Assumes 1 Practice LAX and Softball Infield are Replicated On-Site

Relative Costs
- This Option is in the Middle 1/3 of Costs to the City

Note: ongoing investigations have identified portions of Cawley site to have potential Article 97 restrictions. Refer to the Conclusion (below) and the Appendix for additional information.

G. Summary of Evaluations and Conclusions

The evaluation of options began with the search for potential sites and a preliminary assessment of the most viable. The search for alternative sites began with a broad sweep of properties yielding 7 potential sites, the viability of each was then screened with assessment of buildable area, proximity to parking and transportation, access to utilities and sidewalks, location (including wetlands and floodplains), zoning, land use and historical restrictions and ownership rights vs eminent domain requirement.

Refer to the Site Assessment Matrix included in the Appendix

All, but 3 sites were eliminated because they were not nearly large enough to meet the estimated 16 acres required for a new school, circulation, parking and green space. Note: the existing site is only 6.6 acres, but benefits from having an adjacent parking garage, city transit and modest green space nearby. One of the three was not pursued because it is owned by Mass DOT. The most viable sites that were used to study building options included the Existing, Existing/Expanded, Wang and Cawley.

The options were developed using the equivalent Educational Program objectives, estimated space needs and site development requirements so they could be assessed relative to each other, even if the needs and objectives continued to evolve. The ability of each option to meet these objectives was noted in the form of Pro's/Con's.

Key Educational Objectives and Project Goals include;

- Freshman Academy to be Connected, but Distinct (4 teams of 8 incl. Sci)
- Create a Social Hub & Heart to the School
- Zone for Community Use/Activities (incl. Restaurant/Retail & Little Theater)
- Student Support & Administrative Houses to be Easily Accessed by Parents
- Academic Clusters for STEM, Humanities and Cross Collaboration
- Teacher Planning Dispersed with Each Cluster
- ELL & SPED to be Dispersed in Groupings of 2 or more
- Cluster ROTC Program
- Cluster Fine Arts Programs
- Cluster Digital Media Programs
- Controlled & Effective Use of Daylight
- Visible Learning & Ample Display of Student Work
- Ubiquitous Flexibility, Breakout/Small Group and Multi-Use Spaces

An initial round of 6 Options were developed and presented to the City Council, SBC, Business Leaders (Lowell Plan Group) and the Community for feedback and to determine if additional options should be developed. This initial round of input lead to the development of Full Reno, Add/Reno Option 1A (advancement of Opt 1), Add/Reno Options 4 & 5 and the New on Expanded Site Option



FULL RENOVATION

BUILDABLE ACREAGE = 6.4
BUILDING (GSF) = 641,600
RENOVATION AREA (GSF) = 623,700
ADDITION/ NEW AREA (GSF) = 17,900
EXISTING 2, 3 & 5 STORY + 2 STORY ADDTN

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ MEETS ALL SPACE NEEDS (COUNT/SIZE)
+/- MEETS SOME EDUC. OBJECTIVES
- COMM./ACTIVITY AREAS SPREAD/SPLIT
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGHER OPERATING COSTS (SIZE+ENV.)

CONSTRUCTION
4 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $331,360,298
ESTIMATED CITY'S SHARE = $116,472,533

ADD/ RENO OPTION 1A

BUILDABLE ACREAGE = 6.0
BUILDING (GSF) = 617,400
RENOVATION AREA (GSF) = 529,100
ADDITION/ NEW AREA (GSF) = 88,300
NEW 2 & 3 STORY ADDITIONS, INCLUDING 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS FULL-RENO, EXCEPT;
+ FRESHMAN RELOCATED ON CAMPUS
+ FORMER BLDG AVAILABLE FOR REUSE
+ NEW ENTRY/FACE TO THE SCHOOL
+ NEW 2-TIER BRIDGES (CIRC./SAFETY)

CONSTRUCTION
4½ YEAR PHASED PROJECT
+ SOME* MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $340,980,538
ESTIMATED CITY'S SHARE = $132,448,689

*modular needs are based on a conceptual plans; final determination is subject to Construction Manager and further educational program input

ADD/ RENO OPTION 2

BUILDABLE ACREAGE = 6.0
BUILDING (GSF) = 624,100
RENOVATION AREA (GSF) = 454,100
ADDITION/ NEW AREA (GSF) = 170,000
NEW 2 STORY FIELD HS, 5 STORY FA WING +2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 1A, EXCEPT;
+ NEW FRESHMAN WING (IDEAL ORG/SUN)
+ NEW FIELD HS (MORE EFFIC./FLEXIBLE)
+ MODEST GREEN SPACE CREATED

CONSTRUCTION
4 YEAR PHASED PROJECT
+ FEW OR NO* MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $344,087,262
ESTIMATED CITY'S SHARE = $135,614,525

*modular needs are based on a conceptual plans; final determination is subject to Construction Manager and further educational program input

ADD/ RENO OPTION 3 – EXPANDED SITE

BUILDABLE ACREAGE = 7.4
BUILDING (GSF) = 638,700
RENOVATION AREA (GSF) = 447,500
ADDITION/ NEW AREA (GSF) = 191,200
NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 2, EXCEPT;
+ NEW KITCH./LOADING (BUILT PHASE-1)
+ LIGHT WELLS = NO WINDOWLESS CR'S
+ LARGE GREEN SPACE CREATED

CONSTRUCTION
4½ YEAR PHASED PROJECT
+ NO* MODULAR CLASSROOMS REQ'D
+ NO* TEMPORARY GYM FACILITIES REQ'D

RELATIVE COSTS
TOTAL PROJECT COST = $334,335,971
ESTIMATED CITY'S SHARE = $126,417,978

*modular needs are based on a conceptual plans; final determination is subject to Construction Manager and further educational program input

ADD/ RENO OPTION 4

BUILDABLE ACREAGE = 6.0
BUILDING (GSF) = 619,000
RENOVATION AREA (GSF) = 312,800
ADDITION/ NEW AREA (GSF) = 306,200
NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 2, EXCEPT;
+ NEW LORD BLDG ALLOWS DRIVE WAY
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION
5 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQUIRED
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $376,371,511
ESTIMATED CITY'S SHARE = $165,786,170



ADD/ RENO OPTION 5

BUILDABLE ACREAGE = 7.4
BUILDING (GSF) = 620,900
RENOVATION AREA (GSF) = 312,800
ADDITION/ NEW AREA (GSF) = 308,100
NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 3, EXCEPT;
+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION
5½ YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $386,376,693
ESTIMATED CITY'S SHARE = $173,976,178

NEW BUILDING - EXISTING SITE

BUILDABLE ACREAGE = 3.3
BUILDING (GSF) = 594,000
NEW 6 STORY BLDG + NO BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ BENEFITS OF ALL NEW CONSTRUCTION:
  - ✓ ZONED FOR COMMUNITY/ACTIVITY
  - ✓ MEETS ALL SPACE NEEDS
  - ✓ MEETS MOST ALL EDUC OBJECTIVES
  - ✓ IDEAL FRESHMAN ORG./CLUSTERS
  - ✓ FIELD HS (MORE EFFIC./FLEXIBLE)
  - ✓ MORE EFFICIENT USE/OPERATIONS
+ FORMER FA & 1922 BLDG'S AVAILABLE
- TRIGGERS HIGH RISE CONSTRUCTION
- PUBLIC PROGRAMS ON UPPER FLOORS
- NOT IDEAL NEW ORIENTATION
- WINDOWLESS SCIENCE LABS IN NEW
- LIMITED ACCESS TO GREEN SPACE

CONSTRUCTION
3½ YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $350,611,505
ESTIMATED CITY'S SHARE = $156,843,060

NEW BUILDING - EXPANDED SITE

BUILDABLE ACREAGE = 4.7
BUILDING (GSF) = 576,500
NEW 5 STORY BLDG + NO BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS NEW ON EXIST, EXCEPT;
+ DOES NOT TRIGGER HIGH RISE CONSTR.
+ GOOD COMMUNITY/ACTIVITY ZONE
+ GOOD SOLAR ORIENTATION AT ALL CRS
+ NO WINDOWLESS CLASSROOMS
- NO THRU-ROAD

CONSTRUCTION
3½ YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS
TOTAL PROJECT COST = $355,436,809
ESTIMATED CITY'S SHARE = $165,955,019

NEW SCHOOL AT WANG SITE

BUILDABLE ACREAGE = 14.7
TOTAL SITE ACREAGE = 56.0
BUILDING (GSF) = 571,500
4 STORY BLDG

PARKING (ON-SITE) = 430 CAR CAPACITY

PROS/CONS
SAME AS NEW ON EXIST, EXCEPT;
+ MORE IDEAL 4 STORY CONSTRUCTION
+ AMPLE ACCESS TO GREEN SPACE
+ GOOD SOLAR ORIENTATION FOR ALL
- CO-LOCATED W/ MIDDLE+ELEM. SCHOOL
- LIMITED WALKABILITY /PUBLIC TRANSIT
- NOT CLOSE TO CITY SERVICES
- IN CLOSE PROXIMITY TO RESIDENTIAL AREAS (TRAFFIC + MASSING CONCERNS)

CONSTRUCTION
3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE
- FIELDS TO BE REPLICATED:
(1 SOCCER + 2 LITTLE LEAGUE FIELDS)

RELATIVE COSTS
TOTAL PROJECT COST = $325,679,444
ESTIMATED CITY'S SHARE = $142,245,805

NEW SCHOOL AT CAWLEY SITE

BUILDABLE ACREAGE = 20.0
(16.4 FOR NEW SCHOOL + 3.6 NEW FIELDS)
TOTAL ACREAGE = 34.0 (4 IN TEWKSBURY)
BUILDING (GSF) = 571,500
4 STORY BLDG

PARKING (ON-SITE) = 608 CAR CAPACITY

PROS/CONS
SAME AS NEW AT WANG, EXCEPT;
+ ADJACENT TO FOOTBALL STADIUM
+ AMPLE ACCESS TO GREEN SPACE
+ NOT CO-LOCATED W/ OTHER SCHOOLS
+/- MORE ACCOMMODATING ACCESS

CONSTRUCTION
3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE

RELATIVE COSTS
TOTAL PROJECT COST = $332,458,871
ESTIMATED CITY'S SHARE = $148,341,142

A second round of review lead the SBC to make a recommendation to pursue the 3 or 4 preferred options, narrowing the focus so that each could be developed in a bit more detail. The preferred options were selected to not only to represent the full range of studies (a Full Renovation, Additions/Renovations & all New Construction Option), but also to represent those that best met the educational program, had the least educational impact during construction and were cost effective & efficient.

Full Renovation was selected as one 'book-end' extremes. It is our understanding that the MSBA expects to see a minimum of at least one Full Reno, an Add-Reno and a New Construction Option. This option does not meet several of the educational objectives (most notably locating the Freshman Academy on-site), but the sheer

magnitude of estimated project costs warrants a deeper look at how well it can achieve all but that one educational goal.

It is also the only option in its class and the lowest cost overall. For many in the community who wish to limit their tax burden, this option will help provide perspective on the relative value of meeting the educational goals.

New at Cawley was selected as the opposing extreme and most viable option for new construction. Cawley provides enough space (as currently charted for feasibility level study), to meet all the educational objectives in the most efficient and effective plan. The site will come with a trade-off of lost fields vs. site program, but should be explored further along with the potential of expanding the property bounds.

Late in the selection process, but prior to the City Council vote to adopt the four options recommended by the SBC, new information regarding the Cawley site as Article 97 park lands was discovered. Further investigations into the article 97 logistics and development of the New Option on the Cawley site are expected to continue during the Preferred Schematic Report Phase.

Add/Reno Options 2 & 3 were selected, being the most ideal addition/renovation options in meeting educational objectives and limiting educational disruptions during construction. Both options are among the 1/3 lowest costs overall and between them, explore possibilities within the existing city owned property and with the potential of expanding the site.

Specific features from either option may be explored in the form of sub-options in the next phase in hopes of evolving the concepts toward a singularly appropriate solution for the City of Lowell.

Refer to the Appendix for additional information.

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3.1.8 Appendices

A. Statement of Interest
B. MSBA Board Action Letter – Invitation to Feasibility
C. Design Enrollment Certification Letter
D. Capital Budget Report
E. Project Directory and Contacts
F. Project Schedule
G. Educational Visioning
H. Educational Programming
I. NEASC Visiting Committee Report
J. Focus Group Meeting Minutes
K. Community/Neighborhood/Lowell Plan/SBC/FSC/SC/City Council, Minutes and Materials
    1. Community/Neighborhood/Lowell Plan
    2. SBC/FSC/SC
    3. City Council
    4. MSBA
L. Titles/Deeds
    1. Existing High School Site
    2. Cawley Site
M. Geotechnical Report
N. Environmental Site Assessment Report
O. Hazardous Materials Report

P. Existing Property Survey

Q. Existing Sites/Analysis Plans

R. Planning Options

S. Local Actions and Approval: Preliminary Design Program Approval Letter (Certified)

T. Educational Leadership Team (ELT) Minutes and Materials

U. Base Renovation (Repair) Drawings and Reports

V. Cost Estimates

1. Conceptual Design Estimate Overview
2. Conceptual Design Estimate Overview with Tax Increases
3. Conceptual Design Estimate Summary
4. Base Renovation (Repair) Estimate Summary
5. Base Renovation (Repair) Estimate
6. Conceptual Design Estimate
7. Conceptual Design FF & E/T Estimate

W. Preliminary Traffic Report

X. Preliminary Historic Report Summary

Acknowledgements

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State Delegation

Eileen Donoghue, Senator
David Nangle, State Representative
Thomas Golden, State Representative
Rady Mom, State Representative

City Councilors

Edward J. Kennedy, Mayor
Daniel Rourke, Vice Chair
Corey Belanger, Councilor
Rodney Elliott, Councilor
John Leahy, Councilor
James Leary, Councilor
Rita Mercier, Councilor
James Milinazzo, Councilor
William Samaras, Councilor

City of Lowell – Mayor's Office

Edward J. Kennedy, Mayor

City Administration

Kevin Murphy, City Manager
Michael McGovern, Assistant City Manager
Rodney Conley, Deputy CFO

City Clerk

Mike Geary, City Clerk

Lowell School Committee

Edward J. Kennedy, Mayor, School Committee Chair
Andre P. Descoteaux, Member
Jackie Doherty, Member
Steve Gendron, Member
Robert J. Gignac, Member
Robert J. Hoey, Jr., Member
Connie A. Martin, Member

Lowell School Building Committee

Kevin Murphy, City Manager, Chairman SBC
Edward J. Kennedy, Mayor, School Committee Chair
Rodney Elliott, Councilor
Mike Vaughn, Chief Procurement Officer
Steve Gendron, School Committee
Salah E. Khelfaoui, Ph. D., Superintendent of Schools
Richard Underwood, Dir. Main.& Facilities - School Dept.
Brian Martin, Head of Schools
Gary Frisch, School Business Administrator
George Tsapatsaris, Former Supt. Schools
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Robert Healy, Financial Consultant
Rady Mom, State Representative
Maryann Ballotta, Director of Public Safety R&D
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James Dowd, Senior Program Manager
Mary Ann Williams, Program Executive

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Lincoln B. Berry
Alexander Bagnell

Civil Engineers + Land Surveyors:
Nitsch Engineering
William R. Maher, PE
Gary Pease, PIC
Alex Diotte

Code and Accessibility:
R. W. Sullivan
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Cost Estimating:
Essential Estimating
Robert J. Goodie, Principal, Chief Cost Estimator

Educational Visioning:
David Stephen, Principal

Food Service:
Crabtree McGrath
John Sousa, President

Furniture, Fixtures, Equipment; Laboratory, Library/Media:
Point-Line-Space
Peter S. Constable, Principal

Geotechnical:
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Steve Vetere, PE, CEM, LSP, LEP, Project Manager

Hazardous Materials:
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Ammar M. Dieb

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Lisa Howe, Director
Alicia Swenson

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Matthew Williams
Amanda Botelho

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Johnathan C. Buhl
Colleen E. Kohl

Traffic:
Bryant Associates
Todd Brayton, PE
Elizabeth Lavoie, PE

Massachusetts School Building Authority

Next Steps to Finalize Submission of your FY 2014 Statement of Interest

Thank you for submitting your FY 2014 Statement of Interest (SOI) to the MSBA electronically. **Please note, the District's submission is not yet complete**. The District is required to print and mail a hard copy of the SOI to the MSBA along with the required supporting documentation, which is described below.

Each SOI has two Certification pages that must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer*. Please make sure that **both** certifications contained in the SOI have been signed and dated by each of the specified parties and that the hardcopy SOI is submitted to the MSBA with **original signatures**.

SIGNATURES: Each SOI has two (2) Certification pages that must be signed by the District.

In some Districts, two of the required signatures may be that of the same person. If this is the case, please have that person sign in both locations. Please do not leave any of the signature lines blank or submit photocopied signatures, as your SOI will be incomplete.

**Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated as the chief executive office under the provisions of a local charter.*

VOTES: Each SOI must be submitted with the proper vote documentation. This means that (1) the required governing bodies have voted to submit each SOI, (2) the specific vote language required by the MSBA has been used, and (3) the District has submitted a record of the vote in the format required by the MSBA.

- **School Committee Vote:** Submittal of all SOIs must be approved by a vote of the School Committee.
  - For documentation of the vote of the School Committee, Minutes of the School Committee meeting at which the vote was taken must be submitted with the original signature of the Committee Chairperson. The Minutes must contain the actual text of the vote taken which should be substantially the same as the MSBA's SOI vote language.
- **Municipal Body Vote:** SOIs that are submitted by cities and towns must be approved by a vote of the appropriate municipal body (e.g., City Council/ Aldermen/Board of Selectmen) in addition to a vote of the School Committee.
  - Regional School Districts do not need to submit a vote of the municipal body.
  - For the vote of the municipal governing body, a copy of the text of the vote, which shall be substantially the same as the MSBA's SOI vote language, must be submitted with a certification of the City/Town Clerk that the vote was taken and duly recorded, and the date of the vote must be provided.

CLOSED SCHOOLS: Districts must download the report from the "Closed School" tab, which can be found on the District Main page. Please print this report, which then must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer. A signed report, with original signatures must be included with the District's hard copy SOI submittal. **If a District submits multiple SOIs, only one copy of the Closed School information is required.**

ADDITIONAL DOCUMENTATION FOR SOI PRIORITIES #1 AND #3: If a District selects Priority #1 and/or Priority #3, the District is required to submit additional documentation with its SOI.

- If a District selects Priority #1, Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of the school children, where no alternative exists, the MSBA requires a hard copy of the engineering or other report detailing the nature and severity of the problem and a written professional opinion of how imminent the system failure is likely to manifest itself. The District also must submit photographs of the problematic building area or system to the MSBA.
- If a District selects Priority #3, Prevention of a loss of accreditation, the MSBA requires the full accreditation report(s) and any supporting correspondence between the District and the accrediting entity.

ADDITIONAL INFORMATION: In addition to the information required with the SOI hard copy submittal, the District may also provide any reports, pictures, or other information they feel will give the MSBA a better understanding of the issues identified at a facility.

If you have any questions about the SOI process please contact Brian McLaughlin at 617-720-4466 or Brian.McLaughlin@massschoolbuildings.org.

Massachusetts School Building Authority

School District Lowell

District Contact Jay Lang TEL: (978) 674-2020

Name of School Lowell High

Submission Date 4/10/2014

SOI CERTIFICATION

To be eligible to submit a Statement of Interest (SOI), a district must certify the following:

- The district hereby acknowledges and agrees that this SOI is NOT an application for funding and that submission of this SOI in no way commits the MSBA to accept an application, approve an application, provide a grant or any other type of funding, or places any other obligation on the MSBA.
- The district hereby acknowledges that no district shall have any entitlement to funds from the MSBA, pursuant to M.G.L. c. 70B or the provisions of 963 CMR 2.00.
- The district hereby acknowledges that the provisions of 963 CMR 2.00 shall apply to the district and all projects for which the district is seeking and/or receiving funds for any portion of a municipally-owned or regionally-owned school facility from the MSBA pursuant to M.G.L. c. 70B.
- The district hereby acknowledges that this SOI is for one existing municipally-owned or regionally-owned public school facility in the district that is currently used or will be used to educate public PreK-12 students and that the facility for which the SOI is being submitted does not serve a solely early childhood or Pre-K student population.
- After the district completes and submits this SOI electronically, the district must sign the required certifications and submit one signed original hard copy of the SOI to the MSBA, with all of the required documentation described under the "Vote" tab, on or before the deadline.
- The district will schedule and hold a meeting at which the School Committee will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is required for cities, towns, and regional school districts.
- Prior to the submission of the hard copy of the SOI, the district will schedule and hold a meeting at which the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is not required for regional school districts.
- On or before the SOI deadline, the district will submit the minutes of the meeting at which the School Committee votes to authorize the Superintendent to submit this SOI. The District will use the MSBA's vote template and the vote will specifically reference the school and the priorities for which the SOI is being submitted. The minutes will be signed by the School Committee Chair. This is required for cities, towns, and regional school districts.
- The district has arranged with the City/Town Clerk to certify the vote of the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body to authorize the Superintendent to submit this SOI. The district will use the MSBA's vote template and submit the full text of this vote, which will specifically reference the school and the priorities for which the SOI is being submitted, to the MSBA on or before the SOI deadline. This is not required for regional school districts.
- The district hereby acknowledges that this SOI submission will not be complete until the MSBA has received all of the required vote documentation and certification signatures in a format acceptable to the MSBA.

Chief Executive Officer *	**School Committee Chair**	**Superintendent of Schools**
Michael Q. Geary	Rodney M. Elliott	Jean M. Franco
Acting City Manager		
(signature)	(signature)	(signature)
Date	Date	Date

* Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated to the chief executive office under the provisions of a local charter. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.

Massachusetts School Building Authority

School District Lowell

District Contact Jay Lang TEL: (978) 674-2020

Name of School Lowell High

Submission Date 4/10/2014

Note

The following Priorities have been included in the Statement of Interest:

1. ☐ Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.
2. ☐ Elimination of existing severe overcrowding.
3. ☐ Prevention of the loss of accreditation.
4. ☒ Prevention of severe overcrowding expected to result from increased enrollments.
5. ☐ Replacement, renovation or modernization of school facility systems, such as roofs, windows, boilers, heating and ventilation systems, to increase energy conservation and decrease energy related costs in a school facility.
6. ☐ Short term enrollment growth.
7. ☒ Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.
8. ☐ Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

SOI Vote Requirement

☒ I acknowledge that I have reviewed the MSBA's vote requirements for submitting an SOI which are set forth in the Vote Tab of this SOI. I understand that the MSBA requires votes from specific parties/governing bodies, in a specific format using the language provided by the MSBA. Further, I understand that the MSBA requires certified and signed vote documentation to be submitted with the SOI. I acknowledge that my SOI will not be considered complete and, therefore, will not be reviewed by the MSBA unless the required accompanying vote documentation is submitted to the satisfaction of the MSBA.

Potential Project Scope: Potential New School

Is this SOI the District Priority SOI? YES

School name of the District Priority SOI: 2014 Lowell High

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 2/28/2014

Planning Firm: OMR Architects

Please provide an overview of the plan including as much detail as necessary to describe the plan, its goals and how the school facility that is the subject of this SOI fits into that plan:

In April 2013, OMR Architects was hired to prepare a Comprehensive Facilities Assessment and Master Plan which included 29 Lowell school facilities- elementary, middle, PK-8, high, alternative, day and the adult education center. The goals of the study were: 1) Perform a Physical and Programmatic Assessment of the Lowell Public School facilities, and 2) Develop a 10 Year Master Plan for critical maintenance, renovations and additions and/or building replacements. The facilities assessment and master plan included: reviewing the schools and their relationships within the City of Lowell and their defining neighborhoods; analyzing the existing conditions of all of the facilities (architecture, site, structure, MEP/FP) and providing baseline repair estimates; three educational visioning sessions with school and district administration and educational leaders to set the goals and values for the master plan study; analysis of NESDEC enrollment projections for ten years; educational programming space analysis comparing the existing and projected population and facilities to MSBA guidelines; understanding site availability in Lowell; developing multiple masterplan options and comparing these with cost and value; developing preferred options; and developing a 10 year capital plan for the design and construction work of this report. The Lowell High School fits into the Masterplan as the Preferred Solution Option 1D/E with a total project cost of $245.4M, not including escalation or land acquisition. This 650,000 GSF solution requires the possession of adjacent land and includes an addition/ demolition/ renovation/ repurposing response to the existing Lowell High School facilities. The same Masterplan includes the Elementary, Middle & K-8 School Preferred Solution of Option 1H with a total project cost of $270M, not including escalation or land acquisition. This solution includes: additions and renovations to Wang, Daley and Robinson Middle Schools to make eight-strand schools serving 792 students each; an addition/ renovation/ conversion of Rogers School to be a four-strand PK-8 facility serving 960 students; a new, four-strand PK-8 facility serving 960 students; and major and minor repairs of 23 other school facilities.

Please provide the current student to teacher ratios at the school facility that is the subject of this SOI: 28 students per teacher

Please provide the originally planned student to teacher ratios at the school facility that is the subject of this SOI: 24 students per teacher

Does the District have a Master Educational Plan that includes facility goals for this building and all school buildings in District? YES

If "YES", please provide the author and date of the District's Master Educational Plan.

OMR Architects February 28, 2014

Is there overcrowding at the school facility? YES

If "YES", please describe in detail, including specific examples of the overcrowding.

This is projected overcrowding. The school district's projected enrollment is significantly higher than the current 2013-2014 enrollment of 3,134 students in grades 9-12. NESDEC's 10-year average enrollment projection for the Lowell Public School District shows a need for the high school sized appropriately to house 3,424 in the 10 year projected average, but with a high in 2022-2023 of 3,900 students in grades 9-12 and no expectation for the PK-8 enrollment to go down in the subsequent years, the committee feels that 3,900 students is the appropriate size for the facility. Overall, there is a documented space need for approximately 2,500 additional seats in the entire Lowell Public School system in the upcoming years.

See NESDEC enrollment projections attachments.

Has the district had any recent teacher layoffs or reductions? NO

If "YES", how many teaching positions were affected? 0
At which schools in the district?
Please describe the types of teacher positions that were eliminated (e.g., art, math, science, physical education, etc.).

Has the district had any recent staff layoffs or reductions? NO

If "YES", how many staff positions were affected? 0
At which schools in the district?
Please describe the types of staff positions that were eliminated (e.g., guidance, administrative, maintenance, etc.).

Please provide a description of the program modifications as a consequence of these teacher and/or staff reductions, including the impact on district class sizes and curriculum.

Does not apply.

Please provide a detailed description of your most recent budget approval process including a description of any budget reductions and the impact of those reductions on the district's school facilities, class sizes, and educational program.

On June 5, 2013, the Lowell School Committee approved the FY2014 annual operating budget of $144,360,281, a 4.28% increase over FY2013. There were no budget reductions impacting the school district’s facilities, class sizes or educational programs.

General Description

BRIEF BUILDING HISTORY: Please provide a detailed description of when the original building was built, and the date(s) and project scopes(s) of any additions and renovations (maximum of 5000 characters).

The Lowell High School facilities are comprised of multiple buildings located on a few city blocks crossing a canal in the Downtown neighborhood. The original 1892 building was added to in 1922 and renovated in 1971 and 1997 (minor), and included a large interior light well at the intersection of the two brick buildings. The 1980 facility is made up of an educational wing and a field house wing connected by lobby spaces and circulation, and was renovated in 1997. These two buildings, the 1892/1922 and the 1980, are connected by two enclosed, glazed bridges which span across the canal and park below. The Freshman Academy, a completely separate structure, is one city block away. Built in 1900 and added on in 1939, it was renovated in 1986. Ninth grade students typically walk along a less dense urban street to access specialty classrooms and the physical education spaces in the main buildings. The Freshman structure also houses their own cafeteria and theater. The Steam Plant, original construction unknown but renovated in 1996, which serves the entire complex, is located between the Freshman Academy and the 1920 facility, and is connected to the Freshman Academy above ground by overhead pipes and to the 1920 Building with a utilities tunnel under Kirk Street.

Outdoor athletic facilities are located in multiple locations including Cawley Stadium and Shedd Park to the southeast of the school, the Lowell Boathouse to the west, and Mount Pleasant Golf Course to the southwest. All are accessible only by bus or car.

Lowell Freshman Academy- 3 stories (1 is below grade)
Lowell HS Steam Plant - 1 story
Lowell High School - 1922 Building (Kouloheras) - 3 stories (1 is below grade)
Lowell High School - 1980 Buildings (Lord & Fieldhouse) – 3 stories

Scope of Renovations include: New windows and storefront systems were retrofitted to the existing 1892 and 1922 Buildings in 1980 and in 1995, respectively. Extensive renovations of the interiors of the 1892 and 1922 Buildings were included in the scope of the 1995 addition. These renovations succeed in updating many of the interior finishes as well as creating uniformity of finish materials between the new and existing. The scope of these renovations was limited to the academic floors and many spaces particularly on the lower level were left untouched. The auditorium was fully renovated including a new mechanical system with air conditioning. A new mezzanine was constructed in the upper part of the 1892 Building which serves as a suite for faculty work, lounge and dining. The upper part of this space is not accessible.

The Freshman Academy was repurposed and fully renovated in 1986. These renovations at the lowest level included the creation of a small theatre and a cafeteria dedicated to the freshman student population. The 1986 project included targeted renovations on the upper levels for academics, science, library, computer labs and faculty spaces. Most spaces were renovated to varying degrees at this time.

The 1980 Building has been maintained over the years but has not been renovated. Most finishes and systems are original with some notable exceptions: 1) the roof top mechanical systems have been recently upgraded, unfortunately, these upgrades have not been very effective. 2) There has been a concerted effort to replace existing carpet in most academic areas with vinyl tile. 3) Toilet rooms benefit from ongoing maintenance with the exception of the Locker/Showers which require full and major renovation.

TOTAL BUILDING SQUARE FOOTAGE: Please provide the original building square footage PLUS the square footage of any additions.

628558

SITE DESCRIPTION: Please provide a detailed description of the current site and any known existing conditions that would impact a potential project at the site. Please note whether there are any other buildings, public or private, that share this current site with the school facility. What is the use(s) of this building(s)? (maximum of 5000 characters).

Lowell High School sits on two parcels on municipally owned land totaling 243,000 square feet. In addition to the 1922 and
1980 buildings, a third building located across (and not connected) the street houses the Lowell High School Freshman Academy. The LHS Freshman Academy sits on a 10,000 square foot parcel.

The site for the steam plant is shared with the National Park Service Building and the exact limits of the site are unknown. Zoning is Downtown Mixed Use District. See site plan and existing conditions analysis attachments.
Context:
- Generally a flat site(s) fully developed and bordered either by city streets or adjacent properties. The High School occupies three separate distinct parcels that form the campus. The campus is divided by a canal, or in the case of the Freshman Academy, a city street. Students and staff are required to cross a city street or traverse the second story bridges to travel between buildings.
- All drop-off / pick-up takes place on the adjacent city streets and sidewalks. This creates serious traffic and safety issues.
- There is a city owned parking garage across a main street that serves both staff and students. There is metered, on street parking for visitors. There is little or no onsite parking.
- There is a discrete loading dock for deliveries and trash/recycling located to the southeast end of the campus. Access is from Father Morissette Blvd.
- Fire lane and emergency access to all buildings is good.
Surfaces and Features:
- There are a number of paved courtyards and walks adjacent to the main entrance and the cafeteria. The condition of these courtyards varies greatly from good to poor. The existing canal between the two main buildings is landscaped on each side and provides for a pleasant urban park like atmosphere. Unfortunately, there is also a Trolley for tourist and visitors to Lowell that parallels one side of the canal and further divides and separates the main campus. There are two connecting enclosed bridges at the second floor that span the trolley tracks and the canal to accommodate pedestrian traffic between the two buildings.
- The constrained site does not provide for any outside athletic or physical education opportunities.
- No apparent site drainage issues were identified. Drainage is handled by the city storm system.

Lowell Freshman Academy- 92,758 SF (1900 & 1939 portions)
Lowell HS Steam Plant – 2,500 SF, no additions
Lowell High School - 1922 Building (Kouloheras) – 322,000 (whole facility)
Lowell High School - 1980 Buildings (Lord & Fieldhouse) – 211,300 GSF, no additions
TOTAL: 628,558 GSF

ADDRESS OF FACILITY: Please type address, including number, street name and city/town, if available, or describe the location of the site. (Maximum of 300 characters)

Lowell Freshman Academy, 40 Paige Street, Lowell, MA 01852
Lowell HS Steam Plant, Paige Street, Lowell, MA 01852
Lowell High School - 1922 Building (Kouloheras), 50 Father Morissette Blvd, Lowell MA 01852
Lowell High School - 1980 Buildings (Lord & Fieldhouse), 50 Father Morissette Blvd, Lowell M

BUILDING ENVELOPE: Please provide a detailed description of the building envelope, types of construction materials used, and any known problems or existing conditions (maximum of 5000 characters).

Exterior Envelope:
- Exterior windows appear to be in fair to poor condition with a few exceptions; plastic lexan glazing and insulated units

with broken seals should be replaced. In most cases the operable hardware needs to be replaced or maintained. Security screens should be replaced or refurbished. Perimeter sealants and glazing beads for the most part are in need of replacement. Buildings have brick veneers in all cases. Size and type of brick varies depending on the age of the building or addition. Some buildings/additions have traditional masonry back up while the newer buildings have metal studs. The condition of the exterior envelope is generally good with limited, but specific some areas requiring immediate attention. Interestingly, the older buildings in many cases are faring better than the newer construction.
- Painted/anodized aluminum door and frames generally appear to be in poor condition with a couple of exceptions. Painted steel door frames with transoms have failed. In general all storefront/curtain wall systems require maintenance and/or replacement. The fixed acrylic glazing for one of the two bridges is in good condition the other bridge will require re-glazing at some point in the future.
- All exterior door hardware is in fair to poor condition and should be replaced or repaired.
- Buildings have brick veneers in all cases. Size and type of brick varies depending on the age of the building or addition. Some buildings/additions have traditional masonry back up while the newer buildings have metal studs. The condition of the exterior envelope is generally good but with limited areas requiring immediate attention. Interestingly, the older buildings in many cases are faring better than the newer construction. The spit faced concrete block at the 1980's Building is in good condition. Existing cement asbestos cladding needs attention and/or replacement in some cases. The lintels over openings in the 1922 building appear to be compromised and should be investigated for potential repair and/or replacement. Existing skylights are original to the 1922 Building and need replacement. The Kalwall translucent glazing within the lightwell has far exceed it useful life and should be replaced.
Roof:
- The roofing membranes/flashings vary in age and condition. Most roofs are in fair condition with one notable exception; a large area of the 1922 Building has failed. In contrast, the pitched (and flat) roof of the 1892 building has been recently been replaced with artificial slate and new copper gutters/leaders. The workmanship is of the highest quality. The field house has a sloped corrugated metal roof with built in gutters and downspouts that appear to have reached or exceeded their life expectancy. Some sections of the built in gutter have failed and have damaged the façade. Ponding is occurring in many flat roof locations. Roof drains appear to be clogged in some locations and will require periodic maintenance.

Has there been a Major Repair or Replacement of the EXTERIOR WALLS ? NO
Year of Last Major Repair or Replacement: 1995
Description of Last Major Repair or Replacement:
Partial window and entrance retrofits and other miscellaneous projects.

Has there been a Major Repair or Replacement of the ROOF? YES
Year of Last Major Repair or Replacement: 2012
Type Of ROOF: EPDM/Slate(2012)/Metal - Partial replacement and repair.
Description of Last Major Repair or Replacement:
A full replacement of the slate roof on the 1892 Building. This is a small portion of the high school roof, the other sections have not been repair or replaced.

Has there been a Major Repair or Replacement of the WINDOWS? YES
Year of Last Major Repair or Replacement: 1995
Type Of WINDOWS: Aluminum, single hung
Description of Last Major Repair or Replacement:
New windows retrofit in 1980 and 1996 in the 1922 Bldg.

MECHANICAL and ELECTRICAL SYSTEMS: Please provide a detailed description of the current mechanical and electrical systems and any known problems or existing conditions (maximum of 5000 characters).

MEPFP: Freshman Academy
FIRE PROTECTION - There are areas of the building without coverage of a wet sprinkler system. The system should be supplemented to cover all areas of the building.
HVAC- Heating and ventilating units are in fair to poor condition. Heat exchangers show signs of having corrosion. Both will be required to be replaced in the near future. It is recommended that the present pneumatic automatic temperature controls be replaced with a DDC system. Exhaust systems should be replaced.

ELECTRICAL - The main service is in poor condition and should be replaced. Branch circuits are in fair condition except neutral conductors appear to be shared and many outlets that are near sinks are not GFCI protected. These items should be corrected. There is no emergency source of power. It is recommended that an emergency generator be provided. The fire alarm system is in poor condition and should be replaced. Lighting fixtures have recently been upgraded with more energy efficient lamps and ballasts, however there are a number of damaged fixtures which should be replaced.

MEPFP: 1922 and 1980 Buildings
FIRE PROTECTION- The building is mostly protected with an automatic dry sprinkler and wet stand pipe system. Sprinklers should be added at areas without coverage.
HVAC- Steam from the boiler plant is converted to hot water which serves fin tube radiators throughout the building. Gas fired roof top units provide ventilation for the building. Cooling for the auditorium is provided by rooftop units and a chiller. These systems are in fair condition. However the heat exchangers and circulation pumps are corroded and will need to be replaced soon. The automatic temperature controls system should be supplemented with DDC thermostats. All pneumatic control systems should be replaced with new DDC systems.
ELECTRICAL – The main service installed in 1990 is in fair condition but the secondary switch board which dates earlier should be replaced. Panel feeders are in fair condition but panel boards should be replaced. Branch circuits require updating to separate neutral conductors. Lighting fixtures are in fair condition. Lamping and ballasts have recently been updated. Emergency power is provided by a generator located in the Boiler Plant. An abandoned generator in the basement should be removed. It is recommended that the clock and paging systems be replaced.
The fire alarm system is outdated and should be replaced.

Has there been a Major Repair or Replacement of the BOILERS? NO
Year of Last Major Repair or Replacement: 1996
Description of Last Major Repair or Replacement:
Units were retubed in 2009

Has there been a Major Repair or Replacement of the HVAC SYSTEM ? NO
Year of Last Major Repair or Replacement: 2005
Description of Last Major Repair or Replacement:
Several roof top units on the 1980 Building were replaced in 2005

Has there been a Major Repair or Replacement of the ELECTRICAL SERVICES AND DISTRIBUTION SYSTEM? NO
Year of Last Major Repair or Replacement: 1997
Description of Last Major Repair or Replacement:
Several sections of the High School were upgraded as part of the 1997 Renovation

HEATING FUEL: Which of the heating fuel types below does your building primarily rely on for heating?

Natural Gas

BUILDING INTERIOR: Please provide a detailed description of the current building interior including a description of the flooring systems, finishes, ceilings, lighting, etc. (maximum of 5000 characters).

Finishes:
- Masonry and GWB walls require painting especially corridors and shared core spaces.
- Sagging and damaged acoustic ceilings systems should be replaced – condensation and/or roof leaks above ceilings require repair.
- Carpet is being replaced in many locations with resilient tile as part of an ongoing project.
- VCT in fair to good condition in many areas and new in others – replace damaged tiles as needed.
- Given the age and the number of buildings there are many different floor finishes and, of course, their condition varies greatly. Generally, wood, older ACT and VCT, rubber and sheet vinyl floors are in poor condition. Terrazzo floors are old but are in good condition except for an occasional crack. Existing painted concrete floors in the basement of the 1922 Building are spauling with shrinkage and settlement cracks. Ceramic tile floors (and walls) are recent for the most part with

the notable exception of the locker/shower rooms in the Fieldhouse. Most of these spaces (toilet rooms) benefit from an ongoing maintenance commitment. This includes toilet partitions and accessories.
- Gymnasium synthetic flooring is in fair to fair/poor condition. Floor needs courts and lanes to be restriped. The synthetic floor extends into the lobby area and has failed due to excessive traffic.
- Casework/Millwork and hardware conditions vary greatly from poor to good depending on location and age. Millwork is non-conforming to current ADA/MAAB requirements.
Openings:
- The condition of interior doors and hardware vary greatly depending on age and location. In many cases the hardware is non-conforming. It should be noted that the oldest buildings date back to the late 1800's and early 1900's the doors and frames are original to that period. Other locations are as new as 1980 and 1995 and, as would be expected, in good conditions and mostly conforming. Unfortunately, this represents only about half of the overall campus.
- Hollow metal door and frames should be painted and/or replaced
- Magnetic hold open devices require repair and/or replacement at some locations
Vertical Circulation:
- There are a total of 4 elevators. Three of which are old and non-conforming. The elevator in the oldest building is the newest and is in good condition.
- Stairs handrails and guardrails do not meet current building code requirements and should be modified.
- Access to stage is by way of a lift and meet currents ADA/MAAB requirements. There is handicapped seating in the auditorium. The balcony and control booth are not accessible.
Lighting: in general is in fair condition. Classrooms consist of continuous rows of surface fluorescent wrap around type fixtures with a (2) lamp cross section electronic ballast powering 32WT8 lamps. The gymnasium fixtures have recently been upgraded to (4) lamp T5HO high bays with occupancy sensors and wire guards. Library fixtures are pendant direct/indirect (2) lamp cross section with electronic ballasts and 32WT8 lamps. Corridors consist of recessed fluorescent 2X2 fixtures with acrylic lens. The auditorium house lighting contains fluorescent strips mounted in coves for indirect lighting and incandescent PAR down lights. General areas consist of surface mounted 2X2's and 8" fluorescent down lights. Light levels seem adequate. Lighting control consists of occupancy sensors in the classrooms and time clocks for exterior lighting. All other lights are controlled with local live voltage switching.

PROGRAMS and OPERATIONS: Please provide a detailed description of the current programs offered and indicate whether there are program components that cannot be offered due to facility constraints, operational constraints, etc. (maximum of 5000 characters).

Lowell High School currently serves approximately 3,200 students and employs 400 full-time staff members. LHS provides a comprehensive high school offering of programs for all Lowell Public School students in grade 9 – 12, as well as ROTC, Culinary arts, and swimming. In particular, the science related program offerings are constrained due to outdated and inadequate education spaces with the buildings. The facility also houses city-wide services programmed for the students including a community health center, bank, CCTV, DARE, UP and a thrift shop. See space summary attachment.

CORE EDUCATIONAL SPACES: Please provide a detailed description of the Core Educational Spaces within the facility, a description of the number and sizes (in square feet) of classrooms, a description of science rooms/labs including ages and most recent updates, and a description of the media center/library (maximum of 5000 characters).

The core educational space of Lowell High School is spread across three separate buildings, two of which are connected via two above ground tunnels. The third building, which houses only 9th graders, is a standalone academic building.

The original building, consists of 77 traditional classrooms, 2 computer labs, 1music lab, 1 digital photography lab, 1 graphic design lab, and 1 language lab (currently not in working order). The average square footage of a traditional classroom in this building is approximately 850 square ft. There are no dedicated science labs in this building. The designated chemistry lab is within a classroom. There is working gas, with working gas lines. The total square footage of workable lab space in this room is 480 square ft. There is no fume hood installed in this room. There have been no major

updates or renovations to this lab/room in the past 25 years.

The second building which was constructed in 1980 has 34 classrooms and 2 dedicated computer labs. This building also houses the LHS television studio. The average square footage of a traditional classroom in this building is approximately 661 square ft. The 1980 building has 4 dedicated science labs. The total size of the four science labs is 3,083 square ft. One of the labs has working gas and a fume hood. One of these labs has an inoperable fume hood. The four science labs have not been updated since the original build out in 1980.

The 3rd building, designated as the Freshman Academy is a standalone academic facility. This building has 37 traditional classrooms and two computer labs. The average size of the traditional classrooms in this building is approximately 730 square ft. There is one dedicated room for science experiences, this room has running water. There are no eye wash stations or fume hoods in this lab. This room was a former home economics room, and has never been fully updated as a dedicated science lab.

The Lowell High School Media Center is located in the 1980 building. The media center has 10 computer stations for student use. The Media Center was last updated in 1997. One of the dedicated computer labs is off the back of the media center.

CAPACITY and UTILIZATION: Please provide a detailed description of the current capacity and utilization of the school facility. If the school is overcrowded, please describe steps taken by the administration to address capacity issues. Please also describe in detail any spaces that have been converted from their intended use to be used as classroom space (maximum of 5000 characters).

Lowell High School currently serves approximately 3,200 students and employs 400 full-time staff members. LHS provides a comprehensive high school offering of programs for all Lowell Public School students in grade 9 – 12.

See space summary attachment.

MAINTENANCE and CAPITAL REPAIR: Please provide a detailed description of the district's current maintenance practices, its capital repair program, and the maintenance program in place at the facility that is the subject of this SOI. Please include specific examples of capital repair projects undertaken in the past, including any override or debt exclusion votes that were necessary (maximum of 5000 characters).

The district is responsible for the daily cleaning and maintenance of the School, while the City of Lowell DPW is responsible for the major repairs associated with the school facility. The Lowell Public Schools employs a full-time custodial crew of twenty (20) building custodians to clean and maintain the facilities on a daily basis. The City of Lowell Department of Public Works (DPW) provides for the repair of broken furnishings and equipment and major repairs. The district, in conjunction with the City of Lowell, prepares an annual capital plan for inclusion in the City's overall budget. The Lowell Public Schools has recently concluded a comprehensive facilities assessment with the assistance of OMR Architects to assess and document the needs of each school facility city-wide. A copy of the facilities assessment pertaining to this school is attached to the SOI to serve as additional backup for consideration of this project. No overrides or debt exclusion votes have been necessary in the past to fund school related capital projects with the MSBA's assistance.

Priority 4

Question 1: Please describe the conditions within the community and School District that are expected to result in increased enrollment.

The school district projected enrollment is significantly higher than the current 2013-2014 enrollment of 11,043 students in grades PK-8 and 3,134 students in grades 9-12. NESDEC's 10-year average enrollment projection for the Lowell Public School District shows a need for school buildings sized appropriately to house 11,811 students in grades PK-8 and 3,900 students in grades 9-12. In addition, givenLowell's complex, district-wide, school assignment policy and regular mid-year fluctuation of class sizes, it is recommended that 15 additional swing classrooms be provided in the PK-8 space program across the district.

Understanding the current overcrowding situation though, the elementary, middle and PK-8 schools are showing physical space needs across the board in most student-designated spaces, especially in core academic classrooms due to the current overcrowding. Grades K-4 are currently overcrowded by 593 students and based on enrollment projections will be overcrowded by 924 students in the next four years. Grades 5-8 are currently overcrowded by 594 students and based on enrollment projections will be overcrowded by 1,174 students in the next six years. Add to this the 15 swing classroom need. Therefore with the projected population added into the already overcrowded classrooms, there is a documented space need for approximately 2,500 additional seats in theLowellPublic Schoolsystem in the upcoming years.

Given the confirmed need to expand the grade PK-8 schools by 2,500 additional seats, it is agreed that it will be necessary to build additional school buildings or a comprehensive expansion of the existing facilities. There is a desire to keep the strand sizes small and keep school enrollments below 1,000 students at grades PK-8, but there is also a scarcity of suitable land to build additional schools in the City ofLowell. The committee considered moving PK out of the elementary and middle schools and consolidating those services in smaller facilities around the city. And they considered reconfiguring the existing schools to place fifth graders in the elementary schools. Each of these reconfiguration solutions freed up existing square footage to accommodate more students in the current facilities, but the City feels most comfortable retaining the PK in the schools and maintaining the existing grade configuration. The continuation of increasing enrollment throughoutLowellwill mean that the district will need to bring in modular classrooms in subsequent years to many of the PK-8 facilities. There is little space to build new in the City, busing around the city is too expensive and parents want neighborhood schools.

This may seem to not affect the high school, but knowing the full needs of the total school district system, provides a complete understanding of the much larger problem thatLowellfaces in the next decade. Since every child inLowellgoes through the one high school, the city feels that this grouping of buildings has the most need at this time.

Priority 4

Question 2: Please describe the measures the School District has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

The school district and the city recognize the issue of current and projected overcrowding. The district began by hiring OMR Architects to analyze the bigger issues of the existing facilities and develop a 10 year plan to resolve the issues in a systematic fashion. Coupled with that was the enrollment changes that were discovered during the process as what once was thought of as an enrollment bubble, seems to have become a constant that is more significant than can be handled with minor classroom changes. In addition, this summer, the district is planning on renovating the Rogers PK-K school (once served as a middle school and now houses district offices and some PK-K) to take on the developing elementary school problem in a systematic fashion.

There is only one high school in Lowell, made up of multiple buildings. It is at the center of the city. There is overwhelming support to keep it in the city center for a number of reasons including: it is a historical building; one unified school is important to school pride; busing to multiple locations is reduced as there is a city bus system used by many students; location near UMASS Lowell and the City Municipal buildings brings opportunities for the students and the education; the urban presence of the school adds to the pride of the city; parking for students and teachers is simplified by city parking garages; and building a new school for 3,900 students is cost prohibitive. Knowing that these school parcels are important to theLowellSchool District, they are discussing acquiring a small parcel of land to the SW of the current 1980 facility to help with future construction phasing. The Lowell Planning Department has also started considering the extension ofDutton Streetto meet up withFather Morrisette Blvd, if the 1980s building is demolished. This would allow a safer drop-off and pick up scenario for students in the future.

Priority 4

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Students and teachers are directly affected as the available room for instruction is reduced. This is felt within the regular education classrooms and special population classrooms. Small rooms and/or spaces for teachers to meet in small groups or for 1:1 instruction are very difficult to come by in the facility. The school facility also lacks dedicated spaces for required services (OT/PT, speech, etc.) to be delivered to students. The school is at capacity for adding additional sub-separate programs, such as CSA (autism) classrooms to provide instruction in the district as opposed to tuitioning CSA students to out-of-district placements.

Please also provide the following:

Cafeteria Seating Capacity: 350

Number of lunch seatings per day: 8

Are modular units currently present on-site and being used for classroom space?: NO

If "YES", indicate the number of years that the modular units have been in use:

Number of Modular Units:

Classroom count in Modular Units:

Seating Capacity of Modular classrooms:

What was the original anticipated useful life in years of the modular units when they were installed?:

Have non-traditional classroom spaces been converted to be used for classroom space?: NO

If "YES", indicate the number of non-traditional classroom spaces in use:

Please provide a description of each non-traditional classroom space, its originally-intended use and how it is currently used (maximum of 1000 characters).:

Please explain any recent changes to the district's educational program, school assignment polices, grade configurations, class size policy, school closures, changes in administrative space, or any other changes that impact the district's enrollment capacity (maximum of 5000 characters). :

As a short-term measure to reduce current class size enrollment at the elementary school grade levels, the Lowell School Committee recently voted to re-open the Rogers School to serve students in grades Pre-K – 2 for the upcoming 2014/15 school year. This is a short-term solution to begin to address overcrowding at the elementary school level, however when this population reaches the 5th grade at the start of the 2016/17 school year, the current middle school configuration (number of classes) will not be able to accommodate the entering 5th grade students.

What are the district's current class size policies (maximum of 500 characters)?:

There are no class size policies, but the preferred class sizes are 20-22 at elementary, 22-24 at middle and under 25 at high school. The preferred school strand sizes are four at elementary schools, six at middle schools and two at Washington, Moody and K-8 schools. To solve the overcrowding issue, and due to the lack of available land, there is a willingness to expand middle schools to eight strand and K-8 to four strand schools with additions.

Priority 7

Question 1: Please provide a detailed description of the programs not currently available due to facility constraints, the state or local requirement for such programs, and the facility limitations precluding the programs from being offered.

With the current overcrowding conditions -- which has intensified the problematic issues with the existing conditions of the buildings related to maintenance, building systems and other larger capital projects -- and the magnitude of the future enrollment projections, and the changing methodologies and space needs necessary to meet 21st century teaching and learning standards, there is a significant shortfall in the current net and gross square footage in the great majority of the Lowell school buildings, including the high school.

Coupled with this is the desire to bring special needs students and their associated programs, back into this school for a better educational environment for the students and teachers. Currently, many special needs students are displaced for partial semesters to one of the alternative or day schools in the city, and are brought back into the mainstream at different intervals throughout the year. This disrupts the educational experience for all the students and contributes to additional and sometimes unplanned overcrowding in classrooms throughout the school year. Additions to this school should include much needed special needs spaces and programs.

The district desires to have21st century-style, flexible spacesfor the development of critical thinking, creative problem solving, independent learning, and student and teacher collaboration at each school. This facility is obsolete and not conducive to 21st century teaching and learning methodologies. These standards in school design include:

Flexible spaces for student collaboration, interaction and creative thinking, such as small seminar, large group and breakout spaces

Adaptable and varied spaces that allow for personalization, differentiated instruction and student choice

Distributed spaces adjacent to classrooms to build student - teacher and teacher - teacher connections, such as teacher planning spaces

Spaces for visibility to experiential and hands on activities or project-based learning, which include places to work and display, such as Fabrication Labs and non-passive learning environments.

The evolution of the Library toMediaCenterto Information Commons to today's series of spaces that form the Learning Commons

Right sized spaces that allow for today's seamless and interactive technology, evolving tools and accessibility needs

Efficient, interdisciplinary layouts to optimize the time and ways we educate our students

Buildings with a sense of place, indoor / outdoor connections, natural daylight and appropriate environmental systems for sustainability and student engagement

And the changing tools and systems required to make secure and safe buildings

The single high school in Lowell, serving grades 9-12 across a sprawling urban campus of buildings, is showing insufficient space in the areas of core academic, vocations and technology and media center, with a clear need for state-of-the-art science and fabrication labs, small and large group seminar, and group work spaces for the students. The current science labs are both under-sized and under- engineered and therefore do not meet state and local standards and codes. At the present time, the current number and configuration of science classrooms/laboratories constrain the staff from providing science programming that meets state and local requirements, including the Common Core initiative. Teacher offices are not integrated into the educational areas making it difficult for interactions between the faculty and students as well as faculty to faculty. There are also student-designated spaces which are oversized based on current MSBA guidelines, such as the physical education and auditorium/ drama spaces, but without further, in-depth, educational programming with the users, a reasonable and probable conclusion is that these spaces fill a much needed role in scheduling and usage throughout the

school day. The considerable size of the student population, a model seen in few other high schools inMassachusetts, will need further discussions with the MSBA. Bringing theFreshmanAcademyinto the folds of the main building in a wing of their own, will provide more safety and security for these students, help develop four year teacher interactions, and provide efficiency in their day to day movement through campus. This HS facility will see a need in the next decade for educating 3,900 students each year as well as provide community-integrated spaces for the City.

Priority 7

Question 2: Please describe the measures the district has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

In April 2013, OMR Architects was hired to prepare a Comprehensive Facilities Assessment and Master Plan which included 29 Lowell school facilities- elementary, middle, PK-8, high, alternative, day and the adult education center. The goals of the study were: 1) Perform a Physical and Programmatic Assessment of the Lowell Public School facilities, and 2) Develop a 10 Year Master Plan for critical maintenance, renovations and additions and/or building replacements.

The facilities assessment and master plan included: reviewing the schools and their relationships within the City of Lowell and their defining neighborhoods; analyzing the existing conditions of all of the facilities (architecture, site, structure, MEP/FP) and providing baseline repair estimates; three educational visioning sessions with school and district administration and educational leaders to set the goals and values for the master plan study; analysis of NESDEC enrollment projections for ten years; educational programming space analysis comparing the existing and projected population and facilities to MSBA guidelines; understanding site availability in Lowell; developing multiple masterplan options and comparing these with cost and value; developing preferred options; and developing a 10 year capital plan for the design and construction work of this report.

The Lowell High School fits into the Masterplan as the Preferred Solution Option 1D/E with a total project cost of $245.4M, not including escalation or land acquisition. This 650,000 GSF solution requires the possession of adjacent land and includes an addition/ demolition/ renovation/ repurposing response to the existing Lowell High School facilities. The same Masterplan includes the Elementary, Middle & K-8 School Preferred Solution of Option 1H with a total project cost of $270M, not including escalation or land acquisition. This solution includes: additions and renovations to Wang, Daley and Robinson Middle Schools to make eight-strand schools serving 792 students each; an addition/ renovation/ conversion of Rogers School to be a four-strand PK-8 facility serving 960 students; a new, four-strand PK-8 facility serving 960 students; and major and minor repairs of 23 other school facilities.

As a short-term measure to reduce current class size enrollment at the elementary school grade levels, the Lowell School Committee recently voted to re-open theRogersSchoolto serve students in grades Pre-K – 2 for the upcoming 2014/15 school year. This is a short-term solution to begin to address overcrowding at the elementary school level, however when this population reaches the 5thgrade at the start of the 2016/17 school year, the current middle school configuration (number of classes) will not be able to accommodate the entering 5thgrade students.

Priority 7

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

An example of the facility deficiency may be observed in Room 314 in the 1922BuildingofLHS, a science lab. There is a working gas with working gas lines. The total square footage of workable the lab space in this room is 480 square ft. Science labs in the 1980BuildingofLHSalso have working gas with working gas lines, however the total square footage of workable the lab space in this room is 661 square ft.

Understand that the number of occupants allowed in the laboratory must be set at a safe level based on building and fire safety codes, size and design of the laboratory teaching facility, chemical/physical/biological hazards, and students" needs (NSTA 2000; Roy 2006). Science classes should have no more than 24 students to allow for adequate supervision during science activities, even if the occupancy load limit might accommodate more (NSTA 2004). It is equally important to ensure adequate workspace for each student. NSTA recommends 60 sq. ft. for each secondary student.

Research data show that accidents rise dramatically as class enrollments exceed 24 students or when inadequate individual workspace is provided (West et al. 2005).

Recommended lab size:

60 sq. ft. x 25 students =1500 sq. ft.

Room 314 at 480 square feet of lab space falls short of NSTA recommendations by1120 sq. ft.

The labs in the 600's at 661 square feet of lab space fall short of NSTA recommendations by 839 square feet (this calculates to 26.5 square feet of workable lab space per student).

ADAcompliance is also an issue.

Another example of facility deficiency may be observed in theLibraryMediaCenter. The library has 110 seats in addition to 25 computer stations in the library and 30 computer stations in the attached computer lab. Due to area constraints only two classes can be in the library at any one time comfortably. The number of classes running each period range from 125 classes to 167.

REQUIRED FORM OF VOTE TO SUBMIT AN SOI

REQUIRED VOTES

If a City or Town, a vote in the following form is required from both the City Council/Board of Aldermen **OR** the Board of Selectmen/equivalent governing body **AND** the School Committee.

If a regional school district, a vote in the following form is required from the Regional School Committee only. FORM OF VOTE Please use the text below to prepare your City's, Town's or District's required vote(s).

FORM OF VOTE

Please use the text below to prepare your City's, Town's or District's required vote(s).

Resolved: Having convened in an open meeting on _____, prior to the closing date, the _____ *[City Council/Board of Aldermen, Board of Selectmen/Equivalent Governing Body/School Committee]* of _____*[City/Town]*, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest dated _____ for the _____*[Name of School]* located at _____*[Address]* which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority in the future

_____

_____

_____

_____

_____

_____; *[Insert a description of the priority(s) checked off on the Statement of Interest Form and a brief description of the deficiency described therein for each priority];* and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City/Town/Regional School District to filing an application for funding with the Massachusetts School Building Authority.

CERTIFICATIONS

The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in this statement of Interest and attached hereto are true and accurate and that this Statement of Interest has been prepared under the direction of the district school committee and the undersigned is duly authorized to submit this Statement of Interest to the Massachusetts School Building Authority. The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the Authority, any additional information relating to this Statement of Interest that may be required by the Authority.

Chief Executive Officer *	**School Committee Chair**	**Superintendent of Schools**
Michael Q. Geary	Rodney M. Elliott	Jean M. Franco
Acting City Manager		
(signature)	(signature)	(signature)
Date	Date	Date

* Local Chief Executive Officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated to the chief executive office under the provisions of a local charter. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.

Massachusetts School Building Authority

Deborah B. Goldberg
Chairman, State Treasurer

John K. McCarthy
Executive Director

November 18, 2015

Mr. Kevin J. Murphy, City Manager
City of Lowell
Lowell City Hall
375 Merrimack Street, Second Floor, Room 43
Lowell, MA 01852

Re: City of Lowell, Lowell High School

Dear Mr. Murphy:

I am pleased to report that the Board of the Massachusetts School Building Authority (the "MSBA") has voted to invite the City of Lowell (the "City") to partner with the MSBA in conducting a Feasibility Study for the Lowell High School. The Board's vote follows the City's timely completion of all of the requirements of the MSBA's Eligibility Period.

I do want to emphasize that this invitation to partner on a Feasibility Study is ***not*** approval of a project, but is strictly an invitation to the City to work with the MSBA to explore potential solutions to the problems that have been identified. Moving forward in the MSBA's process requires collaboration with the MSBA, and communities that "get ahead" of the MSBA without MSBA approval will not be eligible for grant funding. To qualify for any funding from the MSBA, local communities must follow the MSBA's statute, regulations, and policies which require MSBA collaboration and approval at each step of the process.

During the Feasibility Study phase, the City and the MSBA will partner pursuant to the terms of the Feasibility Study Agreement to find the most fiscally responsible and educationally appropriate solution to the problems identified at the Lowell High School. The Feasibility Study, which will be conducted pursuant to the MSBA's regulations and policies, requires the City to work with the MSBA on the procurement of an Owner's Project Manager and Designer, which will help bring the City's Feasibility Study to fruition.

We will be contacting you soon to discuss these next steps in more detail. In the meantime, however, I wanted to share with you the Board's decision and provide a brief overview of what this means for the City of Lowell.

I look forward to continuing to work with you as part of the MSBA's grant program. As always, feel free to contact me or my staff at (617) 720-4466 should you have any questions.

Sincerely,

John K. McCarthy
Executive Director

Cc: Legislative Delegation
The Honorable Rodney M. Elliot, Mayor, City of Lowell
John J. Leahy, Vice Chair, Lowell City Council
Connie Martin, Vice Chair, Lowell School Committee
Dr. Salah E. Khelfaoui, Superintendent, Lowell Public Schools
Joanna Johnson-Collins, Grants Manager, Lowell Public Schools
Brian J. Martin, Headmaster, Lowell High School
File: 10.2 Letters (Region 3)

Massachusetts School Building Authority

Deborah B. Goldberg
Chairman, State Treasurer

John K. McCarthy
Executive Director

October 9, 2015

Mr. Kevin J. Murphy, City Manager
City of Lowell
Lowell City Hall
375 Merrimack Street, Second Floor, Room 43
Lowell, MA 01852

Re: City of Lowell, Lowell High School

Dear Mr. Murphy:

I would like to thank you and your team for meeting with Massachusetts School Building Authority (the "MSBA") staff on October 5, 2015 during which enrollment projections and methodologies were reviewed for Lowell High School (the "Proposed Project") in the City of Lowell (the "District"). As discussed, the next critical step is for the MSBA and the District to agree on the design enrollment for the Lowell High School.

The Lowell High School presently serves the District's entire grade 9-12 enrollment, and accordingly, this analysis will be particularly focused on the enrollment projections for those grades. The table below illustrates the District's K-12 enrollment during the most recent ten year period, including enrollment for the most recent school year (2014-2015) as reported by the Department of Elementary and Secondary Education (the "DESE"). The total grade 9-12 enrollment in Lowell as reported by the District for the 2014-2015 school year was 3,040 students which reflects a decrease of 682 students (-18%) from the grade 9-12 enrollment reported in 2005-2006 which was the maximum grade 9-12 enrollment reported in the preceding ten years. Additionally, the current year's grade 9-12 enrollment reflects a decrease of approximately 307 students (-9%) from the average grade 9-12 enrollment reported during the preceding ten year period.

YEAR	K-5	6-8	9-12	TOTAL
2005	6,374	3,553	3,722	13,649
2006	6,277	3,425	3,711	13,413
2007	6,177	3,303	3,573	13,053
2008	6,286	3,246	3,396	12,928
2009	6,375	3,165	3,290	12,830
2010	6,533	3,186	3,384	13,103
2011	6,578	3,303	3,164	13,045
2012	6,948	3,303	3,112	13,363
2013	7,041	3,343	3,076	13,460
2014	7,133	3,289	3,040	13,462

The MSBA understands that the District is proposing a design enrollment to accommodate approximately 3,900 students in grades 9-12 at the Lowell High School. The enrollment in grades 9-12 reported to the DESE for the 2014-2015 school year at Lowell High School was 3,040 students.

With respect to future enrollments, the MSBA's base enrollment forecast indicates the District's grade 9-12 enrollment will increase through 2020-2021 then decline through 2024-2025. The average grade 9-12 base enrollment forecast for the projected period through the 2024-2025 school year is 3,355 students.

As a result of a sensitivity analysis performed by the MSBA on this base enrollment projection and further discussion with the District, the following adjustments have been made to the base enrollment projection:

- Out-of-District Enrollment
    - In order to adjust for fluctuations to the out-of-district enrollment patterns of the District's residents over time, the MBSA has made an additional adjustment to the base enrollment projection.
    - In order to make this adjustment, the MSBA adjusted the grade to grade survival ratios for grades K-5 by a total of 3.3% throughout a four year period in the projection.
    - This adjustment added approximately 85 students to the average grade 9-12 enrollment as compared to the projection without this adjustment.

- Development
    - Based on the discussions between the District and the MSBA, and the anticipated development information provided by the District, the MSBA enrollment model has been adjusted to use the five-year 75th percentile cohort survival rate for 2015-2016 rather than the five-year average cohort survival rate, which is utilized throughout the base enrollment forecast.
    - This adjustment added approximately 80 students to the average total grade 9-12 enrollment as compared to the projection without this adjustment.

As a result of analysis on the base enrollment projection, the adjustment to the base projection described above, and based on the historical enrollment trends of the District, the MSBA recommends a design enrollment of 3,520 students for the Lowell High School.

The MSBA believes that this design enrollment recommendation will position the District to efficiently meet space capacity needs throughout future enrollment variations. Please sign and return the attached certification within 7 calendar days to confirm agreement on this design enrollment. If the District feels that this design enrollment does not meet the needs of the District, please respond to this letter via e-mail to Sarah Blache and propose three meeting/conference call times for which the District can be available to discuss enrollment.

If you have any questions regarding this matter, please do not hesitate to contact me or Sarah Blache (Sarah.Blache@MassSchoolBuildings.org) at 617-720-4466.

Sincerely,

Mary Pichetti
Director of Capital Planning

Cc: Legislative Delegation
The Honorable Rodney M. Elliot, Mayor, City of Lowell
John J. Leahy, Vice Chair, Lowell City Council
Connie Martin, Vice Chair, Lowell School Committee
Dr. Salah E. Khelfaoui, Superintendent, Lowell Public Schools
Joanna Johnson-Collins, Grants Manager, Lowell Public Schools
Brian J. Martin, Headmaster, Lowell High School
File: 1.2 Enrollment Projections (Region 3)

MASSACHUSETTS SCHOOL BUILDING AUTHORITY
CITY OF LOWELL
LOWELL HIGH SCHOOL
DESIGN ENROLLMENT CERTIFICATION

As a result of a collaborative analysis with the Massachusetts School Building Authority (the "MSBA") of enrollment projections and space capacity needs for the proposed project at the Lowell High School, the City of Lowell hereby acknowledges and agrees that the design of the proposed project at the Lowell School shall be based on an enrollment of no more than 3,520 students in grades 9-12. The City of Lowell further acknowledges and agrees that, pursuant to 963 CMR 2.00 *et seq.*, the MSBA shall determine the square feet per student space allowance and total square footage for a high school serving 3,520 students in grades 9-12. The City of Lowell acknowledges and agrees that it has no right or entitlement to any particular design enrollment, square feet per student space allowance, or total square footage and that it has no right or entitlement to a design enrollment any greater than 3,520 students for the Lowell High School, and further acknowledges and agrees that it shall not bring any claim or action, legal or equitable, against the MSBA, or any of its officers or employees, for the purpose of obtaining an increase in the design enrollment of the Lowell High School that it has acknowledged and agreed to herein. The City of Lowell further acknowledges and agrees that, among other things, the design enrollment, square feet per student space allowance, and total square footage of the Lowell High School shall be subject to the approval of the MSBA's Board and that the final approval of a proposed project at the Lowell High School shall be within the sole discretion of the MSBA's Board.

The undersigned, for themselves and the City of Lowell, hereby certify that they have read and understand the contents of this Design Enrollment Certification and that each of the above statements is true, complete and accurate. The undersigned also hereby certify that they have been duly authorized by the appropriate governmental body to execute this Certification on behalf of the City of Lowell and to bind the City of Lowell to its terms.

Chief Executive Officer

10/13/15
Date

Duly Authorized Representative of School Committee

10/14/15
Date

Superintendent of Schools

10/15/15
Date

Lowell High School Directory and Contacts

Title	Name	SBC Voting Member	Address	Phone Number
State Delegation				
Senator	Eileen Donoghue	No	State House Rm 112 Boston, MA 02133	617-722-1630
State Representative	David Nangle	No	State House Rm 146 Boston, MA 02133	617-722-2575
State Representative	Thomas Golden	No	State House Rm 473B Boston, MA 02133	617-722-2263
State Representative	Rady Mom	Yes	State House Rm 443 Boston, MA 02133	617-722-2460
City Councilors				
Mayor	Edward Kennedy	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
Vice Chair	Daniel Rourke	No	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	Corey Belanger	No	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	Rodney Elliott	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	John Leahy	No	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	James Leary	No	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	Rita Mercier	No	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	James Milinazzo	No	375 Merrimack St Lowell MA 01852	978-674-4040

Councilor	William Samaras	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
City Administration				
City Manager, Chairman SBC	Kevin Murphy	Yes	375 Merrimack St., Room 43 Lowell, MA 01852	978-674-4400
Assistant City Manager	Michael McGovern	No	375 Merrimack St. , Room 43 Lowell, MA 01852	978-674-4400
School Building Committee				
City Manager, Chairman SBC	Kevin Murphy	Yes	375 Merrimack St., Room 43 Lowell, MA 01852	978-674-4400
Mayor , School Committee Member	Edward Kennedy	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
Councilor	Rodney Elliott	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
Chief Procurement Officer (MCPPO Certified)	Mike Vaughn	Yes	375 Merrimack St., Room 60 Lowell, MA 01852	978-674-4110
School Committee Member	Steve Gendron	Yes	20 Clark Road, Lowell MA 01852	978-458-8388
Superintendent of Schools	Salah Khelfaoui	Yes	155 Merrimack St., Lowell MA 01852	978-674-4324
Director of Maintenance and Facilities - School Dept.	Richard Underwood	Yes	155 Merrimack St., Lowell MA 01852	978-674-4325
Head of Schools	Brian Martin	Yes	50 Father Morrissette Blvd., Lowell MA 01852	978-937-8901
School Business Administrator	Gary Frisch	Yes	155 Merrimack St., Lowell MA 01852	978-674-2019

Former Supt. Schools	George Tsapatsaris	Yes	375 Merrimack St., Room 43 Lowell, MA 01852	978-453-9094
Chief Financial Officer	Conor Baldwin	Yes	375 Merrimack St., Room 43 Lowell, MA 01852	978-674-4400
Engineer	David Beati	Yes	375 Merrimack St., Room 43 Lowell, MA 01852	978-604-5576
City Engineer	Lisa DeMeo	Yes	375 Merrimack St., Room 61 Lowell, MA 01852	978-674-4070
Executive Director of the Lowell Plan	James Cook	Yes	660 Suffolk St., Suite 120 Lowell, MA 01854	978-459-9899
Councilor, Former LHS Headmaster	William Samaras	Yes	375 Merrimack St., Room 60 Lowell, MA 01852	978-674-4040
Financial Consultant	Robert Healy	Yes	375 Merrimack St. Room 43 Lowell, MA 01852	978-647-4400
State Representative	Rady Mom	Yes	State House, Room 443, Boston, MA 02133	617-722-2460
Director of Public Safety R&D	Maryann Ballotta	Yes	50 Arcand Drive Lowell, MA 01852	978-674-3200
ACS Lowell- AIA, LEED AP, Principal	Jay Mason	Yes	77 Tyler Park Lowell, MA 01851	978-459-2004
School Committee				
Mayor	Edward Kennedy	Yes	375 Merrimack St Lowell MA 01852	978-674-4040
School Committee Member	Andre Descoteaux	No	110 Stafford Road, Lowell MA 01852	978-761-4194

School Committee Member	Jackie Doherty	No	77 Tyler Park, Lowell MA 01851	978-459-0004
School Committee Member	Steve Gendron	Yes	20 Clark Road, Lowell MA 01852	978-458-8388
School Committee Member	Robert Gignac	No	91 Llewellyn Street, Lowell MA 01850	978-551-2899
School Committee Member	Robert Hoey Jr.	No	67 Stratham Street, Lowell MA 01852	978-758-1565
School Committee Member	Connie Martin	No	17 Summit Street, Lowell MA 01852	978-934-9012
City Clerk				
City Clerk	Mike Geary	No	375 Merrimack St Lowell MA 01852	978-674-4161
OPM: Skanska USA Inc.				
Project Executive	Dale Caldwell	Skanska USA Building, Inc.	101 Seaport Blvd. Suite 200, Boston, MA 02210	617-201-0976
Sr. Program Manager	Jim Dowd	Skanska USA Building, Inc.	101 Seaport Blvd. Suite 200, Boston, MA 02210	617-593-5352
Program Executive	Mary Ann Williams	Skanska USA Building, Inc.	101 Seaport Blvd. Suite 200, Boston, MA 02210	617-293-6869
Design Team Members				
Architecture: Principal-in-Charge Senior Project Manager	Joseph Drown, AIA, MCPPO, PIC	Perkins Eastman Architects	20 Ashburton Place, Floor 8, Boston, MA 02108	617-712-2107
Architecture: Project Manager	Alicia Caritano, AIA, LEED AP	Perkins Eastman Architects	20 Ashburton Place, Floor 8, Boston, MA 02108	617-449-4001
Architecture: Educational Programmer	Bob Bell, AIA, ALEP, CPTEO, LEED AP BD+C	Perkins Eastman Architects	20 Ashburton Place, Floor 8, Boston, MA 02108	617-712-2115

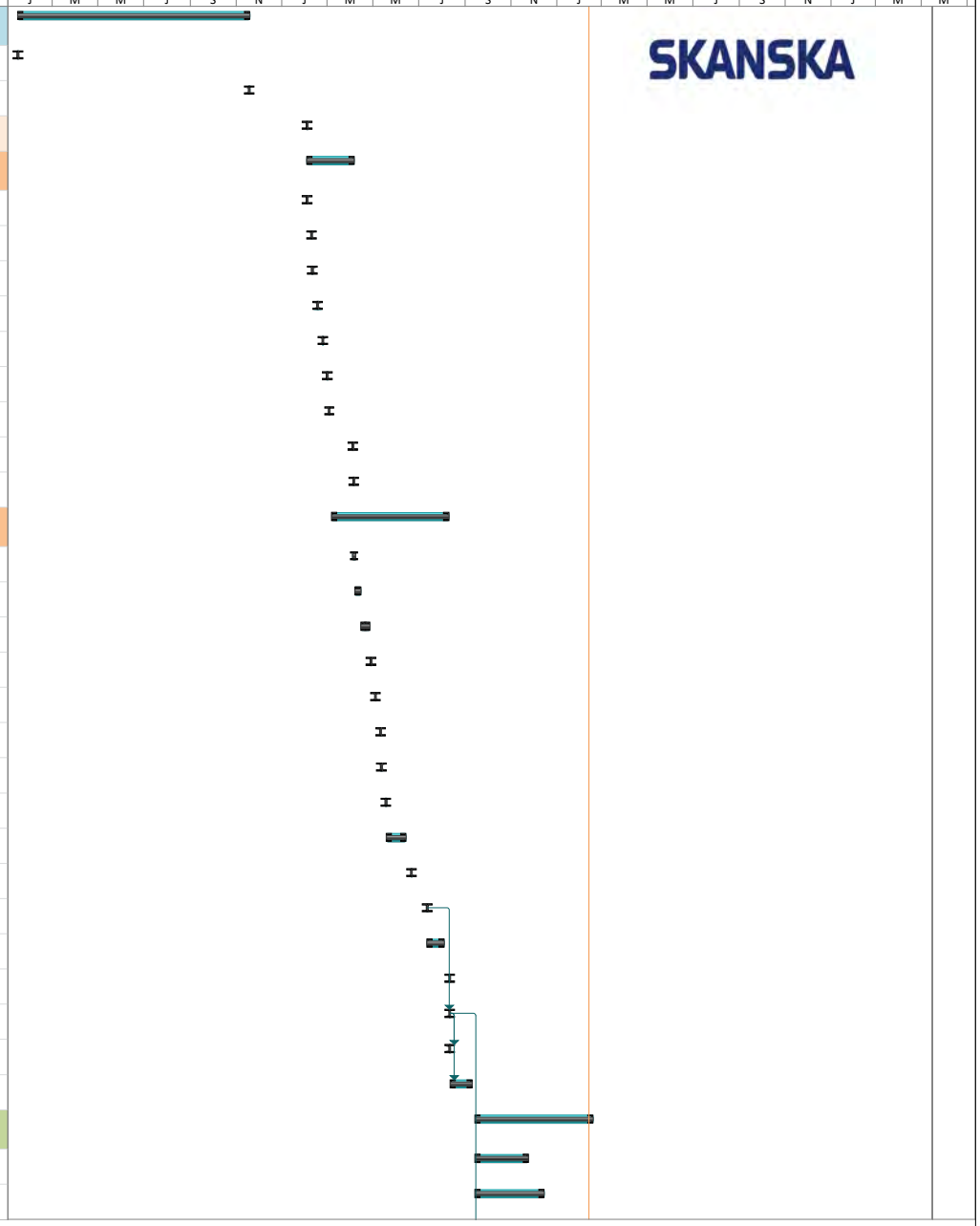
Acoustics	Lincoln B. Berry	Cavanaugh Tocci	327 Boston Post Road, Sudbury, MA 01776	978-443-7871
Audio Visual	Alexander Bagnell	Cavanaugh Tocci	327 Boston Post Road, Sudbury, MA 01776	978-443-7871
Civil Engineering and Environmental Permitting: Project Manager	William R. Maher, PE	Nitsch Engineering	2 Center Plaza, Suite 430, Boston, MA 02108	617-338-0063
Civil Engineering and Environmental Permitting	Gary Pease, PIC	Nitsch Engineering	2 Center Plaza, Suite 430, Boston, MA 02108	617-338-0063
Code and Accessibility	Kevin S. Hastings, PE, LEED AP	R. W. Sullivan	529 Main Street, Suite 203, Boston, MA 02129	617-523-8227
Cost Estimating: Principal, Chief Estimator	Robert J. Goodie	Essential Estimating	241 Boston Post Road West, 1st Floor, Marlborough, MA 01752	508-885-1313
Educational Visioning: Principal	David Stephen	New Vista Design	32 Sheridan Street, Jamaica Plain, MA 02130	617-477-4660
Furniture, Fixtures, Equipment; Laboratory; Library/Media: Principal	Peter S. Constable	Point-Line-Space	75 Lowell Street, Carlisle, MA 01741	617-314-7501
Fire Protection and Plumbing	Frank Stramaglia	VAV International	400 West Cumming Park S. 4700, Woburn, MA 01801	781-935-7228
Food Service/Kitchen: President	John Sousa	Crabtree McGrath	161 West Main Street, Georgetown, MA 01833	978-352-8500
Geoenvironmental Engineering: Project Manager	Steve Vetere, PE, CEM, LSP, LEP	Nobis Engineering, Inc.	585 Middlesex Street, Lowell, MA 01851	978-683-0891
Hazardous Materials	Ammar M. Dieb	Universal Environmental Consultants	12 Brewster Rd, Framingham, MA 01702	508-628-5486

Historic Preservation: Director	Lisa Howe	BCA Building Conservation Associates, Inc.	10 Langley Road, Suite 202, Newton Centre, MA 02459	617-916-5661
Historic Preservation	Alicia Swenson	BCA Building Conservation Associates, Inc.	10 Langley Road, Suite 202, Newton Centre, MA 02459	617-916-5661
Landscape Architecture: Principal	Kris M. Bradner	Birchwood Design Group	150 Chestnut Street, 4th Floor, Providence, RI 02903	401-383-4950
Landscape Architecture: Associate Principal	Ashley Iannuccilli Collion	Birchwood Design Group	150 Chestnut Street, 4th Floor, Providence, RI 02903	401-383-4950
Electrical, Data / Communications: Principal	Carlos G. DeSousa, PE, MCPPO	Garcia, Galuska, DeSousa, Inc.	370 Faunce Corner Road, Dartmouth, MA 02747	508-998-5700
Mechanical: Principal	Dominic B. Puniello, PE, CEM, LEED AP	Garcia, Galuska, DeSousa, Inc.	370 Faunce Corner Road, Dartmouth, MA 02747	508-998-5700
Security: Director	Matthew Williams	TSG Solutions, Inc.	300 Congress Street, Suite 309, Quincy, MA 02169	760-827-7087
Security	Amanda Botelho	TSG Solutions, Inc.	300 Congress Street, Suite 309, Quincy, MA 02169	760-827-7087
Site Surveying: Senior Project Manager	Alex Diotte	Nitsch Engineering	2 Center Plaza, Suite 430, Boston, MA 02108	617-338-0063
Structural Engineering: Principal-in-Charge	Jonathan C. Buhl	Foley Buhl Roberts & Associates, Inc.	2150 Washington Street, Newton, MA 02462	617-527-9600
Structural Engineering: Project Engineer	Colleen E. Kohl	Foley Buhl Roberts & Associates, Inc.	2150 Washington Street, Newton, MA 02462	617-527-9600
Traffic	Todd Brayton, PE	Bryant Associates	640 George Washington Highway, Bldg.	617- 248-0300

			C, Suite 100, Lincoln, RI 02865	
Traffic	Elizabeth Lavoie, PE	Bryant Associates	640 George Washington Highway, Bldg. C, Suite 100, Lincoln, RI 02865	617-248-0300

LOWELL HIGH SCHOOL

ID	Task Name	Start	Finish
1	**Module 1 - Eligibility Period Activity**	**Wed 1/14/15**	**Wed 11/18/15**
2	Invite to Eligibility Period	Wed 1/14/15	Wed 1/14/15
3	Invite to Feasibility Study	Wed 11/18/15	Wed 11/18/15
4	Module 2 - Forming the Project Team	Wed 2/3/16	Wed 2/3/16
5	**Owners Project Manager Selection**	**Wed 2/3/16**	**Tue 4/5/16**
6	RFS Ad Appears	Wed 2/3/16	Wed 2/3/16
7	Informational Meeting and Site Visit for OPM	Tue 2/9/16	Tue 2/9/16
8	Last Day for Questions from Respondents	Wed 2/10/16	Wed 2/10/16
9	Responses Due	Wed 2/17/16	Wed 2/17/16
10	Respondents Shortlisted	Wed 2/24/16	Wed 2/24/16
11	Interview Short-listed Respondents	Tue 3/1/16	Tue 3/1/16
12	Negotiate w/selected Respondent	Thu 3/3/16	Fri 3/4/16
13	MSBA Owner's Project Manager Review Panel	Mon 4/4/16	Mon 4/4/16
14	Execute OPM Contract	Tue 4/5/16	Tue 4/5/16
15	**Designer Selection**	**Mon 3/7/16**	**Tue 8/9/16**
16	Develop Designer RFS	Mon 4/4/16	Thu 4/7/16
17	Review Draft Designer RFS with Legal Counsel and SBC	Thu 4/7/16	Thu 4/14/16
18	Submit Redline Draft to MSBA for Review - Allow up to 10 Days	Fri 4/15/16	Tue 4/26/16
19	RFS Advertisement to Central Register, Newspaper, etc.	Thu 4/28/16	Thu 4/28/16
20	RFS Ad Appears	Wed 5/4/16	Wed 5/4/16
21	Informational Meeting and Site Visit for Designers	Wed 5/11/16	Wed 5/11/16
22	Last Day for Questions from Respondents	Thu 5/12/16	Thu 5/12/16
23	Designer Application Response Due	Wed 5/18/16	Wed 5/18/16
24	Applications to MSBA - Allow up to 4 Weeks for MSBA Review	Thu 5/19/16	Mon 6/13/16
25	DSP Meeting Date	Tue 6/21/16	Tue 6/21/16
26	DSP Interviews - Designer Selected June 21, 2016	Tue 7/12/16	Tue 7/12/16
27	Review Designer Fee and Contract / Negotiations	Tue 7/12/16	Wed 8/3/16
28	SBC - Approval of Designer Fee Proposal and Contract	Thu 8/11/16	Thu 8/11/16
29	Designer Contract Executed	Thu 8/11/16	Thu 8/11/16
30	Designer Contract Received by MSBA	Thu 8/11/16	Thu 8/11/16
31	OPM submit workplan within 21 Days Designer Contract	Fri 8/12/16	Fri 9/9/16
32	**Preliminary Design Program (Module 3.1)**	**Wed 9/14/16**	**Fri 2/17/17**
33	Educational Planner: Visioning Sessions	Wed 9/14/16	Wed 11/23/16
34	PDP Submittal Development	Wed 9/14/16	Wed 12/14/16

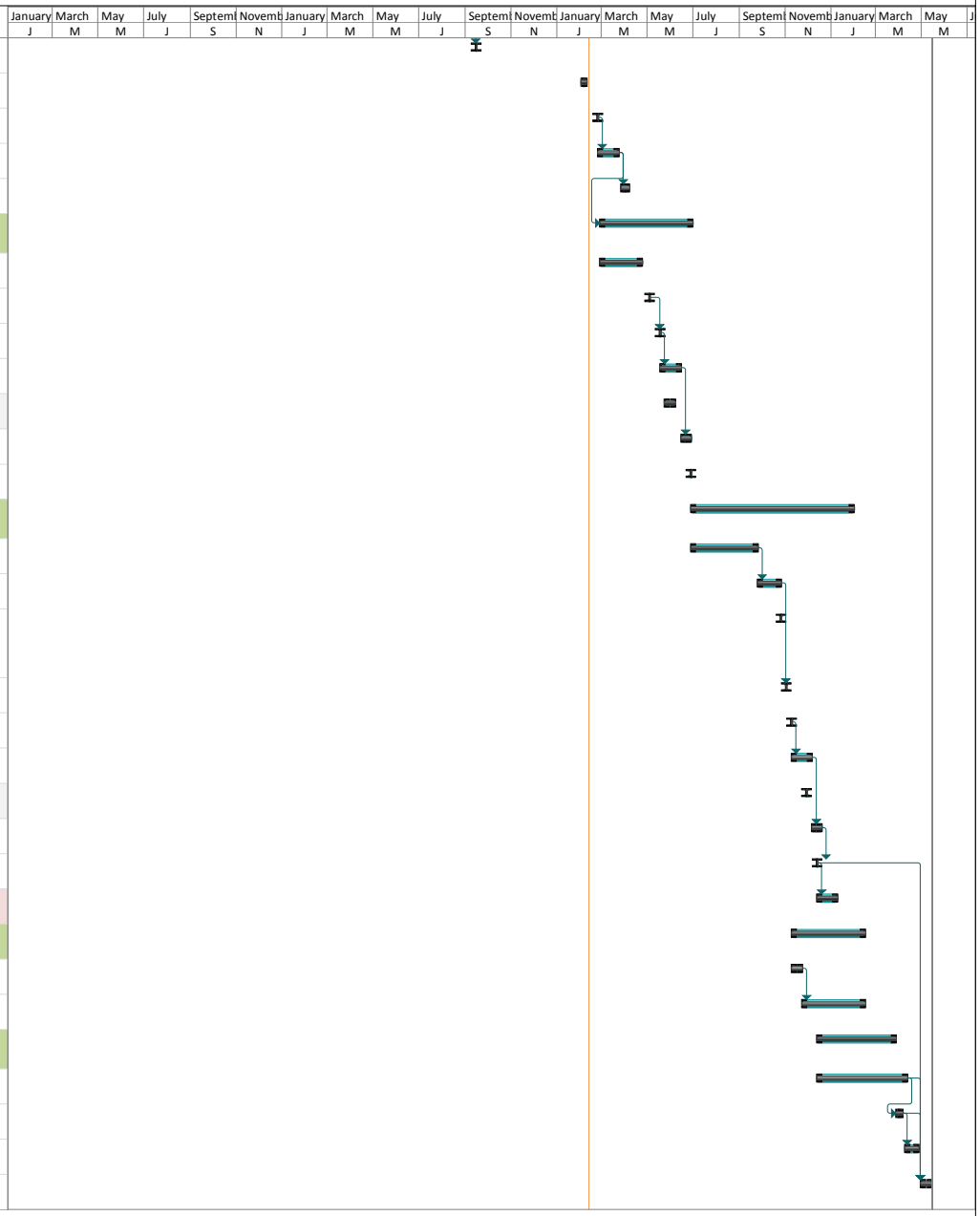


Project: Lowell High School
Date: Mon 2/13/17

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

LOWELL HIGH SCHOOL

ID	Task Name	Start	Finish
35	Kick-off Meeting	Thu 9/15/16	Thu 9/15/16
36	SBC/SC - Approval of PDP	Thu 2/2/17	Thu 2/9/17
37	PDP Submittal Date to MSBA (At least 8 weeks before PSR date)	Fri 2/24/17	Fri 2/24/17
38	MSBA Review of PDP	Fri 2/24/17	Fri 3/24/17
39	Address PDP Comments (14 Days to Respond)	Mon 3/27/17	Fri 4/7/17
40	Preferred Schematic Report (Module 3.2)	Mon 2/27/17	Fri 6/30/17
41	PSR Submittal Development	Mon 2/27/17	Mon 4/24/17
42	SBC/SC - Approval of Project Schematic Report	Thu 5/4/17	Thu 5/4/17
43	PSR Submittal Date to MSBA (No fewer than 8 weeks after PDP)	Thu 5/18/17	Thu 5/18/17
44	MSBA Review of PSR	Thu 5/18/17	Thu 6/15/17
45	Facility Assessment Subcommittee (FAS) Meeting May 24 or June 7	Wed 5/24/17	Wed 6/7/17
46	Address PSR Comments	Thu 6/15/17	Wed 6/28/17
47	MSBA Board Meeting - PSR Approval	Wed 6/28/17	Wed 6/28/17
48	Schematic Design (Module 4)	Wed 6/28/17	Wed 1/31/18
49	Schematic Design (SD) – 13 weeks to get documents to Estimators	Wed 6/28/17	Mon 9/25/17
50	Cost Estimate/Reconciliation/VE if Required	Mon 9/25/17	Thu 10/26/17
51	SD Notification Email Sent to MSBA (10 Days Prior to SD Submission)	Thu 10/26/17	Thu 10/26/17
52	SBC/SC Approval of Schematic Design & Budget	Thu 11/2/17	Thu 11/2/17
53	SD Submittal Date to MSBA	Thu 11/9/17	Thu 11/9/17
54	MSBA SD Review	Thu 11/9/17	Wed 12/6/17
55	Facility Assessment Subcommittee (FAS) Meeting November 29	Wed 11/29/17	Wed 11/29/17
56	Address SD Comments	Wed 12/6/17	Tue 12/19/17
57	MSBA Board Meeting - PS&B Approval	Wed 12/13/17	Wed 12/13/17
58	PS&B Agreement Executed	Wed 12/13/17	Tue 1/9/18
59	DESE Review	Thu 11/9/17	Thu 2/15/18
60	MSBA Review of DESE Submittal	Thu 11/9/17	Thu 11/23/17
61	DESE Review and Approval	Thu 11/23/17	Thu 2/15/18
62	Project Funding Appropriation (Module 5)	Wed 12/13/17	Wed 3/28/18
63	City Approval/District Vote Ballot Quest.120 Days if Required	Wed 12/13/17	Thu 4/12/18
64	Certificate of Vote Sent to the MSBA	Wed 3/28/18	Fri 4/6/18
65	Project Funding Agreement Sent	Mon 4/9/18	Fri 4/27/18
66	Project Funding Agreement Executed	Mon 4/30/18	Tue 5/15/18



Project: Lowell High School
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Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress

Educational Visioning Workshop Overview and Notes

During October and November of 2016, the Lowell High School Educational Working Group (EWG), a group of approximately 50 Lowell Area Schools (LAS) administrative leaders, and Lowell High School (LHS) teachers, administrators, students, parents, and community partners, participated in three Educational Visioning Workshops run by New Vista Design and Perkins Eastman. Each workshop was a collaborative session designed to inform the LHS design process. Participants were led through a step-by-step visioning process aimed at capturing their best thinking about LAS's/LHS's current and future educational goals and priorities, and connecting them to best practices and possibilities in innovative school facility design.

On **October 14, 2016**, the Lowell High School EWG participated in the first Educational Visioning Workshop.
The four- hour workshop explored the following topics:

- **Priority Goals** for the renovated/new facility
- **21st century teaching and learning practices** that are being influenced by digital technology and our changing economy
- **Strengths, Challenges, Opportunities, and Goals (SCOG Analysis)** associated with Lowell High School's current academic program as well as the vision for its new facility
- **21st Century Learning Goals** that distill the group's best thinking with regard to Lowell High School's current and future educational programming and priorities

On **November 1, 2016**, the Lowell High School EWG participated in the second Educational Visioning Workshop.
The four-hour workshop explored the following topics:

- **21st Century Design Patterns 1.0** that innovative schools throughout the country have put into practice in order to make their forward-thinking learning goals come alive on the level of facility design
- **Guiding Principles 1.0** for design of the renovated/new facility

On **November 17, 2016**, the Lowell High School EWG participated in the third Educational Visioning Workshop.
The four-hour workshop explored the following topics:

- **Blue Sky Ideas** for the renovated/new facility
- **Key Spaces and Adjacencies** for the renovated/new facility
- **Bubble and Adjacency Diagramming** for the renovated/new facility

The following pages offer a summary of notes taken and information gathered during each workshop. If you would like to add comments or ideas to this evolving narrative please contact Dr. Roxanne Howe at rhowe@lowell.k12.ma.us .

Agendas for each of the three workshops can be found at the end of this document.

Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

Priority Goals

The following list of priority goals for the design of the new and/or renovated Lowell High School was recorded during the participant introduction section of the Educational Working Group's (EWG) Workshop One, with each participant offering one priority goal. The EWG is a group of approximately 50 participants that includes Lowell Area Schools leadership, as well as school administrators, teachers, students, parents and community partners. The following priorities have been grouped by the themes they touch upon.



- Meets needs of whole child
- Fosters collaboration
- Builds community
- Welcoming environment for students and teachers
- Joyful environment
- Multiple spaces to celebrate student work and achievement
- Education as transformational act
- Engagement of all stakeholders
- A dynamic K-PHD environment
- Handle capacity – if you build they will come
- Multi-purpose – and multi-functional
- 21 century learning spaces
- Attractive
- Lasting curb appeal
- High quality programming
- Maintain 3 clusters
- Maintain Freshman Academy
- Historic context
- Buildings that integrate into the community
- Aligned new construction and old building
- More welcoming and updated first impressions are important
- Access to the Lowell community (i.e. restaurants, businesses, cultural institutions)
- A campus feel / access for ALL
- A common space for departments to meet and collaborate
- Breakout rooms for project-based learning and differentiated instruction
- Flexible and adaptable learning spaces that foster collaboration and community
- Flexible classrooms and furniture
- Classrooms with robust and consistent technology
- Explore grade level and departmental organization
- Redundant infrastructure
- Integrated technology / evolving
- Data center – real world data training
- Good IT bandwidth and storage
- Every classroom – interactive with integral projector – integral
- Real world integration of subjects such as Science and English
- Community integration in real world way – UMass Lowell / Park
- New school as part of National Park and vice-versa – contextual
- Integration with National Park

- Multiple dining options (school garden as part of curriculum)
- Space to create food
- Thinks about students' wellness / ergonomics
- Inter-departmental collaboration
- Facilitates collaboration within departments
- Synergy (including Fine Arts programs, TV and Media adjacencies)
- Spaces that inspire pride and excitement in staff and students
- Sustainability
- Clean energy
- Natural light – windows
- LEED certified – form follows function / PYS – PSYCH
- Hybrid labs
- Clean energy
- Sustainability – LEED
- Training areas for Life Skills – common and accessible (kitchen/home/bathrooms)
- Designed for 20-50 years / cost efficient $250m /100m!
- Be forward-thinking and mindful of security
- Industry best practices – auto lock doors / vestibule
- Safe building – more space for movement
- Safety – up to code – lock down
- Safe and comfortable
- Safety issues around Trolley
- Access control (40 doors nightmare)
- School safety
- School safety – address difficulties and challenges
- Feel safe
- Handicap access
- More bathrooms
- Gender neutral bathroom
- Maintain and upgrade auditorium
- A lot more space / areas dedicated to departments
- Space dedicated to 400 ROTC cadets
- ROTC space(s)
- More common areas interior and exterior
- Quiet and contemplative spaces
- Improved hallway traffic
- Upgrades to auditorium – box office / handicap seating
- Science wing – with research facility (belong HS)
- Library with multiple uses and functions, and supportive of collaboration
- Tunnels inadequate
- Traffic flow
- Daycare for student's children
- Student support service office



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

Essential and Cutting Edge LHS Programs

The following list of essential and cutting edge programs at Lowell High School was brainstormed by the Educational Working Group's (EWG).

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An increasing number of co-taught classrooms:

- General Ed and Special Education Teachers in 7 classrooms
- Share responsibilities
- Gives both sets of students collaborative
- Teamwork experiences

Activities outside the classroom include:

- Internships
- Field studies
- Authentic contexts

Community involvement – both ways

- I.e. Jeanne D'Arc Credit Union

New Programs Include:

- Generation citizen – action citizenship
  - Students interact with local businesses to solve community problems
- Tsongas Industrial History Center talks
  - Living history
- Engineering
  - Project Lead the Way
  - PBL – 21st century learning and collaboration

Cultural Diversity

- ELL and Refugees
  - From competency to absorption to diffusion
  - Insight health clinic +/- 1/3 students
  - Food programs
  - International Institute

Lowell Latin Lyceum

- A gifted and talented program with fewer than 200 students
- Test-in / application
- Cohort model – for 4 years
- All core subjects for first two years
- In Senior year just English

Freshman Academy

- Important transition
- 8 core teachers > 200 students
- 3 teams of 8 core teachers

Enrichment Programming

- Fine and performing arts
- Student activities (clubs and student government)
- Athletic programs

STEM Program

- Engineering
- Maker Space – opened last year
- 9th grade revamp
- NGSS – science
- Clean Energy Pathway
- Offer science in pathways
- 120+ students
- Integral course offerings

Essential and Cutting Edge LHS Programs (continued)

Downtown Lowell Activities

- The Merrimack River
- Boarding House Park
- City Hall
- Monuments
- Volunteer work at Lowell National Historical Park
- School store (expanded location in downtown)
- Sports activities and clubs
  - Crew
- Important transportation links

University Partnerships

- Dual enrollment partnerships (Junior and Senior year)
  - Middlesex Community College (MCC) partnership
  - University of Mass Lowell (UML) partnership

Junior Reserve Officer Training Corp (JROTC)

- Grades 9-12
- Sense of belonging
- Ell / SPED / LYCEUM students
- Leadership, integrity, competitiveness

Diversity of Curriculum

- Variety of programs meet student needs and inspire student interest and engagement
- Advanced Placement courses
- Cultural diversity and awareness – flags / programs
- Need to add more languages
- Assist student in priority setting and time management

Vocational Offerings

- Culinary
- Bank
- TV Communications
- Job prep for special needs students
- Local business
- Aiming to meet the needs of the 10-15% of students who will not go on to college

Explore notion of "pathways"

- Course selection
- Capstone projects
- Intern / extern program

College and Career Center

- Naviance (college & careers)
- Part-time work resource
- Resume building

Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

21st Century Learning Goals 1.0

The following set of priority "21st Century Learning Goals" for Lowell High School students was developed by the Educational Working Group (EWG). Seven teams of six participants worked to create their own set of learning goals, after which each team presented to the larger group. Participants were then given the opportunity to prioritize their top learning goals. Each team's list has been grouped by like goals, which are listed in order of the priority votes they received, with each learning goal starting with 6 votes (based on their initial selection) and earning one additional vote for each red dot that it received from group members during the subsequent larger group priority voting process.



- **Empathy, Global Perspective and Civic Engagement** (135 votes)
  - Cultural Awareness
  - Productive Social Interactions
  - Awareness of Community and Global Society
- **Complex Communication** (86 votes)
  - Oral, Written and Digital
  - Digital Competence
- **Joy, Curiosity and Imagination** (73 votes)
  - Creativity
  - Inventive Thinking
- **Critical Thinking and Problem Solving** (69 votes)
  - Critical Reasoning
- **Agility, Adaptability and Risk Taking** (60 votes)
  - Academic Mindset
  - Integrating and Applying Learned Material in All Subjects
  - Personal, Social and Civic Responsibility
  - Multi-Cultural Literacy
- **Real World Interconnectivity** (53 votes)
  - Career Preparation
  - Real World Collaboration
  - Vocational Opportunities
- **Teaming and Collaboration** (47 votes)
  - Collaborative Learning
  - Teamwork
  - Interpersonal Skills
- **Holistic Awareness** (24 votes)
  - Self-Advocacy
  - Wellness
  - The Natural World

Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis

The Educational Working Group (EWG) conducted a "SCOG Analysis" of what it sees as the current strengths, challenges, opportunities and goals with regard to Easthampton Public School's elementary and middle school academic programs and facilities. The EWG is a group of approximately 35 participants that includes Easthampton Public School's leadership, as well as school administrators, teachers, students, parents and community partners.
The following is a compilation of participants' responses and ideas.

STRENGTHS

- Students
- Staff
- Workforce (administration, custodial, health, faculty)
- Community partnerships
- Location (access, connections, academic/business/comm./transportation)
- Academic arc – physical links
- TLT (that Lowell thing)
  "the school is the city / city is the school"
  - Gateway city
  - Belief in public education
  - Vibrant middle class
- School history
- One school community / 2 day schools connected
- Services
- Multi-cultural (diversity)
- Academic choice
- Student support services
- College and Career Center
- Dual enrollment
- Partnerships
- Sense of belonging
- Curricular evolving
- Working with what we have
- Tutoring (can do work before and after school)
- House model
- Extended day hours
- Extra-curricular hours
- Extra-curricular activities
- Scheduling (student-driven)
- Outside agencies
- Co-taught classes
- Breakfast and lunch (free) mobility
- Parking garage
- ASPEN portal + Naviance
- Student involvement
- Advisory time



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis (continued)

CHALLENGES

- Rapidity of technology & cultural change
- Multiple buildings & divides
- Physical conditions … including technology
- Universal design
- Paring (note pay at garage / backups & limited availability)
- Scale of student / teacher
- Diversity / equity
- Schedule (lunch driven) doesn't max student time or account for passing time
- Scheduling
- Number of students vs. space
- Diversity within staff
- Transitional planning for students
- Equity in technology in school
- Lack of technology at home
- Adapting curriculum as technology changes
- Maintaining healthy lifestyle and balance with academics / activities / work
- Parental pressures
- Parental involvement
- Lack of opportunities for movement
- Cultural competence
- Lack of green space
- Students drug and alcohol involvement
- Getting outside agencies into building
- Parking
- More space for tutoring/time to use classrooms
- Use of advisory
- Communication with students
- Size staffing and maintaining communication
- Alternate scheduling
- Website not as user friendly as could be
- Limited time to address multiple needs
- Lunch time schedule
- Lack of time to collaborate
- Current traditional schedule
- Workable classroom spaces / storage space
- Lack of places to display work
- Consistency in houses (house model)
- Extended day coverage/ supervision/ safety
- Lack of marketing/ telling our story
- Antiquated phone system / interior rooms
- Building navigating
- Relationships with students + teacher
- Differentiation – more student voice & choice



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis (continued)

OPPORTUNITIES

- Blank slate (starting project)
- Students
- Constant renewal (people) & continuity of community
- Constant expansion of partnerships
- Create national model (civic, cultural, engagement, global classroom)
- Head & hand / service learning
- More community partnerships into school
- Ability to gather broad and diverse input on school design
- Community involvement / partnerships
- Cultural competency
- Green space
- New layout could provide increased space for
  - Health and wellness center
  - Parent space
  - 3 lunch model
- Time and space for collaboration
- Create more workable classroom space
- An opportunity to think outside the box
- Increase the reputation of LHS and LHS students
- Marketing
- How we can better expand opportunities with the city businesses
- Differentiation for all students and learning styles
- Self examination
- Go green
- Increase collaborative student working spaces – peer work/tutoring
- Classroom set up (a shared space) will encourage collaboration
- Communication with students
- Alternate scheduling
- Website can be used to communicate out
- Increase opportunities for student engagement in activities (Pep Rally's events)



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis (continued)

GOALS

- Equity in supporting whole students
- Minimize educational disruptions
- Flexible / adaptable space
- Transformative renovation (capture great existing space)
- Aesthetic belonging / purpose and functional belonging
- Holistic design
- Visible learning (showcase success and hard work of students)
- Supports experiential learning
- Self directed learning
- Student voice and choice
- Partnerships with community
- Diversity in staff
- Technology equity school / home
- Adapting the curriculum
- Community partnerships/ Family Involvement Center
- Cultural competency
- Green space
- Wellness Center
- Collaboration time
- Workable classroom spaces/storage
- Exhibition spaces
- Extended communal spaces / day
- Positive marketing and visibility
- Way-finding system
- Lunch modification
- Expand co-taught classrooms
- "Go Green"
- Relevance
- Student involvement in policy/planning
- Homework and tutoring during class time
- Common space for students
- Use of advisory
- Communication with advisory/students
- More school spirit/ build morale / positive culture



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

Visions for the Evolution of Lowell High School

Before leaving Workshop One, each Educational Working Group member was asked to describe one way in which they would like to see the LHS educational program evolve as it moves into the future with its new and/or renovated facility. Following are workshop participant's responses.

- I would like to see LHS evolve to be truly student-centered, with teachers differentiating and facilitating learning, and students willingly taking more responsibility for their own learning –in all the ways it can occur (direct instruction and project based activities and outside (real world) collaborations, etc.)
- I would like to see LHS have a more welcoming and "user friendly" student support services office and have it as the "Hub" of the school entrance. It would create a sense of what LHS is all about and what it has to offer.
- I would like LHS to use this new facility to become a model of urban education for the Nation. With our diversity and partnerships, I truly believe this CAN happen!!!
- I would like to see the program evolve to make sure all students -ELL, SPED, Latin Lyceum, High Honors, Honors but especially our college level, all leave LHS with purpose! That we not only teach academic skills but also life skills so that all will be productive members of society.
- I would like to see the HS break the traditional model and move more to a college/campus model. Specifically I would like to see Fine Arts finally have a center.
- I would like to see a university model, where like-minded courses can collaborate and provide integrated opportunities for students.
- Have new construction better relate to the surrounding context in a contemporary but sensitive way (unlike the existing 1981 building).
- One way I would like to see LHS evolve is to see an increase of technology that can be accessible to every single class and every single student in the school.
- I would like the new space to flow in a manner that will help the students learn and the teachers instruct.
- New buildings should be appropriate to the context of the historic district.
- Opportunity for retail and restaurant to face canal and maybe include outdoor dining.
- I would like to see a better environment at LHS. Limited number of classes per day, like instead of 7 we have 4-5 classes, so students can focus better and learn in an effective and deeper way.
- I'd like to see LHS evolve into an inviting and functional space that promotes learning during the school day and after hours. It should be the city's community flagship, where collaborations of all kinds take place.
- I would like to see a building that thinks of educating the WHOLE person… takes into consideration a person's wellbeing –the emotional, physical, and intellectual aspects of learning.
- I would like it to be based around experiential learning across disciplines and holistic design to meet diverse learning needs.
- Developing a building that serves our students for many years to come. Maximizing wants vs. needs. Aligning with the districts 5 pillars.
- I think that LHS should evolve into a fun, joyful place were kids like to go to LHS instead of other schools in the area.

- Quality spaces for great kids and outstanding programs.
- Planning for students to transition into adult life and community. In particular working with 18 – 22 year old students. A facility that provides a separate area (not in a classroom as it is presently organized) for a kitchen, laundry room, mail-room, etc., to be available for all staff to access without interrupting or moving a class. Many students outside of life skills even outside of special education can utilize some services in these facilities. Of course, building to accommodate does not address the issue of personnel.
- Would like to see LHS to evolve into a communication rich, collaborative environment where curriculum adapts as the life outside changes and adapts at a breakneck speed.
- I hope the new LHS will be a welcoming and nurturing facility. It already has a fantastic staff and student body. We need to give them a building that will provide an expanding atmosphere well into the 21st century.
- LHS evolve into a closer collaborative community with space that allows for flexibility in scheduling.
- Create a safe, joyful learning environment with a focus on life skills and community.
- My hope is that a new facility that allows for improved communication, connections with students, security, and space to expand all the great things we already do, will also improve students engagement, curiosity, and opportunities.
- A school that not only welcomes all students, but also provides the choices/supports students need to be successful.
- LHS has many moving pieces. This includes programming classes, cultures, needs, teaching/learning styles, community partnerships, etc. I would really like to see more integration of all of these things as we go forward.
- I would like the school plan to be based on the idea "if we weren't already doing it this way, would this be the way we would do it." Schools are slow to evolve and we need to create spaces that foster learning and togetherness and not just build a better version of what we already have.
- I would like to see more openness to change in curriculum because there are so many studies that we could take ideas from and create a learning environment that works for everyone.
- I would like to see LHS become a more interactive, equal opportunity, collaborative teaching and learning facility. I would like to see it equipped with the proper technology and materials to make this happen.
- I would like to see LHS evolve into a first class education that students and staff can be proud of 21st century technology, support services to meet students' needs and an inclusive environment.
- A campus, community, and refreshing spirit. This is a factor of the appearance, and social behavior.
- I want to see reliable technology incorporated seamlessly throughout the building.
- To be a place of development for students, teachers, staff, etc. So as a total system we are better prepared to meet the challenges of a changing world and contribute positively.
- I would like to see LHS evolve to create more opportunity to build relation ships within community.
- More open space learning and outdoor classes.
- I want to see a welcoming space where students feel free to take risks and are challenged to explore their community and world.

Facility Design Visioning Workshop Two Notes

November 1, 2016

21st Century Learning Goals 2.0

The following set of priority "21st Century Learning Goals 2.0" for Lowell High School students was developed based on feedback from the Educational Working Group (EWG). Seven teams of six participants worked to review and edit the Learning Goals 1.0 document that was created during Workshop One, with the resulting reprioritization and grouping of desired Learning Goals.



- **Empathy, Global Perspective and Civic Engagement**
  - Cultural Awareness
  - Personal, Social and Civic Responsibility
  - Awareness of Community and Global Society
  - Multi-Cultural Literacy
- **Critical and Inventive Thinking**
  - Critical Reasoning and Problem Solving
  - Agility, Adaptability and Risk-Taking
  - Joy, Curiosity and Imagination
  - Motivation and Creativity



- **Communication and Collaboration**
  - Oral and Written Communication
  - Teamwork and Interpersonal Skills
  - Media Literacy and Digital Competence
  - Accuracy of Information
- **Real World Interconnectivity**
  - Executive and Organizational Skills
  - Competency in Core Skills and Content
  - Career Preparation and Life Skills
  - Vocational Opportunities and Certifications
- **Holistic Awareness**
  - Self-Advocacy
  - Wellness
  - The Natural World

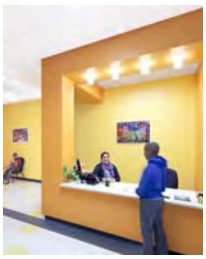
Facility Design Visioning Workshop Two Notes

November 1, 2016

21st Century Design Patterns 1.0

The following set of priority "21st Century Design Patterns" for the design of the new and/or renovated Lowell High School was developed by the Educational Working Group (EWG). Seven teams of six participants each worked to create their own set of priority Design Patterns, after which each team presented to the larger group. Participants were then given the opportunity to prioritize their top Design Patterns. These are listed below in order of the number of votes they received, with each Design Pattern given six points for each time it appeared on one of the original team lists and one additional point for every red dot it received during the subsequent larger group priority voting process.

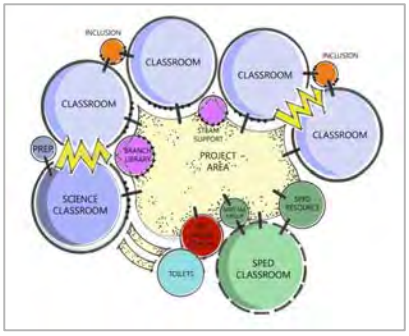
- **Secure and Welcoming Arrival** (64 votes)
- **Community Access** (58 votes)
- **Distributed Dining** (53 votes)
- **Between Spaces/Commons/Breakout** (46 votes)
- **Civic Presence** (45 votes)
- **Agile and High Performance Classrooms** (43 votes)
- **Display and Exhibition of Student Work (Locker Alternatives)** (38 votes)
- **Flexible Furniture/Flexible Everything** (35 votes)
- **Cyber Dining** (29 votes)







- **Clusters of Learning** (25 votes)
- **Wellness Center** (22 votes)
- **Distributed Resources** (13 votes)
- **Adequate and Flexible Space** (13 votes)
- **Outdoor Space** (11 votes)
- **Teacher Space/Work Stations** (11 votes)
- **Confidential Spaces** (11 votes)
- **Building as Teacher/Sustainability** (11 votes)
- **Enrichment Spaces** (11 votes)
- **Flexible Science Labs/Maker Space** (10 votes)
- **Special Ed Training Facilities** (10 votes)
- **Hallway Trafficking** (10 votes)
- **Teacher Teaming** (9 votes)
- **Breaks of Institutional Norms** (8 votes)
  - Soft Seating, Locker Alternatives, Commons Spaces
- **Flexible Storage** (8 votes)
- **Wayfinding** (8 votes)
- **Heart of School** (6 votes)















Facility Design Visioning Workshop Two Notes

November 1, 2016

DRAFT Guiding Design Principles 1.0

The following set of DRAFT "Guiding Design Principles 1.0" for design of the new and/or renovated Lowell High School was developed by the Educational Working Group (EWG) during the Educational Visioning Workshop that took place on November 1, 2016. Seven teams of six participants worked to create their own listings of Guiding Design Principles, after which each team presented to the larger group. Team lists were then displayed in a gallery format and participants were given the opportunity to vote for their top six priority Guiding Design Principles. These are listed below in order of the number of priority votes they received, with each Guiding Design Principle given six base points for appearing on one of the original team lists, and each subsequent priority vote given one point. Guiding Design Principles offer a framework of educational priorities that prove invaluable in helping stakeholders and design team members to set design goals and focus their work. This first iteration of Guiding Principles may continue to develop as the design process unfolds.

A Program and Place for Every Student
(109 votes)

- Small School Identity, Big School Pride
- Neighborhoods and Personalization
- Belonging, Identity and Ownership
- Ownership and Connection
- Sustainability and Inclusivity
- Centralized Support Services with Personalized House Offices
- Opportunity for ALL Students (Including SPED, ELL)

Community and Civic Connections (104)

- School as Community Resource
- Community and Civic Connections
- LHS as Part of Fabric of Community
- Incubation Spaces for Local Businesses and Partners
- Community Outreach

Adaptability and Evolution (77 votes)

- Teaching and Learning
- Curriculum and Scheduling
- Tradition to 21st Century and Beyond
- Support of High Quality Programming and Innovation

Learning by Thinking and Doing
(76 votes)

- Real Connections to 21st Century Skills
- High Expectations and Personal Responsibility
- Mastery-Based Learning
- Explore, Create, Learn
- Inquiry and Problem-Based
- Real World Connections
- Pathways
- Collaboration

Joy, Curiosity and Imagination (60 votes)

- Joyful Environment
- Visible Learning
- Varied Spaces, Including Reflection Spaces
- Empathic Engagement

Indoor/Outdoor Connections (44 votes)

Building as Teacher (19 votes)

- Clean Energy

Safety (16 votes)

Facility Design Visioning Workshop Three Notes

November 17, 2016

21st Century Design Patterns 2.0

The following set of priority "21st Century Design Patterns 2.0" for the design of the new and/or renovated Lowell High School has been modified from the original list that was developed by the Educational Working Group in Workshop One, based on participants' comments and suggested changes during Workshop Two.

- **Flexible Everything**
  - **Agile and High Performance Classrooms**
  - **Flexible Furniture**
  - **Flexible Science Labs and Maker Space**
  - **Flexible Multi-Purpose Spaces**
  - **Flexible Performance Spaces**
- **Secure and Welcoming Arrival**
- **Community Access**
- **Distributed Dining**
  - **Explore as a Possibility**
  - **Cyber Dining**
- **Between Spaces/Commons/Breakout**
- **Civic Presence**
- **Display and Exhibition of Student Work (Locker Alternatives)**
- **Clusters of Learning**



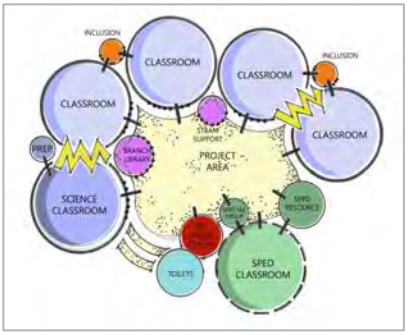








- Special Ed Training Facilities
- Athletics
  - Space for Band and Marching Band
  - Space for ROTC
- Distributed Resources
- Adequate and Flexible Space
- Outdoor Space
- Teacher Space/Work Stations
- Confidential Spaces
- Building as Teacher/Sustainability
- Enrichment Spaces
- Hallway Trafficking
- Teacher Teaming
- Breaks of Institutional Norms
  - Soft Seating, Locker Alternatives, Commons Spaces
- Flexible Storage
- Wayfinding
- Heart of School















Facility Design Visioning Workshop Three Notes

November 17, 2016

DRAFT Guiding Design Principles 2.0

The following set of priority "Guiding Design Principles 2.0" for the design of the new and/or renovated Lowell High School has been modified from the original list that was developed by the Educational Working Group in Workshop One, based on participants' comments and suggested changes during Workshop Two.

A School for Everyone

- A Program and Place for Every Student
- Small School Identity, Big School Pride
- Neighborhoods and Personalization
- Belonging, Identity and Ownership
- Safety and Security
- Ownership and Connection
- Sustainability and Inclusivity
- Centralized Support Services with Personalized House Offices
- Opportunity for ALL Students (Including SPED, ELL)

Learning by Thinking and Doing

- Real Connections to 21st Century Skills
- High Expectations and Personal Responsibility
- Mastery-Based Learning
- Explore, Create, Learn
- Inquiry and Problem-Based
- Real World Connections
- Building as Teacher
- Pathways
- Collaboration
- Clean Energy

Adaptability and Evolution

- Teaching and Learning
- Curriculum and Scheduling
- Tradition to 21st Century and Beyond
- Support of High Quality Programming and Innovation

Joy, Curiosity and Imagination

- Joyful Environment
- Visible Learning
- Varied Spaces, Including Reflection Spaces
- Empathic Engagement
- Indoor/Outdoor Connections

Community and Civic Connections

- School as Community Resource
- Community and Civic Connections
- LHS as Part of Fabric of Community
- Incubation Spaces for Local Businesses and Partners
- Community Outreach

Facility Design Visioning Workshop Three Notes

November 17, 2016

Blue Sky Ideas

The following Blue Sky Ideas for the design of the new and/or renovated Lowell High School were brainstormed by the Educational Working Group during Workshop Three.

Science Classroom
- Run on microbial cells that come from the canal

Digital Message Board
- Displays events and announcements outside
- Gives positive messages
- Like the Tsongas Center

Childcare for Students and Faculty

Rooftop Community Garden
- Terrace between buildings with gardens
- Sheltered space for band and ROTC

Giant Fieldhouse
- Indoor track
- Multiple basketball courts
- Movable walls for different activities

Recreation of Scroll of "On the Road"
- On walls

Performance Space
- AV rich
- Indoor/outdoor
- Auditorium, but different
- Flexible seating for small and large performances
- Visible to outside

Incubator/Business Space
- A way to connect students to professional work environments

Dorm Space
- For homeless and transitional students

Integration with Canal
- Take advantage of historic context
- Get students across tracks

Renovated Auditorium
- Center for major events
- Meet current needs
- New seating

Parents Center

Community Art
- Incorporated into design
- Public art and murals
- Reflect city's history

Colorful and Comfortable Furniture

Private Art Gallery
- Exhibitions of local and student artists

Coffee Shop
- Student run
- Like Mill #5
- Open after school

Central Book Storage
- Like college access

Medical Office/Clinic

Beautiful Entry Lobby
- Plant-filled
- Lots of natural light

Soft and non-institutional furniture
- Conference Room
- Welcoming color
- Coffee Shop
- Parent Center
- Water feature – with water filtered from canal

Lowell Archive Museum
- House and curate historical artifacts

Facility Design Visioning Workshop Three Notes

November 17, 2016

Key Spaces and Adjacencies

The following Key Spaces for the new and/or renovated Lowell High School were brainstormed by the Educational Working Group during Workshop Three.

Entry Lobby

- Centrally located, welcoming and inspiring
- Administration, security, seating
- Meeting breakout space, accessibility to public/parents
- Easy access from the street
- Large lobby with check-in in the center with multiple rooms surrounding for the different House's administrators offices… include ALL House Offices lined together, as well as the student support services office and college and career center. Sending visitors all over the school trying to navigate to find an office is both inconvenient and unsafe
- We could add a small security room in the old building to address the security issue with having all houses near the entrance. This is critical
- A plant filled-natural lighting with soft furniture and walls lined with student work and fountain with a security kiosk in the middle and several conference rooms around the periphery
- Entrance could have large displays dedicated to department or pathway work as well as history of Lowell, art in Lowell, etc. There should be a ways that students, parents, and visitors could easily learn more about these

Neighborhoods and Clustered Adjacencies

- Academic pods with 6 classrooms 3/3
- Multi-purpose Commons Space in center with classrooms and administrative spaces surrounding it
- Breakout and quiet spaces
- For Freshman Academy accommodate 3 cluster teams, pods of 8 classroom teachers
- Humanities Pods and STEM Pods
- 2 -3 computer carts per pod
- Art/Dance etc., could have a shared display/performance space and student work area in the center
- Adjacencies between Graphics, TV, Media

Flexible and Agile Classrooms

- Technology on walls
- Flexible furniture
- Tables that can move easily, including height, to change space needs for group collaboration and projects
- Chairs that can move easily or swivel
- Magnetic walls
- Flexible desks/table for varied instruction
- White board paint on (1) wall, soft colors
- Magnetic, cork, etc. to display work/information
- Stability ball chairs/ flexible seating
- Closet space -backpacks, supplies -storage
- Natural light / H2O in room
- Bluetooth speakers, ceiling mounted projector
- Wall comp screen to display lesson of day, do now, important information

Key Spaces and Adjacencies (Continued)

Cafeteria

- Use cafeteria as a HUB that is flexible but actually has all school functions around.
- Dining space becomes large conference space off which other school activities feeds
- Natural light
- Always center of activity -open even after school hours
- Colorful, has a lot of traffic through
- Noisy, lively, fun use for night activities – movies, school productions

Science and Engineering Lab

- Students can perform authentic research but also learn engineering / maintenance skills of equipment
- Incubators, fume and safety hoods, functional equipment, plenty of storage
- Ways to look up info to communicate with mentors, UML/MCC, etc. (computers)

Health Center

- Large space to accommodate Nurse's Office, LCHS Teen Clinic
- Waiting room with soft lighting, comfortable chairs, soft soothing colors, soft music, fish tank
- Work space for each nurse with rooms off main room for confidentiality
- TVs with Health info and education material
- Exam rooms for teen clinic as well as sports physicals
- Lactation room for staff and/or students
- Adjacent to student support services
- Parking spot for parent/ student pickup
- Nurse's office close to this parking spot, near café

Gym

- Athletic training facilities
- Weight room and trainers room to recover
- Locker room
- Playing fields close by
- Multiple basketball courts
- Banked indoor track
- Smaller Wellness Rooms (Yoga, Project Adventure)
- Big field house
- Safe and adequate space for Adapted Classes

Parent Center

- Transition services
- Internet Access
- Welcoming with easy access



Lecture Hall

- For history presentations, choir, science, ELA, clubs, renting, homework hall
- Invites more flexible and creative learning
- Community involvement
- Guest speakers
- Technology
- Note taking/review room
- Hardwood floor (great acoustics)

Library

- Multiple use space
- Room for at least 3 classes
- A combination of collaboration spaces, quiet space, meeting space
- Designated reading space -comfortable chairs, moveable
- Presentation area (screen, computer)
- An upgraded library catalog/database (would incorporate electronic resources)
- Flexible/moveable furniture (bookcases) that would permit combining classes
- Technology (at least 50-60) -laptops (many of our students do not have computers)
- Multi-use meeting rooms
- Upgrade security SYMS
- Very big library with all necessary materials but also quiet

Key Spaces and Adjacencies (Continued)

Special Education

- Kitchen area -both regular and handicap accessible
- Stoves both electric/gas… fully equipped kitchen
- Laundry area - several washers/dryers, folding area, racks for hanging, cabinets for supplies
- Washroom -shower stall(s), sink, toilet area to teach health care, brushing teeth, toilet training, showering, etc.
- Living area - room that allows students to experience realistic cleaning, work, socialize fun skills. A room they would care for as well as enjoying
- Work area -to teach soft skills - voc. skills -to include the schools copy center, mail area, areas to teach skills i.e. filing, computer work, shelf stocking (i.e. food pantry included) etc.
- Bedroom with closet and bureau to teach making beds, putting away materials/clothes, cleaning
- No carpets

Language Labs

- All students -language, ELL and special educations would be able to use this room or these rooms with a real focus on the listening and speaking domains which are often not emphasized in this very 'connected' society
- Room for language labs. Computers but not placed in a way that restricts the amount of interaction between students
- Soft seating bookshelves on wall with language textbooks and dictionaries
- Separate more private spaces where only the target language is spoken
- Space for an independent foreign language study
- Tutoring spaces for students who don't speak English as a first language. Maybe a language exchange between English speaking students and ELL students
- More secluded from the rest of the school but open in itself -people feel self-conscious/uncomfortable speaking a foreign language so have a private oasis feel where everyone in the space has the same goal
- Soft comfortable furniture in spaces for students who want to practice what they've learned
- Bulletin/white board for setting up meetings/language exchanged
- One wall lined with bookshelves - dictionaries/texbooks
- Computer section for students who wish to learn online
- Tables for students doing an independent language study program
- Separation of quiet rooms and conversation rooms

Garden/Green Space

- Used for contemplation, science activities, recreation, writing/drawing, performance
- Setting for meetings (all sorts); parent-teacher, student-student, teacher-student, community-school
- Possible use for vocational prep? (landscaping, arborist, gardening)

Bridges

- One for each floor area
- The “canal” with moving sidewalks that efficiently moves students/staff between buildings

Performance Space

- An auditorium renovation with wider seats, better electrical, sound, WiFi, and lighting services
- Provides the opportunity for the facility to be better used
- A center for the school to present speakers, educational events, music concerts (cultural exposure for students) and music programs
- A well-known place for parents and the public for school related orientations for briefings and special events
- A loading area (lack of which is a big problem) if grand piano is needed
- School parties can happen there, like homecoming, harvest, prom, etc.
- Dance classes can also be included in that
- Music and dance spaces on the 1st floor to have ready access to the stage
- A collapsible wall could be used to section off the balcony from the main theatre/can section off the under balcony space for smaller classrooms

Key Spaces and Adjacencies (Continued)

ROTC

- A space that belongs to ROTC where we can practice or maybe compete
- An award room
- A gym for normal cadets
- Inspection room
- Instructor's office
- A drill pad area (2500 sq feet) / PT area / storage area
- Min 400 sq feet = 4 sq feet/cadet)
- Accommodate 385-420 cadets annually (2500sq feet is built out 100 cadets not 400)
- Classroom teaching -60% of curriculum and 40% is PT/Drill/uniform wear/community service

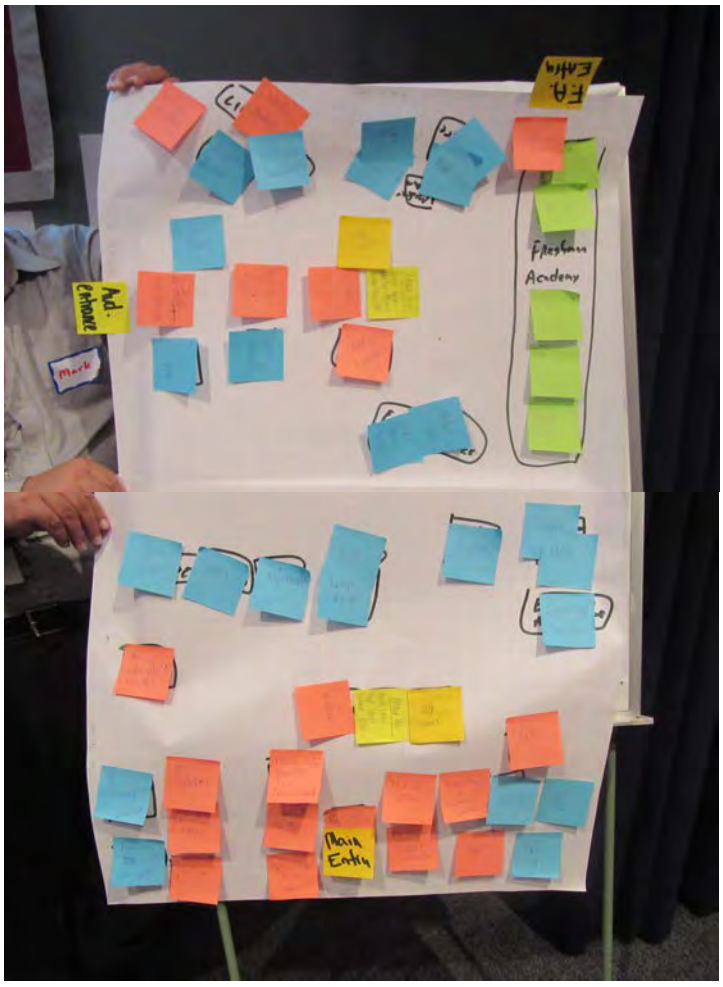


Facility Design Visioning Workshop Two Notes

November 1, 2016

Whole School Diagram



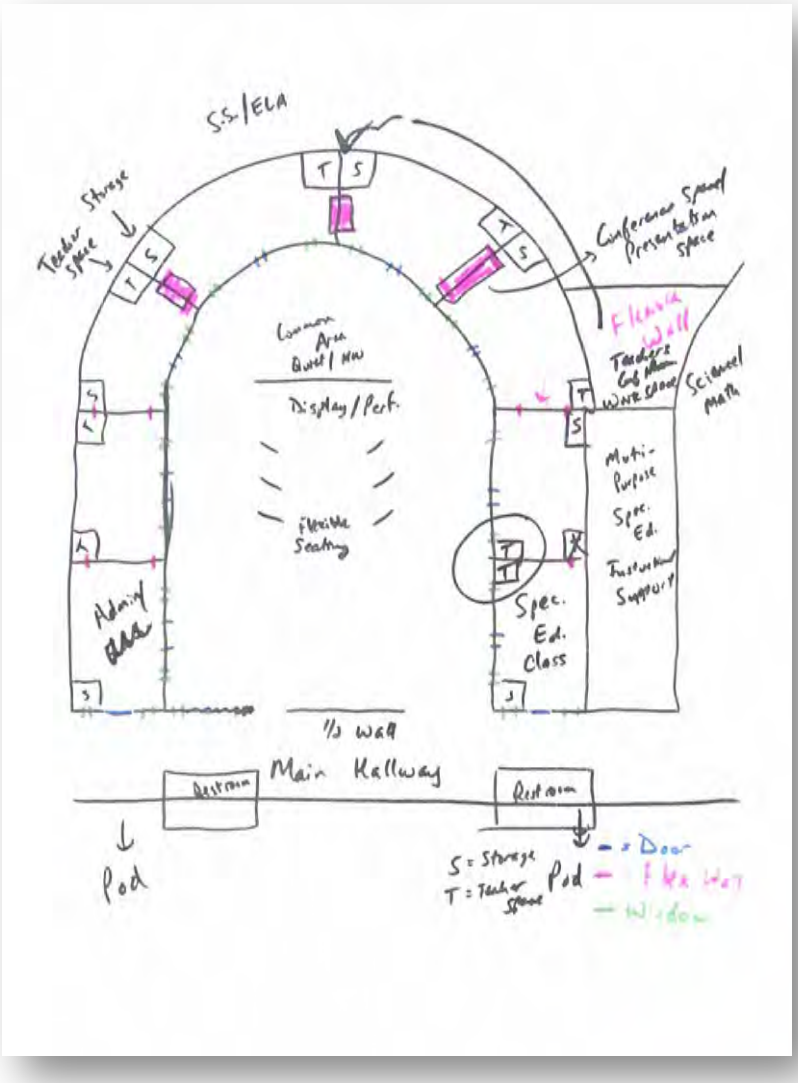


Facility Design Visioning Workshop Two Notes

November 1, 2016

Neighborhood Diagram



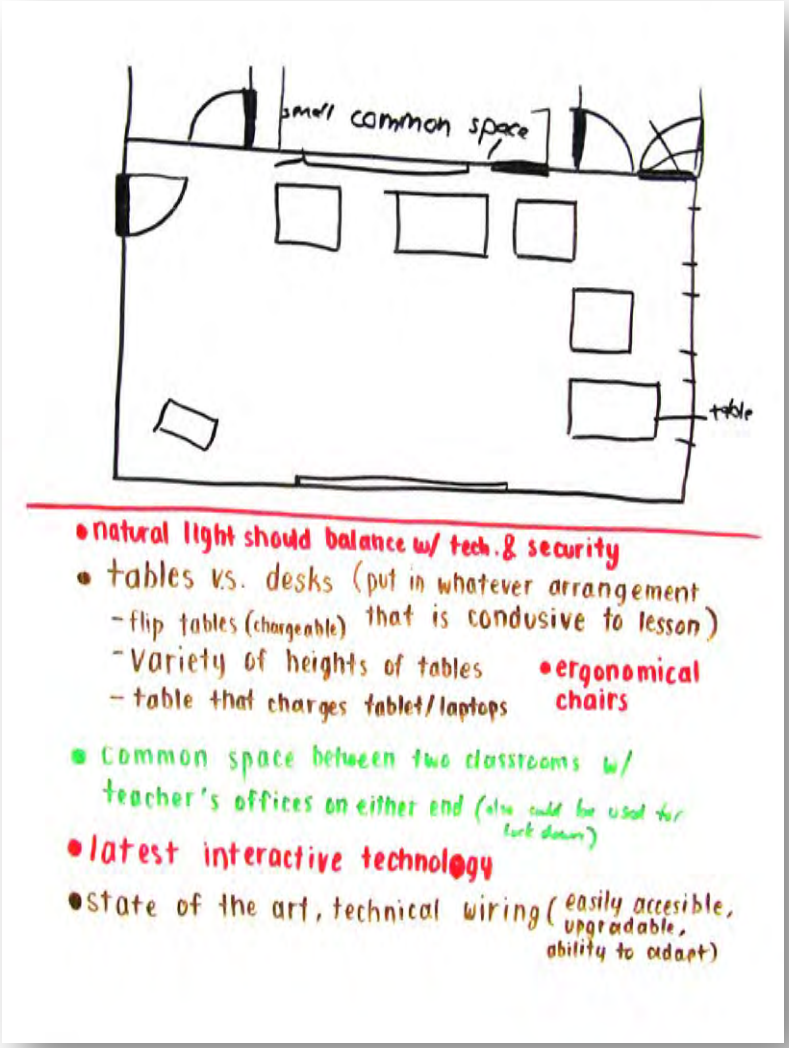


Facility Design Visioning Workshop Two Notes

November 1, 2016

21st Century Classroom Diagram



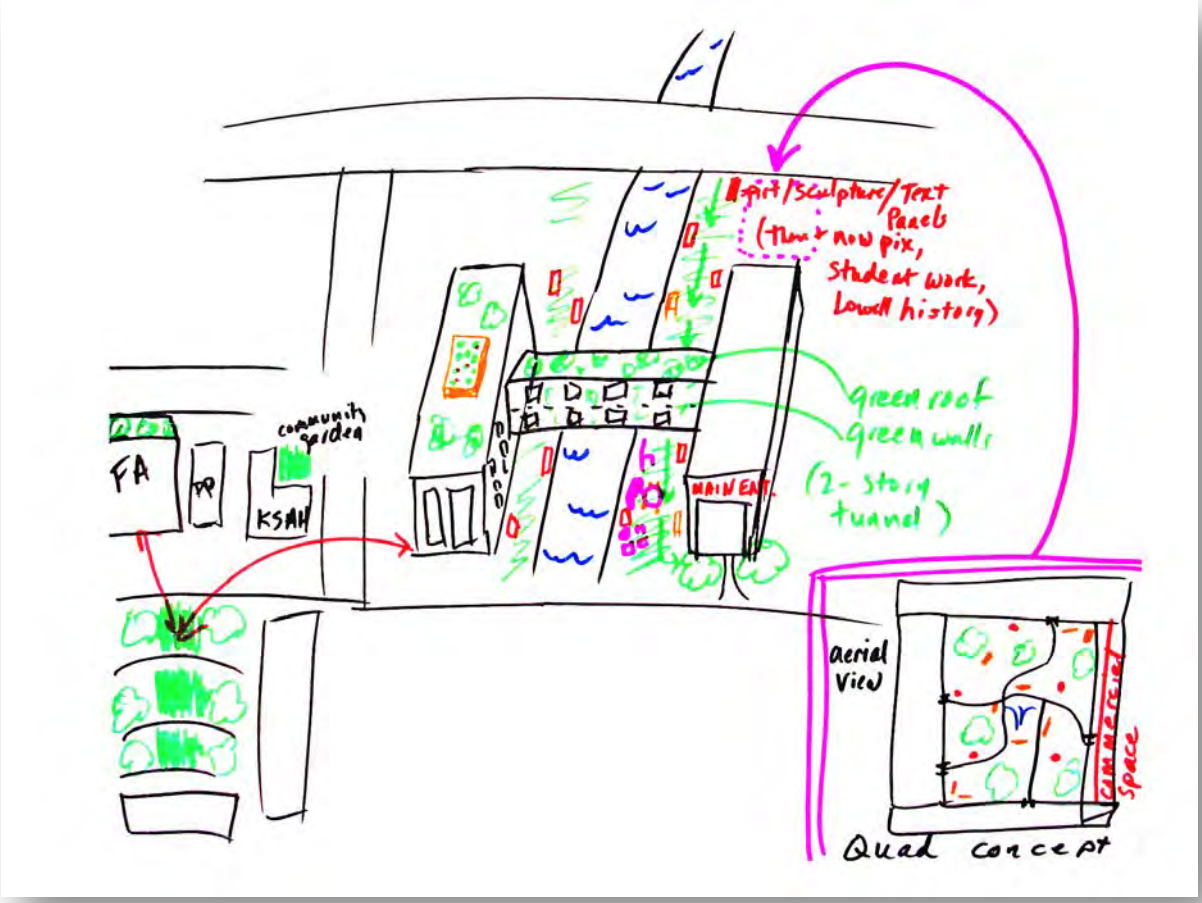


Facility Design Visioning Workshop Two Notes

November 1, 2016

Garden Diagram



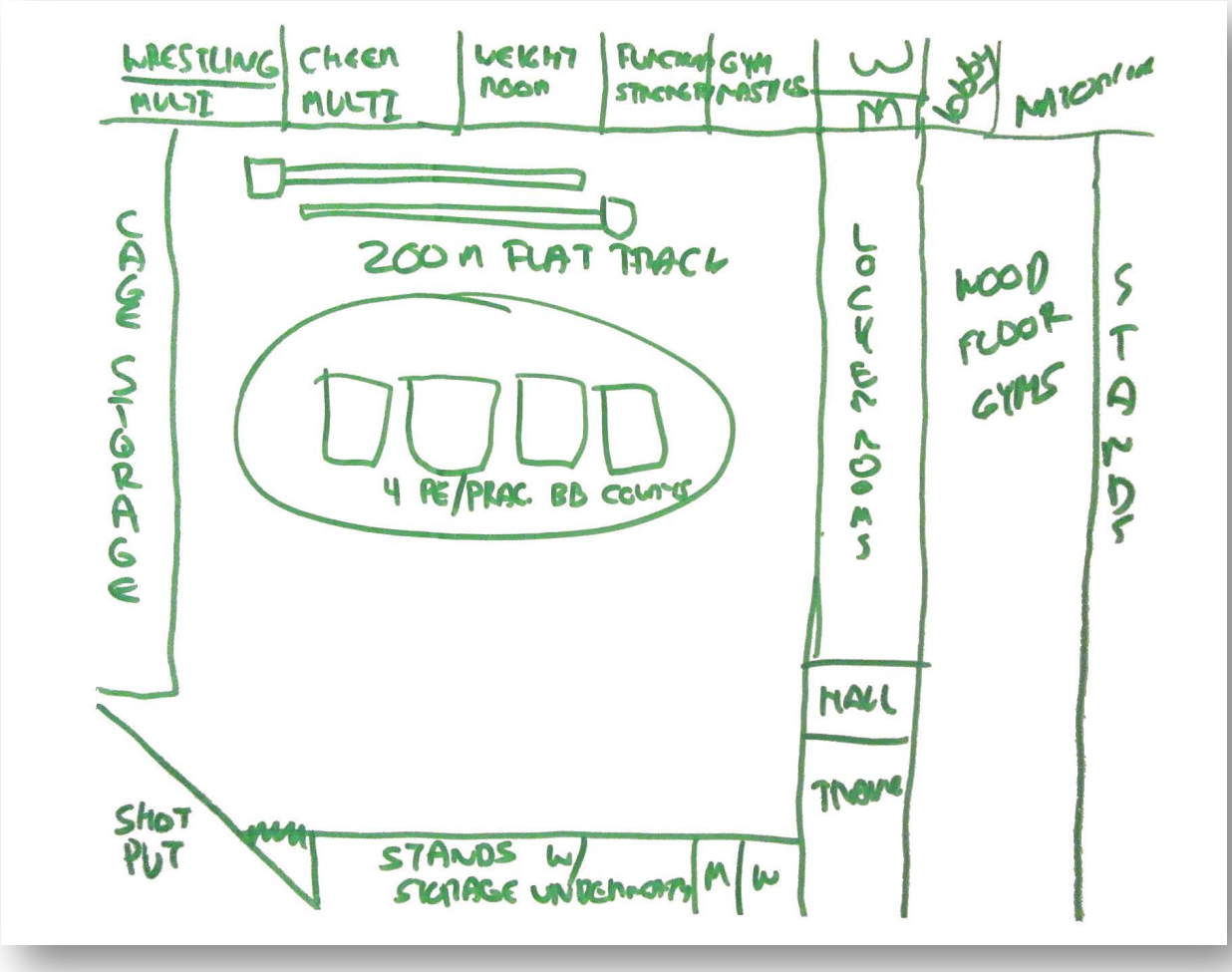


Facility Design Visioning Workshop Two Notes

November 1, 2016

21st Century Classroom Diagram



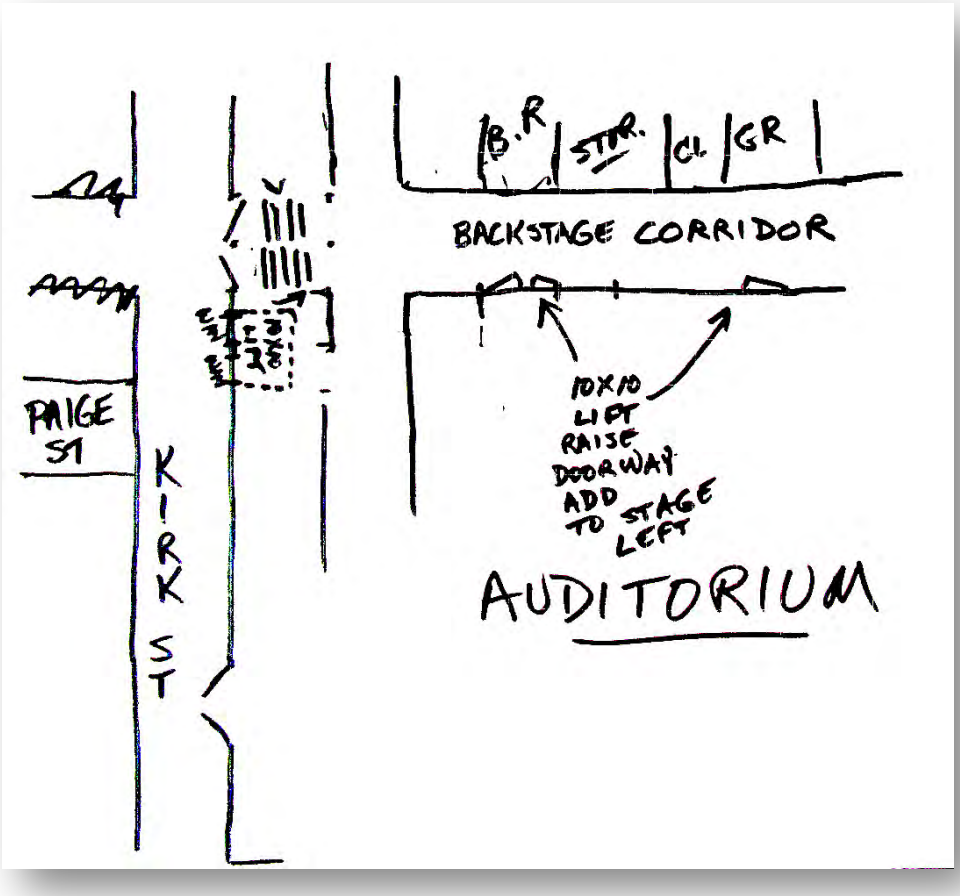


Facility Design Visioning Workshop Two Notes

November 1, 2016

Bubble Diagram





Facility Design Visioning Workshop One

Friday, October 14, 2016

Agenda

EXPECTED OUTCOMES: By the end of the session we will have begun to…

- Share **Priority Goals** for the design of Lowell High School's new and/or renovated facility
- Discuss 21st century teaching and learning and identify **21st Century Learning Goals** and initiatives for Lowell Area Schools and Lowell High School
- Assess LHS's **Strengths, Challenges, Opportunities, and Goals** with regard to the development of its academic programs and the design of a new and/or renovated facility
- Review LHS's most essential **and innovative initiatives and programs** and discuss the implications they hold for the design of the new and/or renovated facility

Time	Activity	Purpose
7:15 – 7:30	***Coffee and Informal Socializing***	Meet and orient for the day.
7:30 – 8:15	***Workshop Goals and Introductions*** • Workshop overview: Creating a Design Guide • Introductions • Priority Goals for the new facility	Introduce participants, and clarify agenda and desired outcomes for this workshop and subsequent workshops. Share some of our Priority Goals for the new facility.
8:15 – 8:45	***21st Century Schools*** • Presentation: 21st Century Teaching and Learning • Media Saves the Beach Video	Identify and discuss changing paradigms in education, and elements of 21st century teaching and learning as connected the LHS's academic goals and mission.

8:45 – 9:30	***21st Century Learning Goals*** • Small group review of 21st century learning goals and outcomes and creation of priority listings • Large group prioritization	Ground our thinking about design guidelines and desired building features in a discussion and exploration of priority Learning Goals for Lowell High School.
9:30 – 9:45	***BREAK***	
9:45 – 10:30	***Lowell High School:*** ***Present and Future Educational Priorities*** • Mini presentations by departments/programs • Group discussion and recording of essential and innovative educational approaches and initiatives presently in practice or on the horizon at LHS	Identify present and future educational initiatives and programs Lowell High School and discuss their effect on the design of the new and/or renovated facility.
10:30– 11:20	***Lowell High School SCOG Analysis*** • Brainstorm Lowell High School's Strengths, Challenges, Opportunities, and Goals with respect to its academic programming and making the most of the facility design opportunity	Identify what is presently working well within Lowell High School and Lowell Area Schools, what is challenging, and what opportunities exist with regard to the further development of programs and facilities.
11:20 –11:30	***Next Steps and Exit Ticket*** • One way in which you would like to see Lowell High School evolve within its new and/or renovated facility	Review next steps for visioning. Reflect on the ways in which participants would like to see the school develop as it meets the future.

Facility Design Visioning Workshop Two

November 1, 2016

Agenda

EXPECTED OUTCOMES: By the end of the session we will have begun to…

- Review a compilation of notes from Workshop One, including: Lowell High School's **Priority Goals; SCOG Analysis, and 21st Century Learning Goals**
- Explore and prioritize a range of architectural **Design Patterns** that support 21st century teaching and learning
- Brainstorm a list of **Blue Sky Ideas** for the new and/or renovated LHS facility
- Understand the role that **Guiding Principles** play in setting facility design priorities and intent
- Create a set of **Guiding Principles and priorities for design** of Lowell High School's renovated and/or new facility

Time	Activity	Purpose
7:15 – 7:30	***Coffee and Informal Socializing***	Meet and orient for the day.
7:30 – 8:15	***Workshop Goals and WS One Debrief*** • Introduction of new members • Review of: o Design Priorities o SCOG Analysis o Learning Goals • What strikes us? What's missing?	Debrief the October 14th workshop activities and discuss key themes and takeaways.
8:15 – 9:30	***21st Century School Facility Design Patterns*** • Presentation and Q&A • Small group review of assorted facility Design Patterns • Creation of priority listings • Large group prioritization	Ground our thinking about design guidelines and desired building features in a discussion and exploration of priority Design Patterns for the new and/or renovated Lowell High School facility.

9:30 – 9:45	***BREAK***	
9:45– 11:00	***Guiding Principles for Design*** • Presentation and Q&A • Small group review of assorted Guiding Principles and creation of priority listings • Large group sharing and prioritization	Explore the connections between Guiding Principles and school design solutions. Translate our LHS Learning Goals and Design Patterns into a listing of priority Guiding Principles for design of the new building.
11:00 – 11:25	***Blue Sky Ideas*** • What no-holds-barred, over-the-top, idea(s) and/or space(s) would you like to see take shape in the new and/or renovated Lowell High School.	Share creative ideas, the seeds of which may begin to take root in our ideas for the new and/or renovated facility.
11:25 –11:30	***Next Steps and Exit Ticket*** • Exit Ticket: "I used to think_____, and now I think_____"	Review next steps for visioning. Reflect on the ways in which participants would like to see the school develop as it meets the future.

Facility Design Visioning Workshop Three

November 17, 2016

Agenda

EXPECTED OUTCOMES: By the end of the session we will have begun to…

- Review a compilation of notes from Workshop Two, including: Lowell High School's priority **Design Patterns** and **Guiding Principles**
- Generate a listing of **Key Spaces and Adjacencies** for the new facility
- Engage in a **Bubble Diagramming Activity** to identify important spaces and adjacencies within the new school
- Move forward on **Ed Plan framing** and the articulation of program priorities and approaches

Time	Activity	Purpose
7:15 – 7:30	***Coffee and Informal Socializing***	Meet and orient for the day.
7:30 – 8:15	***Workshop Goals and WS Two Debrief*** • Introduction of new members • Review of: o Learning Goals 2.0 o Priority Design Patterns 1.0 o Guiding Principles for Design 1.0 • What strikes us? What's missing?	Debrief the November 1st workshop activities and discuss key themes and takeaways.
8:15 – 9:30	***Key Spaces and Adjacencies*** • Individual reflections • Small group discussion • Large group discussion of key spaces and desired adjacencies	Share practical and creative design ideas that will help us to reach our Learning Goals, implement desired Design Patterns and put our Guiding Principles into practice.
9:30 – 9:45	***BREAK***	

9:45– 11:15	***Bubble Diagramming*** • Individual and small group diagramming of key spaces and desired adjacencies within the new and/or renovated Lowell High School • Large group sharing	Identify important adjacencies and design ideas that can be explored further in the planning and design process.
11:15 –11:30	***Next Steps Overview*** • Exit Ticket: "I used to think_____, and now I think_____"	Review next steps and timeline for design.

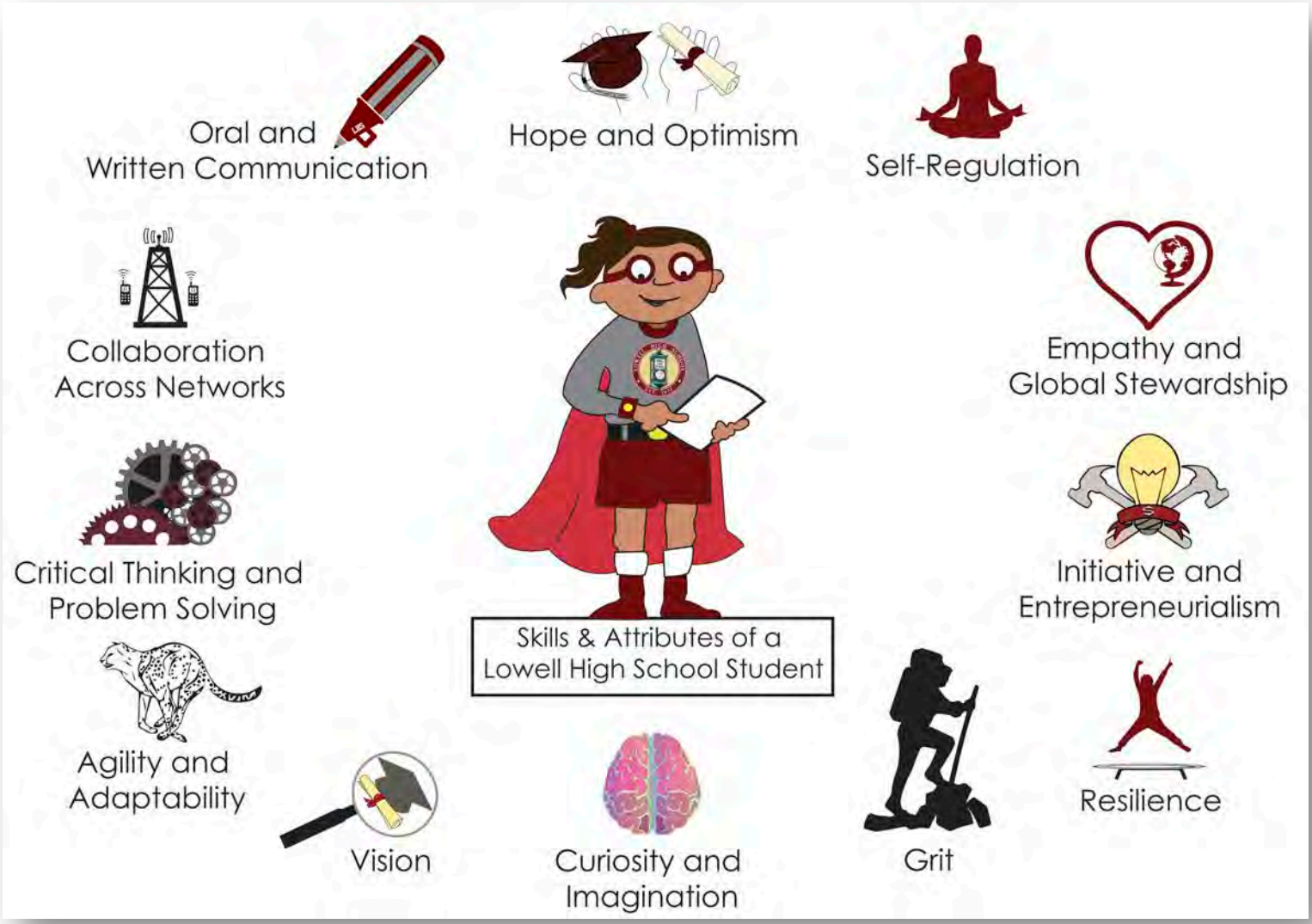








Lowell High School Learning Goals Posters



Perkins Eastman | DPC

Lowell High School

Program Analysis v3

Updated Nov. 23, 2016

Program Adjustments v3

Updated Dec. 12, 2016

Program Requirements v4

Updated Jan. 08, 2017

Appendix: 2016-17 Master Schedule

JANUARY 08, 2017

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Program Analysis v3

Updated Nov. 23, 2016

JANUARY 08, 2017

Program Analysis v3

PE/DPC

School: **Lowell High School** **Gr 9-12**

Basis: Existing Enrollment @ **3,125**

Date: **11/23/2016**

Comparison:

Subject Area	HAVE acad 2200	TAUNT comp 1963	LOND acad 1710	FITCH comp 1500	WESTB acad 1400	HING acad 1100	DRAC comp 1090	KENN acad 1025	WILM comp 960	***Lowell HS exist 3125***
English	16.3	14.1	13.6	15.1	15.8	14.3	14.9	14.3	14.4	***16.9***
[1] Reading	---	---	0.5	0.8	0.2	---	1.9	0.6	1.9	***---***
Social Studies	15.2	13.9	13.1	11.3	13.5	13.3	13.3	12.0	9.9	***13.4***
World Languages	12.5	7.6	9.7	7.4	11.2	12.3	9.1	9.0	7.2	***8.6***
Mathematics	15.0	15.7	12.7	12.4	14.0	14.4	13.8	13.0	11.1	***14.0***
Science	15.1	13.1	13.9	14.2	14.2	15.4	13.2	14.8	10.2	***13.0***
[2] Computer Science	---	---	---	0.7	2.6	0.6	2.0	0.6	1.8	***---***
Business	0.0	9.0	4.8	9.4	2.0	2.1	6.1	5.0	9.4	***2.5***
[3] Vocational Education	---	---	2.5	---	1.1	0.8	---	5.8	---	***---***
Technology/Engineering	4.8	4.5	3.6	6.0	4.2	3.6	3.6	---	6.4	***0.9***
Fam & Cons Sci (Culinary)	1.9	4.5	1.9	2.5	1.0	2.3	1.7	3.5	2.9	***0.9***
Performing Arts	2.4	2.2	4.0	1.0	6.6	2.6	2.5	2.5	1.6	***2.7***
[4] Drama/Video	---	---	0.6	0.7	1.4	1.8	1.0	0.5	0.6	***---***
Visual Arts	3.6	2.0	2.8	3.4	2.6	2.5	2.2	3.5	3.0	***2.3***
Physical Education	5.7	3.4	4.4	5.7	7.1	3.2	6.0	4.0	8.8	***5.5***
Health & Nutrition	1.1	1.5	2.5	1.5	1.8	1.2	1.9	2.6	2.4	***4.3***
[5] SPED/Remedial	0.5	4.1	1.6	1.8	---	3.2	1.8	2.0	1.6	***4.8***
[6] Miscellaneous	---	2.7	0.3	1.0	0.7	0.0	1.0	1.3	1.0	***9.9***
Unaccounted (Excess)	---	1.7	---	---	---	---	---	---	---	***0.3***
Subtotal	94.3	100.0	92.5	94.9	100.0	93.7	96.0	95.0	94.2	***100.0***
Release			1.3						1.3	***---***
Study	5.7		6.2	5.1	---	6.3	4.0	5.0	4.5	***---***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	***100.0***

[1] Where not shown otherwise, Reading courses are included in English.

[2] Where not shown otherwise, Computer Science courses are included in Mathematics

[3] Where not shown otherwise, Voc Tech courses are included in Technology Ed.

[4] Drama/Video courses are included in Performing Arts

[5] Includes Life Skills programs

[6] Includes Community Service, Internship and Supervised Work Courses

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12
Basis: Existing Enrollment @ 3,125
Date: 11/23/2016

Summary:

Subject Area	[A] Course Enrollment Sem. Avg.	[B] Course Enrollment Percent (%)	[A] Pupil Periods Count	[C] Pupil Periods Percent (%)	Pupil Periods Count S1	Pupil Periods Count S2
English	3,690	118.1	18,448	16.9	18,515	18,380
[1] Reading	---	---	---	---	---	---
Social Studies	2,934	93.9	14,668	13.4	14,625	14,710
World Languages	1,875	60.0	9,375	8.6	9,405	9,345
Mathematics	3,064	98.0	15,318	14.0	15,295	15,340
Science	2,846	91.1	14,228	13.0	14,345	14,110
[2] Computer Science	---	---	---	---	---	---
Business	558	17.8	2,788	2.5	2,820	2,755
Vocational Education	---	---	---	---	---	---
[3] Technology/Engineering	202	6.4	1,008	0.9	1,015	1,000
Fam & Consumer Sci	162	5.2	1,018	0.9	1,020	1,015
Performing Arts	592	18.9	2,960	2.7	3,085	2,835
[4] Drama/Video	---	---	---	---	---	---
Visual Arts	500	16.0	2,500	2.3	2,590	2,410
Physical Education	1,207	38.6	6,033	5.5	6,130	5,935
Health & Nutrition	931	29.8	4,653	4.3	4,735	4,570
[5] Special Education/Remedial	1,051	33.6	5,253	4.8	5,260	5,245
[6] Miscellaneous	1,865	59.7	10,805	9.9	10,695	10,915
Unaccounted For / (Excess)			**325**	**0.3**		
Subtotal Above			109,375	100.0	109,535	108,565
Release	---	---	---	---	---	---
Study	---	---	---	---	---	---
Total Above			109,375	100.0		
Total Available Pupil Periods			**109,375**			
(No. pupils x 35 period cycle)						

[A] Counts shown are average of 1st & 2nd Semesters
[B] Count (course enrollment) divided by total of no. of students in school
[C] Count (pupil-periods) divided by total no. of pupil-periods available

[1] Reading courses are included in English
[2] Computer Science Courses are included in Mathematics
[3] Includes Engineering, Architecture & Robotics
[4] Drama/Video courses are included in Performing Arts
[5] Includes Life Skills programs
[6] Includes Community Service, Internship and Supervised Work Courses

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **ENGLISH**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
0023 -	S	C-Balanced Literacy Gr 9	60	60	12	5.0	5.0	5	300	300	6-16
0024											
0111 -	S	C-Explorations in English Gr 9	81	81	16	5.0	5.0	5	405	405	14-18
0112											
0131 -	S	C-English Gr 9	228	228	23	10.0	10.0	5	1,140	1,140	14-28
0132											
0141 -	S	H-English Gr 9	240	240	24	10.0	10.0	5	1,200	1,200	18-26
0142											
0151 -	S	HH-English Gr 9	125	125	25	5.0	5.0	5	625	625	21-29
0152											
9201 -	S	N-Freshman Seminar	588	588	24	25.0	25.0	5	2,940	2,940	22-25
9202		Gr 9									
9205 -	S	N-Latin Lyceum Seminar	49	49	25	2.0	2.0	5	245	245	24-25
9206		Gr 9									
		English Grade 9 Total	**1,371**	**1,371**	**22**	**62.0**	**62.0**		**6,855**	**6,855**	
0025 -	S	C-Balanced Literacy Gr 10	29	28	10	3.0	3.0	5	145	140	12-12
0026											
0061	S	N-SAT Critical Read/Write/Prep	11	11	11	1.0	1.0	5	55	55	11
0121 -	S	C-English Gr 9R, 10, 11, 12	23	34	14	2.0	2.0	5	115	170	7-18
0122											
0231 -	S	C-English Gr 10	303	303	25	12.0	12.0	5	1,515	1,515	20-29
0232											
0241 -	S	H-English Gr 10	246	244	25	10.0	10.0	5	1,230	1,220	18-28
0242											
0251 -	S	HH-English Gr 10	154	154	22	7.0	7.0	5	770	770	17-26
0252											
0331 -	S	C-English Gr 11	258	259	24	11.0	11.0	5	1,290	1,295	12-28
0332											
0341 -	S	H English Gr 11	269	269	27	10.0	10.0	5	1,345	1,345	25-28
0342											
0351 -	S	HH English Gr 11	202	202	25	8.0	8.0	5	1,010	1,010	17-31
0352											
0431 -	S	C-English Gr 12	141	134	28	5.0	5.0	5	705	670	24-29
0432											
0441 -	S	H-English Gr 12	121	121	24	5.0	5.0	5	605	605	22-27
0442											
0461 -	S	A-English Gr 12	86	86	22	4.0	4.0	5	430	430	20-23
0462											
0463 -	S	A-English Composition Gr 12	125	125	25	5.0	5.0	5	625	625	23-26
0464											
0466	S	C-Reading & Writing 21st C	25	28	27	1.0	1.0	5	125	140	25-28
		Gr 11, 12									
0522 -	S	H-Other Worlds, C/H-Public	94	92	23	4.0	4.0	5	470	460	17-27
0528		Speak, Short Fiction, Sports Lit									
0531 -	S	C/H-Creative Writing, C/H-	161	158	27	6.0	6.0	5	805	790	18-29
0538		Expository Writing Gr 11, 12									
0541 -	S	C/H-Race & Ethnicity, C/H-	84	57	28	3.0	2.0	5	420	285	28-29
0544		Lit of Holocaust Gr 12									

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **ENGLISH**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
	Dept. Total 1st semester	**3,703**		**23**	**159.0**			**18,515**		
	Dept. Total 2nd semester		**3,676**	**23**		**158.0**			**18,380**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SOCIAL STUDIES**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
4121 - S	C-Essen Skills for Wld Hist,	312	312	21	15.0	15.0	5	1,560	1,560	14-28
4122	Topics in Wld Hist Gr 9									
4141 - S	H-World Hist Gr 9	242	242	24	10.0	10.0	5	1,210	1,210	18-28
4142										
4181 - S	HH-World History Gr 9	123	123	25	5.0	5.0	5	615	615	21-27
4182										
	Soc Studies Gr 9 Total	**677**	**677**	**23**	**30.0**	**30.0**		**3,385**	**3,385**	
4221 - S	C-Essen Skills for US Hist,	313	326	25	13.0	13.0	5	1,565	1,630	21-28
4222	Topics in US Hist Gr 10, 11, 12									
4223 - S	H-Survey of US History	331	336	22	15.0	15.0	5	1,655	1,680	15-28
4224	Gr 10, 11, 12									
4261 - S	A-US History Gr 10, 11	130	130	26	5.0	5.0	5	650	650	16-31
4262										
4331 - S	C-US History Gr 11	233	239	26	9.0	9.0	5	1,165	1,195	20-29
4332										
4341 - S	H-US History Gr 11	366	367	26	14.0	14.0	5	1,830	1,835	16-31
4342										
4361 - S	A-US History Gr 11, 12	79	78	26	3.0	3.0	5	395	390	21-30
4362										
4371 - S	H-Educ in America, C-Topics	6	16	11	1.0	1.0	5	30	80	6-16
4399	in US History Gr 11, 12									
4415 - S	H-Intro to Econ & Finance	19	17	18	1.0	1.0	5	95	85	17-19
4416	Gr 12									
4430 S	C-Intro to Sociology Gr 12	24	24	24	1.0	1.0	5	120	120	24
4431 - S	H-Sociology Gr 12	116	107	28	4.0	4.0	5	580	535	25-31
4432										
4435 S	A-Intro to Sociology (DE)	64	63	32	2.0	2.0	5	320	315	31-33
	Gr 12									
4441 - S	C-Psychology Gr 12	66	65	22	3.0	3.0	5	330	325	20-25
4442										
4443 - S	H-Psychology Gr 12	119	118	30	4.0	4.0	5	595	590	24-34
4444										
4445 - S	A-Psychology Gr 12	90	90	23	4.0	4.0	5	450	450	17-26
4446										
4447 S	A-Intro to Psychology (DE)	59	58	29	2.0	2.0	5	295	290	29-30
	Gr 12									
4473 - S	H-Philosophy Gr 11, 12	54	51	26	2.0	2.0	5	270	255	25-28
4474										
4513 - S	H-Topics Facing Hist, Camb	47	32	20	2.0	2.0	5	235	160	10-24
4542	Culture, Polit Sci Gr 11, 12									
4561 - S	A-Euro History Gr 10, 11, 12	54	54	27	2.0	2.0	5	270	270	23-31
4562										
4563 S	H-City of Lowell Gr 11, 12	30	27	29	1.0	1.0	5	150	135	27-31
4566 - S	H-Gender & Iden, Digital	14	27	14	1.0	2.0	5	70	135	9-18
4569	Journalism Gr 10, 11, 12									
4570 - S	H-Seminar Am Diversity,	16	22	13	1.0	2.0	5	80	110	6-16
4571	Internship in CCC Path Gr 12									

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SOCIAL STUDIES**

No. sem./qtr.	Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
4661 - S	A-US Govmt & Politics	18	18	18	1.0	1.0	5	90	90	18
4662	Gr 12									
	Dept. Total 1st semester	**2,925**		**24**	**121.0**			**14,625**		
	Dept. Total 2nd semester		**2,942**	**24**		**123.0**			**14,710**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **WORLD LANGUAGE**

No. sem./qtr.	Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
2113 - S	H-Latin Gr 9, 10, 11, 12	157	158	23	7.0	7.0	5	785	790	11-31
2134										
2135 - S	A Latin Gr 10, 11, 12	24	24	12	2.0	2.0	5	120	120	11-13
2146										
	Subtotal Latin	**181**	**182**	**20**	**9.0**	**9.0**		**905**	**910**	
2311 - S	C/H-French Gr 9, 10, 11, 12	112	111	22	5.0	5.0	5	560	555	21-27
2314										
2321 - S	C/H-French Gr 9, 10, 11, 12	110	107	22	5.0	5.0	5	550	535	17-26
2324										
2331 - S	C/H-French Gr 10, 11, 12	81	81	20	4.0	4.0	5	405	405	15-26
2334										
2343 - S	H-French	13	13	13	1.0	1.0	5	65	65	13
2344										
	Subtotal French	**316**	**312**	**21**	**15.0**	**15.0**		**1,580**	**1,560**	
2503 - S	H-Spanish Heritage Spkr	28	26	14	2.0	2.0	5	140	130	13-14
2508	Gr 9, 10, 11, 12									
2511 - S	C-Spanish Gr 9, 10, 11, 12	189	192	27	7.0	7.0	5	945	960	23-29
2512										
2513 - S	H-Spanish Gr 9, 10, 11, 12	173	172	29	6.0	6.0	5	865	860	26-30
2514										
2521 - S	C-Spanish Gr 9, 10, 11, 12	150	143	24	6.0	6.0	5	750	715	20-27
2522										
2523 - S	H-Spanish Gr 9, 10, 11, 12	194	195	24	8.0	8.0	5	970	975	16-38
2524										
2531 - S	C/H-Spanish Gr 9, 10, 11, 12	200	197	25	8.0	8.0	5	1,000	985	21-29
2534										
2535 - S	A-Spanish Gr 10, 11	50	50	25	2.0	2.0	5	250	250	24-26
2536										
2545 - S	A-Spanish Gr 11, 12	11	11	11	1.0	1.0	5	55	55	11
2546										
2553 - S	H-Spanish Conversation	19	18	19	1.0	1.0	5	95	90	18-19
2554	Gr 10, 11, 12									
	Subtotal Spanish	**1,014**	**1,004**	**25**	**41.0**	**41.0**		**5,070**	**5,020**	
2613 - S	H-Portuguese Gr 9, 10, 11, 12	84	83	17	5.0	5.0	5	420	415	12-23
2644										
	Subtotal Portuguese	**84**	**83**	**17**	**5.0**	**5.0**		**420**	**415**	
2711 - S	C-Khmer Gr 9, 10, 11, 12	59	59	20	3.0	3.0	5	295	295	12-27
2712										
2713 - S	H-Khmer Gr 9, 10, 11, 12	47	47	24	2.0	2.0	5	235	235	23-24
2714										
2721 - S	C-Khmer Gr 9, 10, 11, 12	25	26	13	2.0	2.0	5	125	130	12-13
2722										
2723 - S	H-Khmer Gr 9, 10, 11, 12	68	70	23	3.0	3.0	5	340	350	16-29

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **WORLD LANGUAGE**

No. sem./qtr.	Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
2724										
2733 - S	H-Khmer Gr 10, 11, 12	72	71	18	4.0	4.0	5	360	355	15-24
2734										
2741 - S	C/H-Khmer Gr 11, 12	15	15	15	1.0	1.0	5	75	75	15
2744										
	Subtotal Khmer	**286**	**288**	**19**	**15.0**	**15.0**		**1,430**	**1,440**	
	Dept. Total 1st semester	**1,881**		**22**	**85**			**9,405**		
	Dept. Total 2nd semester		**1,869**	**22**		**85**			**9,345**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **MATH**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
1081 -	S	N-Math Seminar Gr 9	38	38	13	3.0	3.0	5	190	190	10-14
1082											
1101 -	S	C-Transition to Algebra,	38	38	13	3.0	3.0	5	190	190	11-14
1111		Topics in Algebra									
1131 -	S	C-Algebra Gr 9	307	307	24	13.0	13.0	5	1,535	1,535	21-26
1132											
1141 -	S	H-Algebra Gr 9	252	252	25	10.0	10.0	5	1,260	1,260	21-28
1142											
		Math Grade 9 Total	**635**	**635**	**22**	**29.0**	**29.0**		**3,175**	**3,175**	
1062	S	N-SAT Math Prep Gr 11, 12	57	83	28	2.0	3.0	5	285	415	24-31
			incl. 2sects at 10pd								
1112 -	S	C-Applications in Algebra,	109		22	5.0		5	545		14-18
1120		C-Topics in Algebra Gr 10									
1121 -	S	C-Algebra Gr 9, 10, 11, 12	41	45	22	2.0	2.0	5	205	225	20-24
1122			incl. 2sects at 10pd								
1220 -	S	C-Geometry Gr 10, 11, 12	330	394	23	15.0	17.0	5	1,650	1,970	12-28
1231, 1232											
1241 -	S	H-Geometry Gr 10, 11	235	235	26	9.0	9.0	5	1,175	1,175	22-29
1242											
1251 -	S	HH-Geometry & Analytic	109	109	22	5.0	5.0	5	545	545	15-26
1252		Geometry Gr 9, 10									
1325	S	C-Applications in Math		38	19		2.0	5		190	18-20
		Gr 11. 12									
1331 -	S	C-Algebra Gr 10, 11, 12	202	206	23	9.0	9.0	5	1,010	1,030	19-27
1332											
1341 -	S	H-Algebra Gr 10, 11	295	296	27	11.0	11.0	5	1,475	1,480	22-31
3142											
1351 -	S	HH-Algebra & Trig Gr 10, 11	120	120	24	5.0	5.0	5	600	600	21-27
1352											
1353 -	S	C-Financial Algebra Gr 11, 12	92	81	22	4.0	4.0	5	460	405	17-24
1354											
1411 -	S	C-Intro Statistics, Discrete	28	28	14	2.0	2.0	5	140	140	8-20
1414		Math Gr 11, 12									
1425 -	S	C/H-Adv Quantitative	84	82	21	4.0	4.0	5	420	410	16-24
1428		Reasoning Gr 11, 12									
1429 -	S	C-Math Gr 11, 12	27	26	13	2.0	2.0	5	135	130	13-14
1430											
1431 -	S	C-Pre-Calculus Gr 11, 12	106	106	21	5.0	5.0	5	530	530	16-26
1432											
1441 -	S	H-Pre Calculus Gr 11, 12	155	155	26	6.0	6.0	5	775	775	22-30
1442											
1443 -	S	H-Fundamentals of Calculus	45	45	15	3.0	3.0	5	225	225	14-16
1444		Gr 12									
1451 -	S	A-Adv Pre-Calculus,	62	62	31	2.0	2.0	5	310	310	31
1470		Calculus Gr 11, 12									
1465 -	S	A/H-Statistics Gr 11, 12	110	110	22	5.0	5.0	5	550	550	14-27
1468											
1475 -	S	A-Calculus Gr 11, 12	108	108	27	4.0	4.0	5	540	540	22-31
1478											

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **MATH**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
1613 - S	H-Intro to Programming	49	48	24	2.0	2.0	5	245	240	22-26
1614	Gr 10, 11, 12									
1621 - S	H-Visual Basic Programming	38	35	18	2.0	2.0	5	190	175	16-19
1622	Gr 10, 11, 12									
1641 - S	H/A-Computer Programming	22	21	11	2.0	2.0	5	110	105	10-11
1652	Gr 10, 11, 12									
	Dept. Total 1st semester	**3,059**		**23**	**135.0**			**15,295**		
	Dept. Total 2nd semester		**3,068**	**23**		**135.0**			**15,340**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SCIENCE**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
3131 -	S	C-Integrated Science Gr 9	294	293	24	12.0	12.0	5	1,470	1,465	19-29
3132											
3141 -	S	H-Integrated Science Gr 9	332	333	24	14.0	14.0	5	1,660	1,665	19-28
3142											
3221 -	S	C-Explorations in Integrated	60	60	15	4.0	4.0	5	300	300	14-16
3222		Science Gr 9									
		Science Grade 9 Total	**686**	**686**	**23**	**30.0**	**30.0**		**3,430**	**3,430**	
3051	S	C-MCAS Biology Prep	17	10	14	1.0	1.0	5	85	50	10-17
		Gr 10, 11, 12									
3231 -	S	C-Biology Gr 10, 11, 12	259	247	28	9.0	9.0	5	1,295	1,235	22-31
3232											
3241 -	S	H-Biology Gr 10, 11, 12	375	374	27	14.0	14.0	5	1,875	1,870	17-31
3242											
3247 -	S	C-Explorations in Biology	73	68	24	3.0	3.0	5	365	340	16-29
3248		Gr 10, 11, 12									
3250	S	A-General Biology (DE)	23	17	20	1.0	1.0	5	115	85	17-23
		Gr 11, 12									
3533 -	S	H-Anatomy & Physiology	210	210	30	7.0	7.0	5	1,050	1,050	29-31
3534		Gr 11, 12									
3548	S	H-Genetics Gr 11, 12	89	59	30	3.0	2.0	5	445	295	27-32
3560	S	H-Forensics Science Gr 12	148	147	30	5.0	5.0	5	740	735	28-30
3731 -	S	A-Principals of Biology	14	14	14	1.0	1.0	5	70	70	14
3732		(UML) Gr 11, 12									
3733 -	S	A-Principals of Biology Lab	12	12	12	1.0	1.0	5	60	60	12
3734		(UML) Gr 11, 12									
3783	S	H-Microbiology Gr 12	54	51	26	2.0	2.0	5	270	255	25-28
		Subtotal Biology	**1,274**	**1,209**	**27**	**47.0**	**46.0**		**6,370**	**6,045**	
3331 -	S	C-Chemistry Gr 10, 11, 12	298	295	25	12.0	12.0	5	1,490	1,475	19-28
3332											
3341 -	S	H-Chemistry Gr 10, 11, 12	159	158	26	6.0	6.0	5	795	790	22-29
3342											
3721 -	S	A-Chemistry (UML) Gr 11, 12	15	15	15	1.0	1.0	5	75	75	15
3722											
3723 -	S	A-Chemistry Lab (UML)	15	15	15	1.0	1.0	5	75	75	15
3724		Gr 11, 12									
		Subtotal Chemistry	**487**	**483**	**24**	**20.0**	**20.0**		**2,435**	**2,415**	
3441 -	S	H-Physics Gr 11, 12	151	150	25	6.0	6.0	5	755	750	16-28
3442											
3461 -	S	A-Physics Gr 11, 12	59	59	20	3.0	3.0	5	295	295	14-30
3464											
		Subtotal Physics	**210**	**209**	**23**	**9.0**	**9.0**		**1,050**	**1,045**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SCIENCE**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
3093 -	S	HH-M2D2 Partnership Exp	8	8	8	1.0	1.0	5	40	40	8
3094		Gr 12									
3535 -	S	H-Physical Geology,	28	56	28	1.0	2.0	5	140	280	28
3536		Meteorology Gr 11, 12									
3537	S	H-Oceanography Gr 11, 12	83	53	27	3.0	2.0	5	415	265	26-28
3538	S	H-Astronomy Gr 11, 12	60	86	29	2.0	3.0	5	300	430	28-30
3552	S	H-Clean Energy Career	14	16	15	1.0	1.0	5	70	80	14-16
		Explorations **Gr ??**									
3735	S	A-Environmental Studies	19	16	18	1.0	1.0	5	95	80	16-19
		(DE) Gr 11, 12									
		Subtotal Other Science	**212**	**235**	**24**	**9.0**	**10.0**		**1,060**	**1,175**	
		Dept. Total 1st semester	**2,869**		**25**	**115.0**			**14,345**		
		Dept. Total 2nd semester		**2,822**	**25**		**115.0**			**14,110**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **BUSINESS**

No. sem./qtr.		Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
6013	S	C-Google This Gr 9, 10, 11, 12		26	26		1.0	5		130	26
6111 -	S	C/H-Accounting Gr 10, 11, 12	74	73	25	3.0	3.0	5	370	365	19-28
6114											
6141 -	S	C/H-Personal Finance	108	133	27	4.0	5.0	5	540	665	25-28
6143		Gr 10, 11, 12									
6161 -	S	C-Intro to Financial Services	14	15	2	6.0	7.0	5	70	75	2-5
6162		Gr 12									
6211 -	S	C/H -Business Law	65	45	22	3.0	2.0	5	325	225	13-26
6214		Gr 10, 11, 12									
6311 -	S	C-Marketing & Entrepreneur	55	52	27	2.0	2.0	5	275	260	26-28
6312		Gr 10, 11, 12									
6313 -	S	H-Marketing & Entrepreneur	100	94	24	4.0	4.0	5	500	470	19-27
6314		Gr 10, 11, 12									
6315 -	S	H-Retail Marketing Gr 11, 12	50	44	9	5.0	5.0	5	250	220	4-11
6316											
6350	S	C-Sports & Entertainment	45	40	21	2.0	2.0	5	225	200	14-25
		Marketing Gr 10, 11, 12									
6351 -	S	C-Event Planning, Fashion	52	28	27	2.0	1.0	5	260	140	25-28
6352		Marketing Gr 10, 11, 12									
6091 -	S	N-Office Intern **- No CR**	1	1	1	1.0	1.0	5	5	5	1
6092											
		Dept. Total 1st semester	**564**		**18**	**32.0**			**2,820**		
		Dept. Total 2nd semester		**551**	**17**		**33.0**			**2,755**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **Technology/Engineering**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
3911 - S	H-Intro to Engr Design	72	68	23	3.0	3.0	5	360	340	20-29
3912	(PLTW) Gr 10, 11, 12									
3921 - S	H-Principals of Engr	23	26	12	2.0	2.0	5	115	130	6-20
3922	(PLTW) Gr 10, 11, 12									
3945 - S	H-Architectural Design	52	50	26	2.0	2.0	5	260	250	25-27
3946	Gr 10, 11, 12									
3953 - S	H-Robotics Gr 10, 11, 12	51	47	25	2.0	2.0	5	255	235	23-26
3954										
3971 - S	A-Intro to Engr (DE),	5	9	7	1.0	1.0	5	25	45	5-9
3978	H-Engr Externship Gr 12									
	Dept. Total 1st semester	**203**		**20**	**10.0**			**1,015**		
	Dept. Total 2nd semester		**200**	**20**		**10.0**			**1,000**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **Family & Consumer Science (Culinary)**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
5085 - S	C-The Melting Pot, Reg Cuisine	120		24	5.0		5	600		23-25
5086	Gr 9, 10, 11, 12									
5087 - S	C-World of Foods No Pport		119	24		5.0	5		595	23-24
5088	Needed Gr 9, 10, 11, 12									
5311 - S	H-Culinary Arts Beginner	33	33	17	2.0	2.0	10	330	330	14-19
5312	Gr 10, 11, 12									
5313 - S	H-Culinary Arts Interm/Adv	9	9	9	1.0	1.0	10	90	90	9
5316	Gr 11, 12									
	Dept. Total 1st semester	**162**		**20**	**8.0**			**1,020**		
	Dept. Total 2nd semester		**161**	**20**		**8.0**			**1,015**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **PERFORMING ARTS**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
7011 -	S	H-String Ensemble	5	5	5	1.0	1.0	5	25	25	5
7018		Gr 9, 10, 11, 12									
7121 -	S	N-Beg Piano Keyboard &	40	32	18	2.0	2.0	5	200	160	14-20
7122		Theory Gr 9, 10, 11, 12									
7127 -	S	H-Adv Piano Keyboard &	13	13	13	1.0	1.0	5	65	65	13
7128		Theory Gr 10, 11, 12									
7363 -	S	H-Digital Audio Production	22	17	10	2.0	2.0	5	110	85	8-12
7364		**Gr 11, 12**									
		Subtotal Room 037	**80**	**67**	**12**	**6.0**	**6.0**		**400**	**335**	
7125	S	N-World of Drums	17	7	12	1.0	1.0	5	85	35	7-17
		Gr 9, 10, 11, 12									
7131 -	S	N-Beg/H-Adv Guitar &	27	22	12	2.0	2.0	5	135	110	5-21
7136		Theory Gr 9, 10, 11, 12									
7142 -	S	H-Band Gr 9, 10, 11, 12	62	61	62	1.0	1.0	5	310	305	61-62
7148											
		Subtotal Room 029	**106**	**90**	**25**	**4.0**	**4.0**		**530**	**450**	
7301 -	S	H-Show Choir Gr 9, 10, 11, 12	63	62	63	1.0	1.0	5	315	310	62-63
7308											
7341 -	S	H-Concert Chorus	19	15	17	1.0	1.0	5	95	75	15-19
7344		Gr 9, 10, 11, 12									
7411 -	S	H-Intro to Theater Arts	28	28	28	1.0	1.0	5	140	140	28
7412		Gr 9, 10, 11, 12									
7413 -	S	H-Interm/Adv Theater Arts	10	9	10	1.0	1.0	5	50	45	9-10
7416		Gr 10, 11, 12									
		Subtotal Room 026	**120**	**114**	**29**	**4.0**	**4.0**		**600**	**570**	
7905 -	S	H-Dance Modern & Jazz	119	113	29	4.0	4.0	5	595	565	26-30
7906		Technique Gr 9, 10, 11, 12									
7907 -	S	H-Dance Technique &	115	106	28	4.0	4.0	5	575	530	23-30
7908		Composition Gr 10, 11, 12									
7953 -	S	H-Adv Dance Studies &	77	77	26	3.0	3.0	5	385	385	25-52
7984		Choreography, Sr Dance Gr 11, 12									
		Subtotal Rooms 018 & 135	**311**	**296**	**28**	**11.0**	**11.0**		**1,555**	**1,480**	
		Dept. Total 1st semester	**617**		**25**	**25.0**			**3,085**		
		Dept. Total 2nd semester		**567**	**23**		**25.0**			**2,835**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **VISUAL ARTS**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
7501 -	S	N-Art Exploration	10	9	10	1.0	1.0	5	50	45	9-10
7502		Gr 9, 10, 11, 12									
7511 -	S	C/H-Intro to Studio Art	48	45	23	2.0	2.0	5	240	225	21-25
7514		Gr 9, 10, 11, 12									
7543 -	S	H-Studio Art Portfolio	12	12	12	1.0	1.0	5	60	60	12
7544		Gr 12									
7591 -	S	N-Drawing, N-Sculpture	99	85	23	4.0	4.0	5	495	425	18-25
7622		Gr 9, 10, 11, 12									
		Subtotal Rms 013, 014, 015	**169**	**151**	**20**	**8.0**	**8.0**		**845**	**755**	
7715 -	S	H-Digital Photography	167	155	27	6.0	6.0	5	835	775	23-28
7716		Gr 9, 10, 11, 12									
7773	S	H-Animation Gr 10, 11, 12	23	24	24	1.0	1.0	5	115	120	23-24
		Subtotal Room 142	**190**	**179**	**26**	**7.0**	**7.0**		**950**	**895**	
7747 -	S	H-Intro to Graphic Design,	115	105	24	5.0	4.0	5	575	525	23-40
7759		Adv Graphic Des Gr 9-12									
		Subtotal Room 249	**115**	**105**	**24**	**5.0**	**4.0**		**575**	**525**	
7825 -	S	H-TV Production	39	32	12	3.0	3.0	5	195	160	9-14
7826		Gr 9, 10, 11, 12									
7829 -	S	H-Advanced TV Production	5	5	5	1.0	1.0	5	25	25	5
7830		Gr 10, 11, 12									
7871	S	A-Film, Video & Society (DE)		10	10		1.0	5		50	10
		Gr 11, 12									
		Subtotal Room 610A	**44**	**47**	**10**	**4.0**	**5.0**		**220**	**235**	
		Dept. Total 1st semester	**518**		**22**	**24.0**			**2,590**		
		Dept. Total 2nd semester		**482**	**20**		**24.0**			**2,410**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **PHYSICAL EDUCATION**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
9003	S	N-Physical Education	634	621	27	23.0	23.0	5	3,170	3,105	22-34
		Gr 11, 12									
9005	S	N-Physical Education	283	267	25	11.0	11.0	5	1,415	1,335	17-34
		Gr 9									
9006	S	N-Physical Education	309	299	28	11.0	11.0	5	1,545	1,495	22-35
		Gr 9R, 10									
		Dept. Total 1st semester	**1,226**		**27**	**45.0**			**6,130**		
		Dept. Total 2nd semester		**1,187**	**26**		**45.0**			**5,935**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **HEALTH & NUTRITION**

No. sem./qtr.		Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
9011	S	N-Health Education Gr 9	338	370	28	12.0	13.0	5	1,690	1,850	22-31
9012	S	N-Health Education Gr 10	390	331	30	13.0	11.0	5	1,950	1,655	27-32
9023 - 9024	S	H-Medical Terminology & Body Systems Gr 11	79	74	26	3.0	3.0	5	395	370	24-27
9042	S	H-Careers in Health & Bioscience Gr 11, 12	38	50	22	2.0	2.0	5	190	250	12-26
9052	S	H-Medical Law & Ethics Gr 12	77		26	3.0		5	385		25-26
9062	S	H-Current Health Issues Gr 11, 12		72	24		3.0	5		360	21-26
9083	S	H-Nutrition & Disease Gr 11, 12	25		25	1.0		5	125		25
9092	S	H-Senior Externship Gr 12		17	17		1.0	5		85	17
		Dept. Total 1st semester	**947**		**28**	**34.0**			**4,735**		
		Dept. Total 2nd semester		**914**	**28**		**33.0**			**4,570**	

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SPECIAL EDUCATION**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
8001 -	S	C-Fundamentals of English	24	24	12	2.0	2.0	5	120	120	12
8002		Gr 9									
8021 -	S	C-English Gr 9	9	9	5	2.0	2.0	5	45	45	3-6
8022											
8061 -	S	N-Balanced Literacy	1	1	1	1.0	1.0	5	5	5	1
8062		Gr 9									
8123 -	S	C-Algebra Gr 9	12	14	7	2.0	2.0	5	60	70	2-12
8124											
8301 -	S	C-Fundamentals of Science	9	9	9	1.0	1.0	5	45	45	9
8302		Gr 9									
8401 -	S	C-Fund of Topics in World	10	10	10	1.0	1.0	5	50	50	10
8402		History Gr 9									
8411 -	S	C-World History Gr 9	7	7	4	2.0	2.0	5	35	35	3-4
8412											
8851 -	S	N-Instructional Support	41	41	8	5.0	5.0	5	205	205	4-12
8852		Gr 9									
8981 -	S	N-Freshman Seminar	4	4	2	2.0	2.0	5	20	20	1-3
8982		Gr 9									
		Subtotal Grade 9	**117**	**119**	**7**	**18.0**	**18.0**		**585**	**595**	
8003 -	S	C-Fundamentals of English	46	48	8	6.0	6.0	5	230	240	6-10
8008		Gr 10, 11, 12									
8023 -	S	C-English	22	22	7	3.0	3.0	5	110	110	2-10
8028		Gr 10, 11, 12									
8051 -	S	C-Literature & Contemp	10	10	10	1.0	1.0	5	50	50	10
8052		Youth Gr 10, 11, 12									
8083 -	S	N-CL Decoding	32	31	6	5.0	5.0	5	160	155	5-10
8090		Gr 9, 10, 11, 12									
8100	S	N-Fundamentals of Math	7	5	6	1.0	1.0	5	35	25	5-7
		MCAS Prep Gr 10, 11, 12	incl. 2sects at 10pd								
8103 -	S	Fundamentals of Algebra,	65	64	9	7.0	7.0	5	325	320	7-11
8108		**Geometry Gr 9, 10, 11, 12**									
8125 -	S	C-Geometry, Algebra	21	21	7	3.0	3.0	5	105	105	6-8
8128		Gr 10, 11, 12									
8131 -	S	N-Functional Math	31	31	8	4.0	4.0	5	155	155	3-12
8134		Gr 9, 10, 11, 12									
8151 -	S	C-Funds of Finan Math, Finan	15	14	7	2.0	2.0	5	75	70	6-8
8154		Math & Appl Gr 11, 12									
8303 -	S	C-Fundamentals of Biology	18	18	6	3.0	3.0	5	90	90	5-8
8306		Gr 10, 11, 12									
8311 -	S	C-Fundamentals of Science	7	7	4	2.0	2.0	5	35	35	3-4
8312		**Gr ??**									
8313 -	S	C-Biology Gr 10	17	17	9	2.0	2.0	5	85	85	5-12
8314											
8315 -	S	N-Science Gr 9, 10, 11, 12	33	33	7	5.0	5.0	5	165	165	2-10
8316											
8351 -	S	C-Geology Gr 11, 12	5	5	5	1.0	1.0	5	25	25	5
8352											
8403 -	S	C-Fund of Topics in US	15	15	8	2.0	2.0	5	75	75	15
8406		History Gr 10, 11									

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **SPECIAL EDUCATION**

No. sem./qtr.		Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
8413 -	S	C-US History Gr 10, 11	28	28	9	3.0	3.0	5	140	140	7-12
8416											
8513 -	S	N-Vocational Education	9	9	9	1.0	1.0	5	45	45	9
8514		**Gr ??**									
8543 -	S	C-Leadership Through	7	7	7	1.0	1.0	5	35	35	7
8544		Adventure Gr 10, 11, 12									
8547 -	S	N-Social Dynamics	101	101	10	10.0	10.0	5	505	505	3-19
8552		Gr 9, 10, 11, 12									
8701 -	S	N-Functional Academics	56	55	8	7.0	7.0	5	280	275	3-12
8704		Gr 9, 10, 11, 12									
8813 -	S	N-Intro to Community &	34	34	9	4.0	4.0	5	170	170	5-11
8814		Indep Living Gr 9, 10, 11, 12									
8815 -	S	N-Community & Indep Living	109	108	11	10.0	10.0	5	545	540	6-13
8816		Gr 9, 10, 11, 12									
8817 -	S	N-Business Practices	13	13	7	2.0	2.0	5	65	65	5-8
8818		**Gr ??**									
8853 -	S	N-Instructional Support	113	112	9	13.0	13.0	5	565	560	4-12
8874		Gr 9, 10, 11, 12									
8901 -	S	N-Life Skills Physical Ed	55	55	11	5.0	5.0	5	275	275	6-14
8902		Gr 9, 10, 11, 12 **in GYM5**									
8903 -	S	N Physical Ed	27	27	14	2.0	2.0	5	135	135	10-17
8904		Gr 9, 10, 11, 12 **in Rm 235**									
8911 -	S	N-Health Gr 9, 10, 11, 12	38	39	8	5.0	5.0	5	190	195	3-12
8922											
8991	S	C-Sped Intern	1	1	1	1.0	1.0	5	5	5	1
		Gr ??									
		Dept. Total 1st semester	**1,052**		**8**	**129.0**			**5,260**		
		Dept. Total 2nd semester		**1,049**	**8**		**129.0**			**5,245**	

2,101

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **MISCELLANEOUS**

No. sem./qtr.		Course	Course Enrollment S1	S2	Class Size Avg.	No. of Sections S1	S2	Periods per Cycle	Pupil Periods per Week S1	S2	Class Size Range
9321 -	S	H-Aviation History	148	148	25	6.0	6.0	5	740	740	16-30
9322		Gr 9, 10, 11, 12									
9923 -	S	H-Science of Flight	104	104	21	5.0	5.0	5	520	520	14-26
9924		Gr 10, 11, 12									
9325 -	S	H-Life Skills & Careers	48	48	24	2.0	2.0	5	240	240	24
9326		Gr 11, 12									
9327 -	S	H-Management /Cadet Corps	29	29	7	4.0	4.0	5	145	145	7-8
9328		Gr 12									
9337 -	S	H-Principals of Management	19	19	19	1.0	1.0	5	95	95	19
9338		Gr 12									
9351 -	S	H-Flight Commander	35	35	3	14.0	14.0	5	175	175	1-4
9352		Gr 11, 12									
		Subtotal AFROTC	**383**	**383**	**12**	**32.0**	**32.0**		**1,915**	**1,915**	
0801 -	S	C-Beginning English Lang	62	62	16	4.0	4.0	10	620	620	12-23
0802		Gr 9, 10, 11, 12									
0811 -	S	C-Developing English Lang	99	99	20	5.0	5.0	10	990	990	15-27
0812		Gr 9, 10, 11, 12									
0821 -	S	C-Expanding English Lang	73	71	24	3.0	3.0	10	730	710	22-26
0822		Gr 9, 10, 11, 12									
0831 -	S	C-Bridging English Lang	47	47	24	2.0	2.0	10	470	470	21-26
0832		Gr 9, 10, 11, 12									
0841 -	S	C-Support Engl Lang Devel	61	61	20	3.0	3.0	5	305	305	19-22
0842		Gr 9, 10, 11, 12									
0861 -	S	C-Beginner Engl Conversion	58	54	19	3.0	3.0	5	290	270	1-28
0862		Gr 9, 10, 11, 12									
0867 -	S	C-Pronunciation & Vocab	9	11	10	1.0	1.0	5	45	55	9-11
0868		Gr 9, 10, 11, 12									
0873 -	S	C-ESL Reading, Liter of Math	16	16	8	2.0	2.0	10	160	160	8
0876		Gr 9, 10, 11, 12									
0901 -	S	N-Reading Clinic Inter/Adv	72	21	19	3.0	2.0	5	360	105	10-29
0902		Gr 9, 10, 11, 12									
0921 -	S	N-Writing Lab, Tutorial/Study	35	75	22	2.0	3.0	5	175	375	16-29
0931		Gr 9, 10, 11, 12									
		Subtotal ELL English	**532**	**517**	**19**	**28.0**	**28.0**		**4,145**	**4,060**	
1027 -	S	C-Intro to Math	55	55	18	3.0	3.0	5	275	275	1-28
1028		Dept Head Approval									
1137 -	S	C-Algebra	141	140	23	6.0	6.0	5	705	700	9-27
1138		Gr 9, 10									
1237 -	S	C-Geometry	81	79	27	3.0	3.0	5	405	395	22-30
1238		Gr 10, 11, 12									
1337 -	S	C-Algebra 2	8	8	8	1.0	1.0	5	40	40	8
1338		Gr 10, 11, 12									
		Subtotal ELL Math	**285**	**282**	**22**	**13.0**	**13.0**		**1,425**	**1,410**	
3137 -	S	C-Integrated Science	81	81	27	3.0	3.0	5	405	405	25-29
3138		Gr 9									

Program Analysis v3

PE/DPC

School: Lowell High School Gr 9-12

Basis: Existing Enrollment @ 3,125

Date: 11/23/2016

Subject: **MISCELLANEOUS**

No. sem./qtr.	Course	Course Enrollment S1	Course Enrollment S2	Class Size Avg.	No. of Sections S1	No. of Sections S2	Periods per Cycle	Pupil Periods per Week S1	Pupil Periods per Week S2	Class Size Range
3237 - S	C-Biology	137	132	27	5.0	5.0	5	685	660	25-30
3238	Gr 10, 11, 12									
3337 - S	C-Chemistry	36	36	18	2.0	2.0	5	180	180	6-30
3338	Gr 10, 11, 12									
	Subtotal ELL Science	**254**	**249**	**25**	**10.0**	**10.0**		**1,270**	**1,245**	
4027 - S	C-Intro to Social Studies	23	23	23	1.0	1.0	5	115	115	23
4028	Dept Head Approval									
4137 - S	C-World History	49	49	25	2.0	2.0	5	245	245	24-25
4138	Gr 9									
4237 - S	C-US History	135	133	27	5.0	5.0	5	675	665	20-34
4238	Gr 10, 11, 12									
4337 - S	C-US History 2	69	69	23	3.0	3.0	5	345	345	17-27
4338	Gr 11, 12									
	Subtotal ELL Social Studies	**276**	**274**	**25**	**11.0**	**11.0**		**1,380**	**1,370**	
9401 - S	N-Upward Bound	39	42	8	5.0	5.0	5	195	210	3-12
9402										
9901 - S	Modified Day 1, 2, 4, 5, 6, 7	18	12	8	2.0	2.0	5	90	60	3-15
9907	in Café & Café 2									
X015 S	Report to Guid for Schedule	55	129	9	10.0	10.0	5	275	645	1-31
	Adjustment									
	Subtotal	**112**	**183**	**9**	**17.0**	**17.0**		**560**	**915**	
	Dept. Total 1st semester	**1,842**		**17**	**111.0**			**10,695**		
	Dept. Total 2nd semester		**1,888**	**17**		**111.0**			**10,915**	

Perkins Eastman | DPC

Program Adjustments v3

Updated Dec. 12, 2016

JANUARY 08, 2017

Program Adjustments v3

PE/DPC

School: **LOWELL HIGH SCHOOL** **Grades 9-12**

Basis: Existing Enrollment @ **3125** Proposed @ **3520**

Date: **12/12/2016**

SUMMARY:

	EXISTING PROGRAM (ANALYSIS)				PROPOSED PROGRAM (ADJUSTED)			
	[A]	[B]	[A]	[C]	[A]	[B]	[A]	[C]
Subject Area	Course Enroll.		Pupil Periods		Course Enroll.		Pupil Periods	
	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)
ACADEMICS								
English	3,690	118.1	18,448	16.9	4,226	135.2	21,129	17.2
Social Studies	2,934	93.9	14,670	13.4	3,340	106.9	16,699	13.6
World Languages	1,875	60.0	9,375	8.6	2,112	67.6	10,560	8.6
Mathematics	3,064	98.0	15,318	14.0	3,486	111.5	17,429	14.1
Science	2,846	91.1	14,228	13.0	3,205	102.6	16,026	13.0
CAREER								
Business	558	17.8	2,788	2.5	628	20.1	3,140	2.5
Engineering	202	6.4	1,008	0.9	227	7.3	1,135	0.9
Family & Consumer Science	162	5.2	1,018	0.9	182	5.8	1,146	0.9
ARTS								
Performing Arts	592	18.9	2,960	2.7	667	21.3	3,334	2.7
Visual Arts	500	16.0	2,500	2.3	563	18.0	2,816	2.3
HEALTH/WELLNESS								
Physical Education	1,207	38.6	6,033	5.5	1,359	43.5	6,795	5.5
Health & Nutrition	931	29.8	4,653	4.3	1,048	33.5	5,241	4.3
SPECIAL NEEDS								
Special Education/Remedial	1,051	33.6	5,253	4.8	1,183	37.9	5,916	4.8
Miscellaneous								
AFROTC	499	16.0	3,893	3.6	586	18.7	4,625	3.8
ELL	1,219	39.0	6,175	5.6	1,397	44.7	7,076	5.7
Upward Bound	41	1.3	203	0.2	46	1.5	228	0.2
Report to Guidance	92	2.9	460	0.4	(0)	(0.0)	0	0.0
Early Release	15	0.5	75	0.1	17	0.5	84	0.1
Unaccounted For / (Excess)			**323**	**0.3**			**(180)**	**(0.1)**
Total Above			**109,375**	**100.0**			**123,199**	**100.0**
Total Available Pupil Periods			**109,375**				**123,200**	
(No. of pupils x 35 period cycle)								

[A] Counts shown are average of 1st and 2nd semesters.

[B] Count (course enrollment) divided by total of no. of students in school.

[C] Count (pupil-periods) divided by total no. of pupil-periods available.

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **ENGLISH**

		Existing 3125	Adjust for 3520	Adjust for Exist Class Sizes	Adjust for MSBA Class Sizes
Bal Literacy/Explor in Engl Gr9	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**141**	159	194	194
Average Class Size [2]		14	16	14	14
Average Number of Sections [3]		**10.00**	10.00	**14.00**	**14.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		705	794	969	969

C/H English Gr9	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**593**	668	703	703
Average Class Size [2]		24	27	24	24
Average Number of Sections [3]		**25.00**	25.00	**29.00**	**29.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		2965	3340	3515	3515
				incl's 35 Misc (rpt to gd)	

Fresh & Latin Lyceum Seminars Gr9	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**637**	718	718	718
Average Class Size [2]		24	27	24	23
Average Number of Sections [3]		**27.00**	27.00	**30.00**	**31.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		3185	3588	3588	3588

Bal Literacy/SAT Prep/Engl 0121&2	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**68**	77	77	77
Average Class Size [2]		11	13	11	11
Average Number of Sections [3]		**6.00**	6.00	**7.00**	**7.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		340	383	383	383

C/H/A English Gr 10, 11, 12	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**1901**	2141	2141	2141
Average Class Size [2]		25	28	25	23
Average Number of Sections [3]		**77.00**	77.00	**87.00**	**95.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		9505	10706	10706	10706

Various C/H Engl Courses Gr 11, 12 *	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**350**	394	394	394
Average Class Size [2]		26	29	26	23
Average Number of Sections [3]		**13.50**	13.50	**15.00**	**17.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		1748	1968	1968	1968

* Reading & Writing 21st C, Other Worlds, Public Speak, Short Fiction, Sports Lit, Creative Writing, Expository Writing, Race & Ethnicity, Lit of Holocaust

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**3690**	**4156**	**4226**	**4226**
Avg. Class Size [2]		**23**	**26**	**23**	**22**
Avg. No. of Sections [3]	**Total**	**159**	**159**	**182.0**	**193.0**
Average Pupil-Periods	**Total**	**18448**	**20779**	**21129**	**21129**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **SOCIAL STUDIES**

		Existing	Adjust for	Adjust for Exist	Adjust for MSBA
		3125	3520	Class Sizes	Class Sizes
C/H World History Gr 9	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**677**	763	798	798
Average Class Size [2]		23	25	23	23
Average Number of Sections [3]		**30.00**	30.00	**34.00**	**34.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		3385	3813	3988	3988
				incl's 35 Misc (rpt to gd)	
C/H/A US History Gr 10, 11, 12	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**1465**	1650	1650	1650
Average Class Size [2]		25	28	25	23
Average Number of Sections [3]		**59.00**	59.00	**67.00**	**73.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		7323	8248	8248	8248
Educ in Am/Topics in US Hist Gr 11, 12	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**11**	12	12	12
Average Class Size [2]		11	12	12	12
Average Number of Sections [3]		**1.00**	1.00	**1.00**	**1.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		55	62	62	62
Intro to Econ & Fin/US Gov & Politics *	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**76**	85	85	85
Average Class Size [2]		19	21	21	21
Average Number of Sections [3]		**4.00**	4.00	**4.00**	**4.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		378	425	425	425

* Includes Topics Facing History, Camb Culture, Political Sci - Gr 11, 12

C/H/A Sociology, Psych, Philosophy *	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**667**	751	751	751
Average Class Size [2]		27	30	26	25
Average Number of Sections [3]		**25.00**	25.00	**29.00**	**30.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		3333	3754	3754	3754

* Includes Euro History, City of Lowell - Gr 11, 12

Gender & Identity, Digital Journ *	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**40**	44	44	44
Average Class Size [2]		13	15	15	15
Average Number of Sections [3]		**3.00**	3.00	**3.00**	**3.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		198	222	222	222

* Includes Seminar Am Diversity, Internship in CCC Path - Gr 10, 11, 12

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**2934**	**3305**	**3340**	**3340**
Avg. Class Size [2]		**24**	**27**	**24**	**23**
Avg. No. of Sections [3]	**Total**	**122**	**122**	**138.0**	**145.0**
Average Pupil-Periods	**Total**	**14670**	**16524**	**16699**	**16699**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **WORLD LANGUAGE**

		Existing	Adjust for	Adjust for Exist	Adjust for MSBA
		3125	3520	Class Sizes	Class Sizes
H Latin	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**158**	177	177	177
Average Class Size [2]		23	25	22	22
Average Number of Sections [3]		**7.00**	7.00	**8.00**	**8.00**
Periods/Cycle		**5**	5	**5**	5
Average Pupil-Periods		788	887	887	887

add 1 sect for 23avg

A Latin	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**24**	27	**27**	27
Average Class Size [2]		12	14	14	14
Average Number of Sections [3]		**2.00**	2.00	**2.00**	**2.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		120	135	135	135

C/H French	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**301**	339	339	339
Average Class Size [2]		22	24	23	23
Average Number of Sections [3]		**14.00**	14.00	**15.00**	**15.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		1505	1695	1695	1695

H French	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**13**	15	15	15
Average Class Size [2]		13	15	15	15
Average Number of Sections [3]		**1.00**	1.00	**1.00**	**1.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		65	73	73	73

Spanish Heritage Spkr, A Spanish	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**38**	43	43	43
Average Class Size [2]		13	14	14	14
Average Number of Sections [3]		**3.00**	3.00	**3.00**	**3.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		190	214	214	214

C/H/A Spanish, Spanish Conversation	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**971**	1094	1094	1094
Average Class Size [2]		26	29	26	23
Average Number of Sections [3]		**38.00**	38.00	**42.00**	**48.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		4855	5469	5469	5469

Portuguese	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll.[1]	S	**84**	94	94	94
Average Class Size [2]		17	19	19	19
Average Number of Sections [3]		**5.00**	**5.00**	**5.00**	**5.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		418	470	470	470

C/H Khmer	Reg. CR	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll.[1]	S	247	278	278	278
Average Class Size [2]		21	23	21	21
Average Number of Sections [3]		12.00	12.00	13.00	13.00
Periods/Cycle		5	5	5	5
Average Pupil-Periods		1233	1388	1388	1388

C/H Khmer	Sm Grp	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll.[1]	S	41	46	46	46
Average Class Size [2]		14	15	15	15
Average Number of Sections [3]		3.00	3.00	3.00	3.00
Periods/Cycle		5	5	5	5
Average Pupil-Periods		203	228	228	228

SUBTOTAL		Existing	Prorated	Adjusted	Adjusted
Avg. Course Enroll. [1]	**Total**	**1875**	**2112**	**2112**	**2112**
Avg. Class Size [2]		**22**	**25**	**23**	**22**
Avg. No. of Sections [3]	**Total**	**85**	**85.0**	**92.0**	**98.0**
Average Pupil-Periods	**Total**	**9375**	**10560**	**10560**	**10560**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **MATHEMATICS**

		Existing 3125	Adjust for 3520	Adjust for Exist Class Sizes	Adjust for MSBA Class Sizes
Math Sem, Trans/Topics Alg Gr 9	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**76**	86	86	86
Average Class Size [2]		13	14	14	14
Average Number of Sections [3]		**6.00**	6.00	**6.00**	**6.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		380	428	428	428

C/H Algebra Gr 9	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**559**	630	665	665
Average Class Size [2]		24	27	24	25
Average Number of Sections [3]		**23.00**	23.00	**28.00**	**27.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		2795	3148	3323	3323
				incl's 35 Misc (rpt to gd)	

SAT Prep, C/H Algebra, Geometry *	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**2223**	2503	2503	2503
Average Class Size [2]		24	27	24	23
Average Number of Sections [3]		**93.00**	93.00	**103.00**	**111.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		11113	12517	12517	12517

* Includes Adv Quantitative Reasoning, Pre-Calculus, Calculus, Statistics Gr 10, 11, 12

Intro Stats, Discr Math, Fund Calc	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**100**	112	112	112
Average Class Size [2]		14	16	14	14
Average Number of Sections [3]		**7.00**	7.00	**8.00**	**8.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		498	560	560	560

Intro Prrm'g, Visual Basic Prog	**Comp CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**85**	96	96	96
Average Class Size [2]		21	24	24	24
Average Number of Sections [3]		**4.00**	4.00	**4.00**	**4.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		425	479	479	479

H/A Computer Programming	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**22**	24	24	24
Average Class Size [2]		11	12	12	12
Average Number of Sections [3]		**2.00**	2.00	**2.00**	**2.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		108	121	121	121

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**3064**	**3451**	**3486**	**3486**
Avg. Class Size [2]		**23**	**26**	**23**	**22**
Avg. No. of Sections [3]	**Total**	**135**	**135.0**	**151.0**	**158.0**
Average Pupil-Periods	**Total**	**15318**	**17254**	**17429**	**17429**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Sci Lab ≤ 26 (approx. 24 average)

Subject: **SCIENCE**

		Existing	Adjust for	Adjust for Exist	Adjust for MSBA
		3125	3520	Class Sizes	Class Sizes
C/H Integrated Science Gr 9	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**626**	705	705	705
Average Class Size [2]		24	27	24	23
Average Number of Sections [3]		**26.00**	26.00	**29.00**	**31.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		3130	3526	3526	3526

Integ Sci Lab

Explorations in Integrated Sci Gr 9	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**60**	68	**68**	68
Average Class Size [2]		15	17	14	14
Average Number of Sections [3]		**4.00**	4.00	**5.00**	**5.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		300	338	338	338

Integ Sci Lab

MCAS Biology Prep, Princ of Biology	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**40**	44	**44**	44
Average Class Size [2]		13	15	15	15
Average Number of Sections [3]		**3.00**	3.00	**3.00**	**3.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		198	222	222	222

Biology Lab

C/H/A Biology, Expl in Bio, Gen Bio	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**718**	809	**809**	809
Average Class Size [2]		27	30	26	23
Average Number of Sections [3]		**27.00**	27.00	**31.00**	**35.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		3590	4044	4044	4044

Biology Lab

Anat, Physiology, Forensics, Microbio	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**410**	462	**462**	462
Average Class Size [2]		29	33	26	23
Average Number of Sections [3]		**14.00**	14.00	**18.00**	**20.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		2050	2309	2309	2309

Biology Lab

Genetics	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**74**	83	**83**	83
Average Class Size [2]		30	33	24	24
Average Number of Sections [3]		**2.50**	2.50	**3.50**	**3.50**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		370	417	417	417

Hybrid CR 313

C/H Chemistry	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**455**	513	**513**	513
Average Class Size [2]		25	28	24	23
Average Number of Sections [3]		**18.00**	18.0	**21.0**	**22.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		2275	2563	2563	2563

					Chemistry Lab
A Chemistry	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**30**	34	**34**	34
Average Class Size [2]		15	17	17	17
Average Number of Sections [3]		**2.00**	2.00	**2.00**	**2.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		150	169	169	169

					Chemistry Lab
H/A Physics	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**210**	236	236	236
Average Class Size [2]		23	26	24	21
Average Number of Sections [3]		**9.00**	9.00	**10.00**	**11.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		1048	1180	1180	1180

					Physics Lab
Partnership Experience	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**8**	9	**9**	9
Average Class Size [2]		8	9	9	9
Average Number of Sections [3]		**1.00**	1.00	**1.00**	**1.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		40	45	45	45

					Hybrid CR 321
Geology, Meteor, Ocean, Astron	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**183**	206	**206**	206
Average Class Size [2]		28	32	26	23
Average Number of Sections [3]		**6.50**	6.50	**8.00**	**9.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		915	1031	1031	1031

Clean Energy Career Explorations	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**15**	17	**17**	17
Average Class Size [2]		15	17	17	17
Average Number of Sections [3]		**1.00**	1.00	**1.00**	**1.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		75	84	84	84

Environmental Studies	**Sci. Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**18**	20	**20**	20
Average Class Size [2]		18	20	20	20
Average Number of Sections [3]		**1.00**	1.00	**1.00**	**1.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		88	99	99	99

					Chemistry Lab
SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**2846**	**3205**	**3205**	**3205**
Avg. Class Size [2]		**25**	**28**	**24**	**22**
Avg. No. of Sections [3]	**Total**	**115**	**115.0**	**133.5**	**144.5**
Average Pupil-Periods	**Total**	**14228**	**16026**	**16026**	**16026**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **ENGINEERING**

	Existing	Adjust for	Adjust for Exist	Adjust for
	3125	3520	Class Sizes	Other

Intro Engr Design, Arch Design, Robot **Engr Lab**		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**170**	191	191	
Average Class Size [2]		24	27	24	
Average Number of Sections [3]		**7.00**	7.00	**8.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		850	957	957	

Principals of Engr, Intro to Engr **Engr Lab**		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**32**	35	35	
Average Class Size [2]		11	12	12	
Average Number of Sections [3]		**3.00**	3.00	**3.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		158	177	177	

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**202**	**227**	**227**	
Avg. Class Size [2]		**20**	**23**	**21**	
Avg. No. of Sections [3]	**Total**	**10**	**10.0**	**11.0**	
Average Pupil-Periods	**Total**	**1008**	**1135**	**1135**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **BUSINESS**

		Existing	Adjust for	Adjust for Exist	Adjust for MSBA
		3125	3520	Class Sizes	Class Sizes
Google, Accntg, Pers Fin, Bus Law	**Comp Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**262**	295	295	295
Average Class Size [2]		25	28	25	23
Average Number of Sections [3]		**10.50**	10.50	**12.00**	**13.00**
Periods/Cycle		**5**	5	**5**	5
Average Pupil-Periods		1310	1476	1476	1476

C/H Marketing & Entrepreneur *	**Comp Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**233**	262	**262**	262
Average Class Size [2]		25	28	25	23
Average Number of Sections [3]		**9.50**	9.50	**10.50**	**11.50**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		1165	1312	1312	1312

* Includes Sports & Entertainment Marketing, Event Planning, Fashion Marketing

Ch. 74 Marketing

Intro to Financial Services	**JDCU**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**15**	16	16	
Average Class Size [2]		2	3	2	
Average Number of Sections [3]		**6.50**	6.50	**7.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		73	82	82	

Retail Marketing	**School Store**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**47**	53	53	
Average Class Size [2]		9	11	11	
Average Number of Sections [3]		**5.00**	5.00	**5.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		235	265	265	

Ch. 74 Marketing

Office Intern - No CR	**w/ Dept Head**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**1**	1	1	
Average Class Size [2]		1	1	1	
Average Number of Sections [3]		**1.00**	1.00	**1.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		5	6	6	

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**558**	**628**	**628**	
Avg. Class Size [2]		**17**	**19**	**18**	
Avg. No. of Sections [3]	**Total**	**33**	**32.5**	**35.5**	
Average Pupil-Periods	**Total**	**2788**	**3140**	**3140**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **FACS/CULINARY**

		Existing	Adjust for	Adjust for Exist	Adjust for
		3125	3520	Class Sizes	Other
Melting Pot, Regional Cuisine *	**Culinary CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	120	135	135	
Average Class Size [2]		24	27	24	
Average Number of Sections [3]		5.00	5.00	5.50	
Periods/Cycle		5	5	5	
Average Pupil-Periods		598	673	673	

* Includes World of Feeds, No Passport Needed

Culinary Arts Beginner	**Kitch+Restaurant**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	33	37	37	
Average Class Size [2]		17	19	19	
Average Number of Sections [3]		2.00	2.00	2.00	
Periods/Cycle		10	10	10	
Average Pupil-Periods		330	372	372	

Culinary Arts Interm/Adv.	**Kitch+Restaurant**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	9	10	10	
Average Class Size [2]		9	10	10	
Average Number of Sections [3]		1.00	1.00	1.00	
Periods/Cycle		10	10	10	
Average Pupil-Periods		90	101	101	

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**162**	**182**	**182**	
Avg. Class Size [2]		**20**	**23**	**21**	
Avg. No. of Sections [3]	**Total**	**8**	**8.0**	**8.5**	
Average Pupil-Periods	**Total**	**1018**	**1146**	**1146**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **PERFORMING ARTS**

	Existing	Adjust for	Adjust for Exist	Adjust for MSBA
	3125	3520	Class Sizes	Class Sizes

String Ensem, Begin Piano Keybd*	**Midi/Piano**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**74**	83	83	
Average Class Size [2]		12	14	14	
Average Number of Sections [3]		**6.00**	6.00	**6.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		368	414	414	

Wld of Drums, Beg/Adv Guitar	**Band**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**37**	41	**41**	
Average Class Size [2]		12	14	14	
Average Number of Sections [3]		**3.00**	3.00	**3.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		183	206	206	

Band	**Band**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**62**	69	69	
Average Class Size [2]		62	69	69	
Average Number of Sections [3]		**1.00**	1.00	**1.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		308	346	346	

Show Choir	**Chorus**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**63**	70	70	
Average Class Size [2]		63	70	70	
Average Number of Sections [3]		**1.00**	1.00	**1.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		313	352	352	

Concert Chorus, Intro Theater Arts*	**Chorus**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**55**	61	**61**	
Average Class Size [2]		18	20	20	
Average Number of Sections [3]		**3.00**	3.00	**3.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		273	307	307	

* Includes Intermediate/Advanced Theater Arts

Dance Modern & Jazz Tech*	**Dance/Movmt**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**304**	342	342	342
Average Class Size [2]		28	31	26	23
Average Number of Sections [3]		**11.00**	11.00	**13.00**	**15.00**
Periods/Cycle		**5**	5	5	5
Average Pupil-Periods		1518	1709	1709	1709

* Includes Dance Technique & Composition, Adv Dance Studies & Choreography, Sr Dance

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**592**	**667**	**667**	
Avg. Class Size [2]		**24**	**27**	**25**	
Avg. No. of Sections [3]	**Total**	**25**	**25.0**	**27.0**	
Average Pupil-Periods	**Total**	**2960**	**3334**	**3334**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **VISUAL ARTS**

	Existing	Adjust for	Adjust for Exist	Adjust for MSBA
	3125	3520	Class Sizes	Class Sizes

Art Exploration*	**2D/Studio CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**22**	24	24	
Average Class Size [2]		11	12	12	
Average Number of Sections [3]		**2.00**	2.00	**2.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		108	121	121	

* Includes Studio Art Portfolio

Intro to Studio Art*	**3D/2D/Studio CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**139**	156	**156**	
Average Class Size [2]		23	26	22	
Average Number of Sections [3]		**6.00**	6.00	**7.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		693	780	780	

* Includes Drawing, Sculpture

Digital Photography, Animation	**PC Art Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**185**	208	**208**	208
Average Class Size [2]		26	30	26	23
Average Number of Sections [3]		**7.00**	7.00	**8.00**	**9.00**
Periods/Cycle		**5**	5	**5**	5
Average Pupil-Periods		923	1039	1039	1039

Intro/Adv Graphic Design	**Mac Graphic Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**110**	124	124	
Average Class Size [2]		24	28	23	
Average Number of Sections [3]		**4.50**	4.50	**5.50**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		550	620	620	

TV Prod, Adv TV Prod*	**Mac Graphic Lab**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**46**	51	51	
Average Class Size [2]		10	11	11	
Average Number of Sections [3]		**4.50**	4.50	**4.50**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		228	256	256	

* Includes Film, Video & Society

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**500**	**563**	**563**	
Avg. Class Size [2]		**21**	**23**	**21**	
Avg. No. of Sections [3]	**Total**	**24**	**24.0**	**27.0**	
Average Pupil-Periods	**Total**	**2500**	**2816**	**2816**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **PHYSICAL EDUCATION**

		Existing	Adjust for	Adjust for Exist	Adjust for MSBA
		3125	3520	Class Sizes	Class Sizes
Phys Ed Gr 9, 10, 11, 12	**Gym**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**1207**	1359	1359	1359
Average Class Size [2]		27	30	26	23
Average Number of Sections [3]		**45.00**	45.00	**53.00**	**60.00**
Periods/Cycle		**5**	5	**5**	5
Average Pupil-Periods		6033	6795	6795	6795

SUBTOTAL		**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1]	**Total**	**1207**	**1359**	**1359**	**1359**
Avg. Class Size [2]		**27**	**30**	**26**	**23**
Avg. No. of Sections [3]	**Total**	**45**	**45.0**	**53.0**	**60.0**
Average Pupil-Periods	**Total**	**6033**	**6795**	**6795**	**6795**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Reg CR ≤ 26 (approx. 24 average), Sm Grp ≤ 16

Subject: **HEALTH & NUTRITION**

	Existing	Adjust for	Adjust for Exist	Adjust for MSBA
	3125	3520	Class Sizes	Class Sizes
Health Education, Med Term & Body* **Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1] S	**922**	1039	1039	1039
Average Class Size [2]	28	31	26	23
Average Number of Sections [3]	**33.00**	33.00	**40.00**	**46.00**
Periods/Cycle	**5**	5	**5**	5
Average Pupil-Periods	4610	5193	5193	5193

* Includes Careers in Health & Bioscience, Medical Law & Ethics, Current Health Issues, Nutrition & Disease

Senior Externship **Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1] S	**9**	10	**10**	10
Average Class Size [2]	17	19	19	19
Average Number of Sections [3]	**0.50**	0.50	**0.50**	**0.50**
Periods/Cycle	**5**	5	**5**	5
Average Pupil-Periods	43	48	48	48

SUBTOTAL	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Avg. Course Enroll. [1] Total	**931**	**1048**	**1048**	**1048**
Avg. Class Size [2]	**28**	**31**	**26**	**23**
Avg. No. of Sections [3] Total	**34**	**33.5**	**40.5**	**46.5**
Average Pupil-Periods Total	**4653**	**5241**	**5241**	**5241**

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **SPECIAL EDUCATION**

		Existing	Adjust for	Adjust for Exist	Adjust for
		3125	3520	Class Sizes	Other
Fundamentals Gr 9*	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**84**	95	95	
Average Class Size [2]		9	11	9	
Average Number of Sections [3]		**9.00**	9.00	**10.00**	
Periods/Cycle		**5**	5	**5**	
Average Pupil-Periods		420	473	473	

* Includes Fundamentals of English, Science, Topics in World History, Instructional Support

Fundamentals Gr 10, 11, 12*	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**182**	205	205	
Average Class Size [2]		8	9	8	
Average Number of Sections [3]		**24.00**	24.00	**26.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		910	1025	1025	

* Includes Fundamentals of English, Math, Algebra, Biology, Topics in US, & Decoding

Fundamentals Instructional Support	**Lg CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**113**	127	127	
Average Class Size [2]		9	10	9	
Average Number of Sections [3]		**13.00**	13.00	**14.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		563	634	634	

Adjustments Gr 9*	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**34**	38	38	
Average Class Size [2]		4	4	4	
Average Number of Sections [3]		**9.00**	9.00	**10.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		170	191	191	

* Includes English, Bal. Lit, Algebra, W. Hist, Freshman Seminar

Adjustments Gr 10, 11, 12*	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**242**	272	**272**	
Average Class Size [2]		8	9	8	
Average Number of Sections [3]		**29.00**	29.00	**34.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		1208	1360	1360	

* Includes Engl, Lit & Cont, Geom, Algebra, Fund of Fin, Fin Math, Fund of Sci, Bio, Geol, US Hist, Voc Ed, Ldrshp, Soc. Dyn

Life Skills - Intensive*	**CR+Tlt**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**34**	38	38	
Average Class Size [2]		9	10	8	
Average Number of Sections [3]		**4.00**	4.00	**5.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		170	191	191	

* Includes Intro to Comm & Indep Living Gr 9-12, Health Gr. 9-12

Life Skills - Autism	**CR+Tlt**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**120**	135	135	
Average Class Size [2]		7	8	7	
Average Number of Sections [3]		**16.00**	16.0	**19.0**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		598	673	673	

* Includes Functional Math, Science, Functional Academics

Life Skills - Labs	L. Skills	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	160	180	180	
Average Class Size [2]		9	11	9	
Average Number of Sections [3]		17.00	17.00	20.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		800	901	901	

* Includes Community & Indep Living, Business Practices

Life Skills - PE, SPED PE	Gym	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	82	92	92	
Average Class Size [2]		12	13	12	
Average Number of Sections [3]		7.00	7.00	8.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		410	462	462	

SPED Intern - No CR	N/A	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	1	1	1	
Average Class Size [2]		1	1	1	
Average Number of Sections [3]		1.00	1.0	1.0	
Periods/Cycle		5	5	5	
Average Pupil-Periods		5	6	6	

SUBTOTAL		Existing	Prorated	Adjusted	Adjusted
Avg. Course Enroll. [1]	**Total**	**1051**	**1183**	**1183**	
Avg. Class Size [2]		**8**	**9**	**8**	
Avg. No. of Sections [3]	**Total**	**129**	**129.0**	**147.0**	
Average Pupil-Periods	**Total**	**5253**	**5916**	**5916**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Program Adjustments v3

PE/DPC

School: LOWELL HIGH SCHOOL

Class Sizes: Maintain Current, Except Reg CR ≤ 26 (approx. 24 average)

Subject: **MISCELLANEOUS**

	Existing	Adjust for	Adjust for Exist	Adjust for
	3125	3520	Class Sizes	Other

ELL Beginnings Engl Language*	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**280**	315	339	
Average Class Size [2]		20	23	20	
Average Number of Sections [3]		**14.00**	14.00	**17.00**	
Periods/Cycle		**10**	10	10	
Average Pupil-Periods		2800	3154	3394	

* Includes Developing Engl Language, Expanding Engl Language, Bridging Engl Lang

added 24 for unacct'd

ELL Support Engl Language Devel*	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**219**	246	246	
Average Class Size [2]		20	22	19	
Average Number of Sections [3]		**11.00**	11.00	**13.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		1093	1231	1231	

* Includes Beginner Engl Conversation, Reading Clinic Intermed/Adv, Writing Lab, Tutorial/Study

ELL Pronunciation & Vocabulary	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**10**	11	11	
Average Class Size [2]		10	11	11	
Average Number of Sections [3]		**1.00**	1.00	**1.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		50	56	56	

ELL Reading, Literature of Math	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**16**	18	18	
Average Class Size [2]		8	9	9	
Average Number of Sections [3]		**2.00**	2.00	**2.00**	
Periods/Cycle		**10**	10	10	
Average Pupil-Periods		160	180	180	

* Includes Expanding Engl Language, Bridging Engl Language, Support Engl Lang Development, Beginner Engl Conversation

ELL Intro to Math, Algebra, Geometry	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**276**	310	334	
Average Class Size [2]		23	26	20	
Average Number of Sections [3]		**12.00**	12.00	**17.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		1378	1552	1672	

added 24 for unacct'd

ELL Algebra 2	**Sm Grp**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**8**	9	9	
Average Class Size [2]		8	9	9	
Average Number of Sections [3]		**1.00**	1.00	**1.00**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		40	45	45	

ELL Intro Soc Studies, World History*	**Reg. CR**	**Existing**	**Prorated**	**Adjusted**	**Adjusted**
Average Course Enroll. [1]	S	**275**	310	310	
Average Class Size [2]		25	28	19	
Average Number of Sections [3]		**11.00**	11.0	**16.0**	
Periods/Cycle		**5**	5	5	
Average Pupil-Periods		1375	1549	1549	

* Includes US History, US History 2

ELL Integrated Science	Reg. CR	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	81	91	91	
Average Class Size [2]		27	30	18	
Average Number of Sections [3]		3.00	3.00	5.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		405	456	456	

ELL Biology	Reg. CR	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	135	152	152	
Average Class Size [2]		27	30	19	
Average Number of Sections [3]		5.00	5.00	8.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		673	758	758	

ELL Chemistry	Reg. CR	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	36	41	41	
Average Class Size [2]		18	20	20	
Average Number of Sections [3]		2.00	2.0	2.0	
Periods/Cycle		5	5	5	
Average Pupil-Periods		180	203	203	

AFROTC Aviation History*	Reg. CR	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	319	359	359	
Average Class Size [2]		23	26	22	
Average Number of Sections [3]		14.00	14.00	16.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		1595	1797	1797	

* Includes Science of Flight, Life Skills & Careers, Principals of Mgmt (104 sci of Flt may need to comp labs w/ courses below)

AFROTC Mgmt/Cadet Corps, Flt Cmdr	Sm Grp	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	64	72	72	
Average Class Size [2]		4	4	4	
Average Number of Sections [3]		18.00	18.00	18.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		320	360	360	

Upward Bound	Sm Grp Suite	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	41	46	46	
Average Class Size [2]		8	9	9	
Average Number of Sections [3]		5.00	5.00	5.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		203	228	228	

Modified Day	Caf	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	15	17	17	
Average Class Size [2]		8	8	8	
Average Number of Sections [3]		2.00	2.00	2.00	
Periods/Cycle		5	5	5	
Average Pupil-Periods		75	84	84	

Report Guidance for Sched Adjust	Guid	Existing	Prorated	Adjusted	Adjusted
Average Course Enroll. [1]	S	92	104	0	
Average Class Size [2]		9	10	0	
Average Number of Sections [3]		10.00	10.00	0.00	
Periods/Cycle		5	5	0	
Average Pupil-Periods		460	518	0	

Pupils to Gr 9 Engl, SS, Math

SUBTOTAL		Existing	Prorated	Adjusted	Adjusted
Avg. Course Enroll. [1]	**Total**	**1865**	**2101**	**2045**	
Avg. Class Size [2]		**17**	**19**	**17**	
Avg. No. of Sections [3]	**Total**	**111**	**111.0**	**123.0**	
Average Pupil-Periods	**Total**	**10805**	**12171**	**12013**	

[1] Course Enrollments are the average of two semesters.

[2] Average Class Sizes are calculated from Average Course Enroll divided by Average Number of Sections.

[3] Number of Sections are the average of two semesters; if the number of sections ends in .5, more courses in one semester

Perkins Eastman | DPC

Program Requirements v4

Updated Jan. 08, 2017

JANUARY 08, 2017

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **Freshman ENGLISH**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
C/H/HH English	[Reg. CR]	703	24	29.0	5	145.0	
Fresh & Latin Lyceum Sem.	[Reg. CR]	718	24	30.0	5	150.0	
						295.0	8.429
Bal Literacy, Explor in Engl	[Sm Grp]	194	14	14.0	5	70.0	
						70.0	2.000
Total		**1615**	**22**	**73**			**10.429**

Subject Area: **Freshman SOCIAL STUDIES**

C/H World History	[Reg. CR]	798	23	34.0	5	170.0	
						170.0	4.857
Total		**798**	**23**	**34**			**4.857**

Subject Area: **Freshman MATHEMATICS**

C/H Algebra, Geometry	[Reg. CR]	665	24	28.0	5	140.0	
						140.0	4.000
Math Sem, Trans/Topics Alg	[Reg. CR]	86	14	6.0	5	30.0	
						30.0	0.857
Total		**751**	**22**	**34**			**4.857**

Subject Area: **Freshman SCIENCE**

C/H Integrated Science	[Sci Lab]	705	24	29.0	5	145.0	
Explor in Integrated Science	[Sci Lab]	68	14	5.0	5	25.0	
						170.0	4.857
Total		**773**	**23**	**34**			**4.857**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **ENGLISH**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
C/H/A English Gr 10, 11, 12	[Reg. CR]	2141	25	87.0	5	435.0	
Various C/H Engl Crs Gr 11, 12	[Reg. CR]	394	26	15.0	5	75.0	
						510.0	14.571
Bal Lit, SAT Prp & Eng 0121,2	[Sm. Grp]	77	11	7.0	5	35.0	
						35.0	1.000
Total		**2612**	**24**	**109.0**			**15.571**
		4227	23	182.0			

Subject Area: **SOCIAL STUDIES**

C/H/A US Hist Gr 10, 11, 12	[Reg. CR]	1650	25	67.0	5	335.0	
Intro to Econ/US Gov & Politic	[Reg. CR]	85	21	4.0	5	20.0	
C/H/A Soc, Psych, Philosophy	[Reg. CR]	751	26	29.0	5	145.0	
						500.0	14.286
Educ in Am, Topics in US Hist	[Sm. Grp]	12	12	1.0	5	5.0	
Gender & Iden, Digital Journal	[Sm. Grp]	44	15	3.0	5	15.0	
						20.0	0.571
Total		**2542**	**24**	**104.0**			**14.857**
		3340	24	138.0			

Subject Area: **WORLD LANGUAGE**

Latin Gr. 9-12	[Reg. CR]	177	22	8.0	5	40.0	
French Gr. 9-12	[Reg. CR]	339	23	15.0	5	75.0	
Spanish Gr. 9-12	[Reg. CR]	1094	26	42.0	5	210.0	
Portuguese Gr. 9-12	[Reg. CR]	94	19	5.0	5	25.0	
Khmer Gr. 9-12	[Reg. CR]	278	21	13.0	5	65.0	
						415.0	11.857
Latin Gr. 9-12	[Sm. Grp]	27	14	2.0	5	10.0	
French Gr. 9-12	[Sm. Grp]	15	15	1.0	5	5.0	
Spanish Gr. 9-12	[Sm. Grp]	43	14	3.0	5	15.0	
Khmer Gr. 9-12	[Sm. Grp]	46	15	3.0	5	15.0	
						45.0	1.286
Total		**2113**	**23**	**92.0**			**13.143**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **MATHEMATICS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
SAT Prep, C/H Algebra, Geom	[Reg. CR]	2503	24	103.0	5	515.0	
						515.0	14.714
Sm. Courses/Indep. Study	[Comp CR]	96	24	4.0	5	20.0	
						20.0	0.571
Intr Stats, Disc Mth, Fund Calc	[Sm. Grp]	112	14	8.0	5	40.0	
Sm. Courses/Indep. Study	[Sm. Grp]	24	12	2.0	5	10.0	
						50.0	1.429
Total		**2735**	**23**	**117.0**			**16.714**
		3486	23	151.0			

Subject Area: **SCIENCE**

MCAS Bio Prep, Princ of Bio	[Sci Lab]	44	15	3.0	5	15.0	
C/H/A Bio, Expl in Bio Gen Bio	[Sci Lab]	809	26	31.0	5	155.0	
Anat/Physio/Forens/MicroBio	[Sci Lab]	462	26	18.0	5	90.0	
Genetics	[Sci Lab]	83	24	3.5	5	17.5	
						277.5	7.929
C/H Chemistry	[Sci Lab]	513	24	21.0	5	105.0	
A Chemistry	[Sci Lab]	34	17	2.0	5	10.0	
						115.0	3.286
H/A Physics	[Sci Lab]	236	24	10.0	5	50.0	
Partnership Experience	[Sci Lab]	9	9	1.0	5	5.0	
Geolo/Meteor/Ocean/Astron	[Sci Lab]	206	26	8.0	5	40.0	
Clean Energy Career Explor	[Sci Lab]	17	17	1.0	5	5.0	
Environmental Studies	[Sci Lab]	20	20	1.0	5	5.0	
						105.0	3.000
Total		**2433**	**24**	**99.5**			**14.214**
		3206	24	133.5			

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **BUSINESS & Ch. 74 Marketing**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Google, Acctg, Pers Fin, Law	[Comp CR]	295	25	12.0	5	60.0	
						60.0	1.714
Intro to Financial Services	[JDCU]	16	2	7.0	5	35.0	
						35.0	1.000
C/H Mktg & Entrepr (**CH.74**)	[Comp CR]	262	25	10.5	5	52.5	
Retail Marketing **(Ch.74)**	[Comp CR]	53	11	5.0	5	25.0	
						77.5	2.214
Total		**626**	**18**	**34.5**			**4.929**

Subject Area: **ENGINEERING**

Intro Engr, Arch Dsgn, Robot	[Engnr Lab]	191	24	8.0	5	40.0	
Princ of Eng, Intro to Engr	[Engnr Lab]	35	12	3.0	5	15.0	
						55.0	1.571
Total		**226**	**21**	**11.0**			**1.571**

Subject Area: **FACS/CULINARY**

Melting Pot, Regional Cuisine	[Cul CR]	135	25	5.5	5	27.5	
						27.5	0.786
Culinary Arts Beginner	[Kitch/Restaur]	37	19	2.0	10	20.0	
Culinary Arts Interm/Adv.	[Kitch/Restaur]	10	10	1.0	10	10.0	
						30.0	0.857
Total		**182**	**21**	**8.5**			**1.643**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **PERFORMING ARTS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Band	[Band Rm]	69	69	1.0	5	5.0	
W of Drums, Beg/Adv Guitar	[Band Rm]	41	14	3.0	5	15.0	
						20.0	0.571
Show Choir	[Chor Rm]	70	70	1.0	5	5.0	
Concert Chorus, Intro Thtr Arts	[Chor Rm]	61	20	3.0	5	15.0	
						20.0	0.571
String Ensemble, Begin Piano	[Ens/MIDI]	83	14	6.0	5	30.0	
						30.0	0.857
Dance Modern & Jazz Tech	[Dance]	342	26	13.0	5	65.0	
						65.0	1.857
Total		**666**	**25**	**27.0**			**3.857**

Subject Area: **VISUAL ARTS**

Art Exploration	[2D/Studio]	24	12	2.0	5	10.0	
						10.0	0.286
Intro to Art Studio	[3D/2D/Studio]	156	22	7.0	5	35.0	
						35.0	1.000
Digital Photo/Animation	[PC Art Lab]	208	26	8.0	5	40.0	
						40.0	1.143
Intro/Adv Graphic Design	[Graphic Lab]	124	23	5.5	5	27.5	
TV Prod, Adv TV Prod	[Graphic Lab]	51	11	4.5	5	22.5	
						50.0	1.429
Total		**563**	**21**	**27.0**			**3.857**

Subject Area: **PE & HEALTH**

Physical Education Gr. 7-8	[Gym]	1359	26	53.0	5	265.0	
						265.0	7.571
Health Ed, Med Term & Body	[Reg. CR]	1039	26	40.0	5	200.0	
Senior Externship	[Sm Grp]	10	20	0.5	5	2.5	
						202.5	5.786
Total		**2408**	**26**	**93.5**			**13.357**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Subject Area: **SPECIAL EDUCATION**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Fundamentals - Freshman	[SPED Sm]	95	10	10.0	5	50.0	
						50.0	1.429
Fundamentals - Gr 10, 11, 12	[SPED Sm]	205	8	26.0	5	130.0	
						180.0	5.143
Fundam - Instruct Supp	[SPED Lg]	127	9	14.0	5	70.0	
						70.0	2.000
Adjustments - Freshman	[Reg. CR]	38	4	10.0	5	50.0	
						50.0	1.429
Adjustments - Gr 10, 11, 12	[Reg. CR]	272	8	34.0	5	170.0	
						170.0	4.857
Life Skills - Intensive	[SPED CR+Tlt]	38	8	5.0	5	25.0	
						25.0	0.714
Life Skills - CSA Autism	[SPED CR+Tlt]	135	7	19.0	5	95.0	
						95.0	2.714
Life Skills - Labs	[CR+Ktch]	180	9	20.0	5	100.0	
						100.0	2.857
Life Skills PE/SPED PE	[Gym]	92	12	8.0	5	40.0	
						40.0	1.143
Total		**1182**	**8**	**146.0**			**22.286**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 class size avg. target of 20

Subject Area: **MISCELLANEOUS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
ELL Beginnings Engl Language	[Reg. CR]	339	20	17.0	10	170.0	
ELL Support Engl Language Devel	[Reg. CR]	246	19	13.0	5	65.0	
ELL Intro to Math, Algebra, Geome	[Reg. CR]	334	20	17.0	5	85.0	
ELL Intro Soc Studies, World Histor	[Reg. CR]	310	19	16.0	5	80.0	
						400.0	11.429
ELL Pronunciation & Vocabulary	[Sm. Grp]	11	11	1.0	5	5.0	
ELL Reading, Literature of Math	[Sm. Grp]	18	9	2.0	10	20.0	
ELL Algebra 2	[Sm. Grp]	9	9	1.0	5	5.0	
						30.0	0.857
ELL Integrated Science	[Sci Lab]	91	18	5.0	5	25.0	
ELL Biology	[Sci Lab]	152	19	8.0	5	40.0	
ELL Chemistry	[Sci Lab]	41	20	2.0	5	10.0	
						75.0	2.143
ROTC Aviation History	[Reg. CR]	359	22	16.0	5	80.0	
						80.0	2.286
ROTC Mgmt/Cadet Corps, Flt Cmd	[Sm Grp]	72	4	18.0	5	90.0	
						90.0	2.571
Upward Bound	[Sm Grp Suite]	46	9	5.0	5	25.0	
						25.0	0.714
Modified Day	[No Space Req'd]	17	9	2.0	5	10.0	
						10.0	0.286
Report to Guidance	[No Space Req'd]	pupils incl. w/ 9th Gr Eng/SS/Math					
Total		**2045**	**17**	**123.0**			**20.286**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Summary A: Regular Academic Classrooms

Department	Demand at 100% Utilization			Adjusted Total	Provide		
	Regular	Sm. Group	Total	Utilization @ 85%	Regular	Sm. Grp.	Total
Freshman ENGLISH	8.429	2.000	10.429	12.269	12	0	12
Freshman SOCIAL STUDIES	4.857	0.000	4.857	5.714	6	0	6
Freshman MATHEMATICS	4.000	0.857	4.857	5.714	6	0	6
Freshman SCIENCE	----		----	----	See Summary B		
Total Freshman CRs	17.286	2.857	20.143	**84%**	**24**	**0**	**24**
ENGLISH	14.571	1.000	15.571	18.319	17	1	18
SOCIAL STUDIES	14.286	0.571	14.857	17.479	17	1	18
WORLD LANGUAGE	11.857	1.286	13.143	15.462	15	1	16
MATHEMATICS	15.286	1.429	16.714	19.664	18	2	20
				1 for Comp Science			
SCIENCE	----		----	----	See Summary B		
BUSINESS & Ch. 74 Marketing	----		----	----	See Summary B		
ENGINEERING	----		----	----	See Summary B		
FACS/CULINARY	----		----	----	See Summary B		
PERFORMING ARTS	----		----	----	See Summary B		
VISUAL ARTS	----		----	----	See Summary B		
PHYSICAL EDUCATION	----		----	----	See Summary B		
HEALTH	5.786	0.000	5.786	6.807	7	0	7
SPECIAL EDUCATION	----		----	----	See Summary B		
MISC ELL Eng/SS/Math	11.429	0.857	12.286	14.454	14	1 1	15
Total Gr 10, 11, 12 CRs	73.214	5.143	78.357	**83%**	**88**	**6**	**94**
Total CRs	90.500	8.000	98.500	**83%**	**112**	**6**	**118**

Program Requirements v4

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 1/8/2017 Adjusted for Exist. Class Sizes

Summary B: Specialized Teaching Stations

Department & Space	Provide	Utilization Rate (%)
SCIENCE [Sci Lab]		
Freshman (Integr. Sci)	8	61%
Biology/Physio/Anatomy	9	88%
Chemistry	4	82%
Phys/Foren/Env/Astron	4	75%
ELL Science	3	71%
	28	76%
Green House	1	n.a.
BUSINESS [Comp CR]	2	86%
Marketing [CH.74 Labs]	3	74%
Credit Union [Bank]	1	100%
	6	82%
School Store [Store]	1	n.a.
ENGINEERING [Engr Lab]	2	79%
Maker + Clean Energy Lab	2	n.a.
FACS/CULINARY [CR+Restaur]	2	82%
PERFORMING ARTS		
Band	1	57%
Chorus	1	57%
Ensemble/MIDI	1	86%
Dance	2	93%
	5	77%
VISUAL ARTS		
Art Expl/Studio (2D & 3D)	2	79%
Digital Photo/Animation	2	57%
Graphic Dsgn/TV Prod	2	71%
	6	64%
PE & HEALTH		
PE Teaching Stations	9	84%
Health/Wellness CRs	See Summary A	
MEDIA CENTER	1	n.a.
Computer Lab(s)	Included Above	
Sm Group/Meeting	Included Above	
AUDITORIUM		
Stage	1	n.a.
Control Room	1	n.a.
Dressing Rooms	2	n.a.

Department & Space	Provide	Utilization Rate (%)
SPECIAL EDUCATION		
Fundamentals Program		
- Fund Gr 9 [Sm Grp]	2	71%
- Fund Gr 10, 11, 12 [Sm Grp]	7	73%
- Instr. Supp Suite [Lg CR]	3	67%
Adjustments Program		
- Adjust Gr 9 [Reg CR]	2	71%
- Adjust Gr 10, 11, 12 [Reg CR]	6	81%
- Counseling Room (for10)	1	n.a.
- Storage (Different Instruct)	1	n.a.
Life Skills Program		
- Intensive (2 grps) [CR w/ Tlt]	2	36%
- CSA/Autsim [CR w/ Tlt]	4	68%
- Life Skills CR/Lab [CR+Kitch]	4	71%
- Life Skills PE [MP/Gym]	2	57%
- Media & Mail/Copy Room	1	n.a.
- Laundry/Folding Room	1	n.a.
- Hygene (Wash/Chng'g Rm)	1	n.a.
- Sensory Room (w/ intensive)	1	n.a.
Deaf/HI Office (Suite)	1	n.a.
Spch+OT/PT (3 Off+Mtg for 6)	1	n.a.
Psych + Eval/Testing	4	n.a.
Social Worker (incl. 1 w/ Adjust)	2	n.a.
SPED Off (Chair, Secr, Conf)	1	n.a.
SPED Eval Tm Chair	2	n.a.
MISCELLANEOUS		
ELL - Engl, Math, SS	See Schedule A	
ELL - Science	See Schedule B	
ROTC [Reg.CR]	3	76%
ROTC [Sm Grp]	4	64%
ROTC Drills [MP/Gym]	1	n.a.
TRIO Suite (Gear Up, Tlnt, Upwd)	1	71%
OTHER UNASSIGNED SPACES		
Little Theater	Incl. w/ Tchr Plng	
TV Studio Suite	1	n.a.
Scene Shop + Fashion	2	n.a.
In School Suspension	1	n.a.
DARE/SRO offices	2	n.a.
Student Activities	1	n.a.
Latino Connection	1	n.a.
Health Center	1	n.a.
Caties Closet	1	n.a.
Score/Mediation (Off, Wait +S.)	2	n.a.

Perkins Eastman | DPC

Master Schedule (Snapshot)

2016- 2017 Academic Year

JANUARY 08, 2017

CrsNo	Course-Section	Description	Term	Schedule	Department	Name	Enrollment Total	Term	Clssrm
0000	0000-008B	Advisory	FY	ADV(M-F)	Administration	DELOSSA, ROBERT	15	FY	008
0000	0000-012S	Advisory	FY	ADV(M-F)	Administration	LAWRENSON, RICHARD	11	FY	012
0000	0000-013B	Advisory	FY	ADV(M-F)	Administration	LUCAS, ANDREW	19	FY	013
0000	0000-014B	Advisory	FY	ADV(M-F)	Administration	BUSSIERE, BECKY	19	FY	014
0000	0000-016S	Advisory	FY	ADV(M-F)	Administration	SIMMONS, AMANDA	11	FY	016
0000	0000-025B	Advisory	FY	ADV(M-F)	Administration	LEVASSEUR, MARY	24	FY	019
0000	0000-026B	Advisory	FY	ADV(M-F)	Administration	BUBANAS, ROSE	22	FY	026
0000	0000-028ELL	Advisory	FY	ADV(M-F)	Administration	COLON, KRISTEN	14	FY	028
0000	0000-030B	Advisory	FY	ADV(M-F)	Administration	CALLAHAN, JAMES	17	FY	030
0000	0000-039B	Advisory	FY	ADV(M-F)	Administration	OLOUGHLIN, RICHARD	15	FY	039
0000	0000-101B	Advisory	FY	ADV(M-F)	Administration	DYSON, MARYANN	19	FY	101
0000	0000-102E	Advisory	FY	ADV(M-F)	Administration	LANDER, JESSICA	21	FY	102
0000	0000-104B	Advisory	FY	ADV(M-F)	Administration	FERREIRA, LENA	29	FY	104
0000	0000-105B	Advisory	FY	ADV(M-F)	Administration	VOLANTE, KRISTIE	15	FY	105
0000	0000-107B	Advisory	FY	ADV(M-F)	Administration	ERNST, AMANDA	22	FY	107
0000	0000-109B	Advisory	FY	ADV(M-F)	Administration	KEHOE, ERIN	21	FY	109
0000	0000-110ELL	Advisory	FY	ADV(M-F)	Administration	HODGSON, BARBARA	17	FY	110
0000	0000-113S	Advisory	FY	ADV(M-F)	Administration	BEATON, BARBARA	4	FY	113
0000	0000-114S	Advisory	FY	ADV(M-F)	Administration	MENDONCA, LISA	5	FY	114
0000	0000-115B	Advisory	FY	ADV(M-F)	Administration	SULLIVAN, ARACELIS	17	FY	115
0000	0000-117S	Advisory	FY	ADV(M-F)	Administration	LINSTRUTH, MELISSA	7	FY	117
0000	0000-118S	Advisory	FY	ADV(M-F)	Administration	KATES, MINDY	5	FY	118
0000	0000-119B	Advisory	FY	ADV(M-F)	Administration	BARRETT, JANICE	16	FY	119
0000	0000-121C	Advisory	FY	ADV(M-F)	Administration	SWETT, PATRICK	17	FY	121
0000	0000-123B	Advisory	FY	ADV(M-F)	Administration	ZEMETRES, JULIA ISABEL	26	FY	123
0000	0000-128B	Advisory	FY	ADV(M-F)	Administration	BAUER, KENDRA	20	FY	128
0000	0000-131B	Advisory	FY	ADV(M-F)	Administration	BRENNAN, MATTHEW	25	FY	131
0000	0000-132B	Advisory	FY	ADV(M-F)	Administration	RILEY, SUZANNE	14	FY	132
0000	0000-133C	Advisory	FY	ADV(M-F)	Administration	BARRY, BRIAN	17	FY	133
0000	0000-136B	Advisory	FY	ADV(M-F)	Administration	FRANCOEUR, PAUL	18	FY	136
0000	0000-137B	Advisory	FY	ADV(M-F)	Administration	MORNEAU, ROGER	17	FY	137
0000	0000-139B	Advisory	FY	ADV(M-F)	Administration	NORTHRUP, WILLIAM	22	FY	139
0000	0000-142B	Advisory	FY	ADV(M-F)	Administration	SHERIDAN, KATHLEEN	18	FY	142
0000	0000-147B	Advisory	FY	ADV(M-F)	Administration	MEYER, VIRGINIA	25	FY	147
0000	0000-201C	Advisory	FY	ADV(M-F)	Administration	HARTY, KATHLEEN	19	FY	201
0000	0000-202LLE	Advisory	FY	ADV(M-F)	Administration	BERARD, DARRIN	8	FY	202
0000	0000-203E	Advisory	FY	ADV(M-F)	Administration	MCCABE, JAMES	19	FY	203
0000	0000-204LLB	Advisory	FY	ADV(M-F)	Administration	COLLOCA, LISA	10	FY	204
0000	0000-207AS	Advisory	FY	ADV(M-F)	Administration	JALBERT, SUZANNE	7	FY	207A
0000	0000-207BS	Advisory	FY	ADV(M-F)	Administration	CARBONE, ALLYSON	7	FY	207B
0000	0000-210LLC	Advisory	FY	ADV(M-F)	Administration	AHERN, JODI	19	FY	210
0000	0000-213C	Advisory	FY	ADV(M-F)	Administration	SMITH, ERICA	24	FY	213
0000	0000-214AE	Advisory	FY	ADV(M-F)	Administration	PIGEON, KARA	24	FY	214A
0000	0000-214S	Advisory	FY	ADV(M-F)	Administration	BROCHU, PAUL	7	FY	214
0000	0000-215C	Advisory	FY	ADV(M-F)	Administration	DOMINGUEZ, ESTEBAN	22	FY	215
0000	0000-216B	Advisory	FY	ADV(M-F)	Administration	CHACE, LAURA	18	FY	216

0000	0000-217E	Advisory	FY	ADV(M-F)	Administration	DURKIN, KATHLEEN	16	FY	217
0000	0000-218B	Advisory	FY	ADV(M-F)	Administration	KENNEDY, MARGARET	26	FY	218
0000	0000-219LLB	Advisory	FY	ADV(M-F)	Administration	BOOTS, ROBIN	8	FY	219
0000	0000-223E	Advisory	FY	ADV(M-F)	Administration	AMEDURI, JEANNINE	18	FY	223
0000	0000-224E	Advisory	FY	ADV(M-F)	Administration	DECKER, MARIA	24	FY	224
0000	0000-226B	Advisory	FY	ADV(M-F)	Administration	MAIA, PHILIP	20	FY	226
0000	0000-227E	Advisory	FY	ADV(M-F)	Administration	DECARVALHO, JULIO	16	FY	227
0000	0000-229S	Advisory	FY	ADV(M-F)	Administration	MCLEOD, KEVIN	4	FY	229
0000	0000-230B	Advisory	FY	ADV(M-F)	Administration	BARRANCO, PAULA	17	FY	230
0000	0000-231S	Advisory	FY	ADV(M-F)	Administration	FARLEY, AMANDA	3	FY	231
0000	0000-232LLD	Advisory	FY	ADV(M-F)	Administration	ESTRELLA, TRACY	7	FY	232
0000	0000-234LLD	Advisory	FY	ADV(M-F)	Administration	BATURIN, ANNA	12	FY	234
0000	0000-235S	Advisory	FY	ADV(M-F)	Administration	NEWCOMB, DONNA	0	FY	235
0000	0000-239E	Advisory	FY	ADV(M-F)	Administration	CAREY, JENNIFER	17	FY	239
0000	0000-249E	Advisory	FY	ADV(M-F)	Administration	O'LEARY, M. FAYE	21	FY	249
0000	0000-250E	Advisory	FY	ADV(M-F)	Administration	QUILES, RAFAEL	23	FY	250
0000	0000-251E	Advisory	FY	ADV(M-F)	Administration	BIENVENUE, ANN	18	FY	251
0000	0000-254E	Advisory	FY	ADV(M-F)	Administration	STUTZ, HAN	16	FY	254
0000	0000-304C	Advisory	FY	ADV(M-F)	Administration	KEEGAN, KRISTINA	15	FY	304
0000	0000-305S	Advisory	FY	ADV(M-F)	Administration	MCGLAUFLIN, JENNIFER	12	FY	305
0000	0000-306-E	Advisory	FY	ADV(M-F)	Administration	MCLEOD, AMY	21	FY	306
0000	0000-308S	Advisory	FY	ADV(M-F)	Administration	BADESSA, CHRIS	6	FY	308
0000	0000-310E	Advisory	FY	ADV(M-F)	Administration	MARTIN, BRIAN	15	FY	310
0000	0000-311LLE	Advisory	FY	ADV(M-F)	Administration	EARLEY, KRISTA	12	FY	311
0000	0000-313E	Advisory	FY	ADV(M-F)	Administration	MCANANEY, KILLIAN	16	FY	313
0000	0000-314LLE	Advisory	FY	ADV(M-F)	Administration	SILVERBERG, JASON	9	FY	314
0000	0000-315LLD	Advisory	FY	ADV(M-F)	Administration	APOSTOLOS, ELENA	10	FY	315
0000	0000-316E	Advisory	FY	ADV(M-F)	Administration	FRENCH, DANA	26	FY	316
0000	0000-318E	Advisory	FY	ADV(M-F)	Administration	MARAIS, JOAN	22	FY	318
0000	0000-319LLB	Advisory	FY	ADV(M-F)	Administration	SZECSKAS, STEPHEN	10	FY	319
0000	0000-321E	Advisory	FY	ADV(M-F)	Administration	JUMPER, WILLIAM	14	FY	321
0000	0000-324E	Advisory	FY	ADV(M-F)	Administration	SIMAS, MARIANNE	23	FY	324
0000	0000-325LLE	Advisory	FY	ADV(M-F)	Administration	WILLIAMS, PATRICIA	8	FY	325
0000	0000-329E	Advisory	FY	ADV(M-F)	Administration	KEEFE, KATHLEEN	21	FY	329
0000	0000-330E	Advisory	FY	ADV(M-F)	Administration	GRAHAM, DANIEL	21	FY	330
0000	0000-331E	Advisory	FY	ADV(M-F)	Administration	KEEFE, SUZANNE	15	FY	331
0000	0000-333LLB	Advisory	FY	ADV(M-F)	Administration	MURPHY, DANIEL	15	FY	333
0000	0000-334D	Advisory	FY	ADV(M-F)	Administration	PATTERSON, TIMOTHY	19	FY	334
0000	0000-338E	Advisory	FY	ADV(M-F)	Administration	MARTINEZ, MEGAN	22	FY	338
0000	0000-346E	Advisory	FY	ADV(M-F)	Administration	MCCABE, MICHAEL	26	FY	346
0000	0000-348E	Advisory	FY	ADV(M-F)	Administration	KEEFE, MARK	18	FY	348
0000	0000-351E	Advisory	FY	ADV(M-F)	Administration	BEAUCHESNE, BRIGITTE	18	FY	351
0000	0000-352E	Advisory	FY	ADV(M-F)	Administration	ANSARA, KATHERINE	18	FY	352
0000	0000-514C	Advisory	FY	ADV(M-F)	Administration	HEITZMAN, TIMOTHY	23	FY	514
0000	0000-515C	Advisory	FY	ADV(M-F)	Administration	NARDONI, KATHERINE	23	FY	515
0000	0000-516S	Advisory	FY	ADV(M-F)	Administration	RAPONE, LEONARD	9	FY	516
0000	0000-517LLC	Advisory	FY	ADV(M-F)	Administration	CONNELLY, NANCY	9	FY	517

0000	0000-518C	Advisory	FY	ADV(M-F)	Administration	GABOR, TRICIA	18	FY	518
0000	0000-523C	Advisory	FY	ADV(M-F)	Administration	CARR, DELANEY	17	FY	523
0000	0000-525C	Advisory	FY	ADV(M-F)	Administration	GALVIN, LORI	18	FY	525
0000	0000-526C	Advisory	FY	ADV(M-F)	Administration	OUELLET, SCOTT	14	FY	526
0000	0000-527D	Advisory	FY	ADV(M-F)	Administration	CROWE, MICHAEL	20	FY	527
0000	0000-533C	Advisory	FY	ADV(M-F)	Administration	FERREIRA, ADAM	18	FY	533
0000	0000-535C	Advisory	FY	ADV(M-F)	Administration	SWEENEY, PAULA	26	FY	535
0000	0000-537D	Advisory	FY	ADV(M-F)	Administration	SHECKMAN, BRYAN	17	FY	537
0000	0000-542C	Advisory	FY	ADV(M-F)	Administration	MICHAUD, DENNIS	22	FY	542
0000	0000-543C	Advisory	FY	ADV(M-F)	Administration	GERVAIS, STEPHEN	20	FY	543
0000	0000-545C	Advisory	FY	ADV(M-F)	Administration	LEIGHTON, KIMBERLY	18	FY	545
0000	0000-546C	Advisory	FY	ADV(M-F)	Administration	RONAN, KATHRYN	22	FY	546
0000	0000-547C	Advisory	FY	ADV(M-F)	Administration	ROSSETTI, NICHOLAS	23	FY	547
0000	0000-552C	Advisory	FY	ADV(M-F)	Administration	STANFORD, DEANNA	24	FY	552
0000	0000-553D	Advisory	FY	ADV(M-F)	Administration	MCGEOWN, ELAINE	13	FY	553
0000	0000-554C	Advisory	FY	ADV(M-F)	Administration	HANLON, DANIEL	26	FY	554
0000	0000-555LLC	Advisory	FY	ADV(M-F)	Administration	MORASSE, PATRICK	12	FY	555
0000	0000-556C	Advisory	FY	ADV(M-F)	Administration	BOLIANITES, CHARLES	16	FY	556
0000	0000-557D	Advisory	FY	ADV(M-F)	Administration	FILLMORE, ROBERTA	17	FY	557
0000	0000-558D	Advisory	FY	ADV(M-F)	Administration	VERZONE, JACQUELINE	17	FY	558
0000	0000-612C	Advisory	FY	ADV(M-F)	Administration	DONAHUE, WILLIAM	19	FY	612
0000	0000-613C	Advisory	FY	ADV(M-F)	Administration	VERZONE, SALLY	18	FY	613
0000	0000-614D	Advisory	FY	ADV(M-F)	Administration	MCCARTY, SHAUN	18	FY	614
0000	0000-615D	Advisory	FY	ADV(M-F)	Administration	DESCHENEAUX, ERNEST	22	FY	615
0000	0000-616D	Advisory	FY	ADV(M-F)	Administration	COSTELLO, DEBBIE	17	FY	616
0000	0000-617D	Advisory	FY	ADV(M-F)	Administration	SELVAGGIO, CHRISTOPHER	21	FY	617
0000	0000-618D	Advisory	FY	ADV(M-F)	Administration	MELLONAKOS, JOHN	21	FY	618
0000	0000-620D	Advisory	FY	ADV(M-F)	Administration	PASTRICK, JOHN	27	FY	620
0000	0000-622ELL	Advisory	FY	ADV(M-F)	Administration	WHALEN, PAULA	16	FY	622
0000	0000-623D	Advisory	FY	ADV(M-F)	Administration	CAVIGNANO, TRICIA	24	FY	623
0000	0000-624C	Advisory	FY	ADV(M-F)	Administration	PLOURDE, DENNIS	23	FY	624
0000	0000-625D	Advisory	FY	ADV(M-F)	Administration	HOWE, ROXANE	14	FY	625
0000	0000-626D	Advisory	FY	ADV(M-F)	Administration	DUNHAM, KEVIN	21	FY	626
0000	0000-629D	Advisory	FY	ADV(M-F)	Administration	MCNAMARA, JILL	26	FY	629
0000	0000-630LLD	Advisory	FY	ADV(M-F)	Administration	JUSSAUME, JOSEPH	15	FY	630
0000	0000-642C	Advisory	FY	ADV(M-F)	Administration	ROBINSON, DAVID	23	FY	642
0000	0000-643D	Advisory	FY	ADV(M-F)	Administration	GONZALEZ, KIMBERLY	24	FY	643
0000	0000-644D	Advisory	FY	ADV(M-F)	Administration	STEINBERG, EMILY	18	FY	644
0000	0000-645D	Advisory	FY	ADV(M-F)	Administration	EDDY, BARBARA	16	FY	645
0000	0000-646D	Advisory	FY	ADV(M-F)	Administration	SPENCER, JUSTIN	21	FY	646
0000	0000-648D	Advisory	FY	ADV(M-F)	Administration	TAYLOR, WAYNE	28	FY	648
0000	0000-649C	Advisory	FY	ADV(M-F)	Administration	FERRI, STEVEN	23	FY	649
0000	0000-652D	Advisory	FY	ADV(M-F)	Administration	ALRAWY, ZEENA	19	FY	652
0000	0000-653D	Advisory	FY	ADV(M-F)	Administration	RADZIK, CHRISTOPHER	21	FY	653
0000	0000-654D	Advisory	FY	ADV(M-F)	Administration	BUNKARTAS, JEFFREY	21	FY	654
0000	0000-655D	Advisory	FY	ADV(M-F)	Administration	CASEY, DAVID	22	FY	655
0000	0000-656D	Advisory	FY	ADV(M-F)	Administration	CREEGAN, PAUL	23	FY	656

0000	0000-657LLD	Advisory	FY	ADV(M-F)	Administration	SMULLIGAN, JOHN	12	FY	657
0000	0000-658D	Advisory	FY	ADV(M-F)	Administration	MONTBLEAU, EILEEN	28	FY	658
0000	0000-711FA	Advisory	FY	ADV(M-F)	Administration	RZEPALA, MARTHA	23	FY	711
0000	0000-712FA	Advisory	FY	ADV(M-F)	Administration	GALLAGHER, GLEN	24	FY	712
0000	0000-713FA	Advisory	FY	ADV(M-F)	Administration	LEAHY, AMANDA	24	FY	713
0000	0000-714FA	Advisory	FY	ADV(M-F)	Administration	JARACZ, EDWARD	25	FY	714
0000	0000-720FA	Advisory	FY	ADV(M-F)	Administration	URBAN, KAITLIN	23	FY	720
0000	0000-721FA	Advisory	FY	ADV(M-F)	Administration	BOUTSELIS, BOPHA	14	FY	721
0000	0000-723FA	Advisory	FY	ADV(M-F)	Administration	PAREDES, ALICIA	22	FY	723
0000	0000-724FA	Advisory	FY	ADV(M-F)	Administration	JARVIS, STEPHEN	24	FY	724
0000	0000-813FA	Advisory	FY	ADV(M-F)	Administration	SANTARPIO, KRISANNE	22	FY	813
0000	0000-816FA	Advisory	FY	ADV(M-F)	Administration	KEEFE, RYAN	24	FY	816
0000	0000-817FA	Advisory	FY	ADV(M-F)	Administration	HOFFMAN, JACQUELINE	24	FY	817
0000	0000-818FA	Advisory	FY	ADV(M-F)	Administration	OEUR, THY	23	FY	818
0000	0000-820FA	Advisory	FY	ADV(M-F)	Administration	BURNHAM, KATHLEEN	24	FY	820
0000	0000-821FA	Advisory	FY	ADV(M-F)	Administration	FLORENCE, JOHN	21	FY	821
0000	0000-851FA	Advisory	FY	ADV(M-F)	Administration	MONTEMURRO, ALISON	23	FY	851
0000	0000-853FA	Advisory	FY	ADV(M-F)	Administration	MURPHY, NANCY	22	FY	853
0000	0000-855FA	Advisory	FY	ADV(M-F)	Administration	COMEAU, PHILIP	23	FY	855
0000	0000-856FA	Advisory	FY	ADV(M-F)	Administration	PRENTICE, HYACINTH	23	FY	856
0000	0000-857FA	Advisory	FY	ADV(M-F)	Administration	GIORDANO, ANTHONY	24	FY	857
0000	0000-858FA	Advisory	FY	ADV(M-F)	Administration	HOR, SAMNANG	15	FY	858
0000	0000-860FA	Advisory	FY	ADV(M-F)	Administration	PIGEON, RITA	24	FY	860
0000	0000-904FA	Advisory	FY	ADV(M-F)	Administration	RASMUSSEN, ROBERT	24	FY	904
0000	0000-905FA	Advisory	FY	ADV(M-F)	Administration	CARON, LYNDSAY	22	FY	905
0000	0000-906FA	Advisory	FY	ADV(M-F)	Administration	CULLEN, MARK	23	FY	906
0000	0000-907FA	Advisory	FY	ADV(M-F)	Administration	PHAM, ALEXANDER	20	FY	907
0000	0000-908FA	Advisory	FY	ADV(M-F)	Administration	MORALES, KERRI	25	FY	908
0000	0000-909FA	Advisory	FY	ADV(M-F)	Administration	BELLEROSE, STEPHANIE	11	FY	909
0000	0000-910FA	Advisory	FY	ADV(M-F)	Administration	SCHULTZ, KRISTEN	23	FY	910
0000	0000-911FA	Advisory	FY	ADV(M-F)	Administration	WINWARD, MARA	25	FY	911
0000	0000-MHT	Advisory	FY	ADV(M-F)	Administration	LEW, MARK	1	FY	MHT
0023	0023-001	C-Balanced Literacy 1A	S1	1(W-F) 7(M	English	MORIARTY, MAGGIE	11	S1	912
0023	0023-002	C-Balanced Literacy 1A	S1	6B(M-F)	English	MORIARTY, MAGGIE	12	S1	912
0023	0023-003	C-Balanced Literacy 1A	S1	3(M-F)	English	MORIARTY, MAGGIE	16	S1	912
0023	0023-004	C-Balanced Literacy 1A	S1	5B(M-F)	English	MORIARTY, MAGGIE	6	S1	912
0023	0023-005	C-Balanced Literacy 1A	S1	4A(M-F)	English	MORIARTY, MAGGIE	15	S1	912
0024	0024-001	C-Balanced Literacy1B	S2	1(W-F) 7(M	English	MORIARTY, MAGGIE	11	S2	912
0024	0024-002	C-Balanced Literacy1B	S2	6B(M-F)	English	MORIARTY, MAGGIE	12	S2	912
0024	0024-003	C-Balanced Literacy1B	S2	3(M-F)	English	MORIARTY, MAGGIE	16	S2	912
0024	0024-004	C-Balanced Literacy1B	S2	5B(M-F)	English	MORIARTY, MAGGIE	6	S2	912
0024	0024-005	C-Balanced Literacy1B	S2	4A(M-F)	English	MORIARTY, MAGGIE	15	S2	912
0025	0025-001	C-Balanced Literacy 2A	S1	1(W-F) 7(M	English	MARTINEZ, MEGAN	8	S1	338
0025	0025-002	C-Balanced Literacy 2A	S1	2(M-F)	English	MARTINEZ, MEGAN	12	S1	338
0025	0025-003	C-Balanced Literacy 2A	S1	5B(M-F)	English	MARTINEZ, MEGAN	9	S1	338
0026	0026-001	C-Balanced Literacy 2B	S2	1(W-F) 7(M	English	MARTINEZ, MEGAN	7	S2	338
0026	0026-002	C-Balanced Literacy 2B	S2	2(M-F)	English	MARTINEZ, MEGAN	12	S2	338

0026	0026-003	C-Balanced Literacy 2B	S2	5B(M-F)	English	MARTINEZ, MEGAN	9	S2	338
0061	0061-JR3	N-SAT Critical Reading/Writing Prep	S2	2(M-F)	English	BEAUCHESNE, BRIGITTE	11	S2	351
0061	0061-SR1	N-SAT Critical Reading/Writing Prep	S1	2(M-F)	English	BEAUCHESNE, BRIGITTE	11	S1	351
0111	0111-CL71	C-Explorations in English 1A	S1	4A(M-F)	English	RZEPALA, MARTHA	17	S1	711
0111	0111-CL72	C-Explorations in English 1A	S1	2(M-F)	English	RZEPALA, MARTHA	14	S1	711
0111	0111-CL82	C-Explorations in English 1A	S1	5B(M-F)	English	GIORDANO, ANTHONY	16	S1	857
0111	0111-CL83	C-Explorations in English 1A	S1	2(M-F)	English	GIORDANO, ANTHONY	18	S1	857
0111	0111-CL91	C-Explorations in English 1A	S1	1(W-F) 7(M	English	SCHULTZ, KRISTEN	16	S1	910
0112	0112-CL71	C-Explorations in English 1B	S2	4A(M-F)	English	RZEPALA, MARTHA	17	S2	711
0112	0112-CL72	C-Explorations in English 1B	S2	2(M-F)	English	RZEPALA, MARTHA	14	S2	711
0112	0112-CL82	C-Explorations in English 1B	S2	5B(M-F)	English	GIORDANO, ANTHONY	16	S2	857
0112	0112-CL83	C-Explorations in English 1B	S2	2(M-F)	English	GIORDANO, ANTHONY	18	S2	857
0112	0112-CL91	C-Explorations in English 1B	S2	1(W-F) 7(M	English	SCHULTZ, KRISTEN	16	S2	910
0121	0121-CT1	C-English 1A	S1	4B(M-F)	English	KEEFE, MARK	16	S1	348
0121	0121-CT2	C-English 1A	S1	6B(M-F)	English	KEEFE, MARK	7	S1	348
0122	0122-CT1	C-English 1B	S2	4B(M-F)	English	KEEFE, MARK	18	S2	348
0122	0122-CT2	C-English 1B	S2	6B(M-F)	English	KEEFE, MARK	16	S2	348
0131	0131-CL73	C-English 1A (FA)	S1	4A(M-F)	English	LEAHY, AMANDA	28	S1	713
0131	0131-CL74	C-English 1A (FA)	S1	6A(M-F)	English	LEAHY, AMANDA	26	S1	713
0131	0131-CL81	C-English 1A (FA)	S1	2(M-F)	English	HOFFMAN, JACQUELINE	25	S1	817
0131	0131-CL810	C-English 1A (FA)	S1	1(W-F) 7(M	English	HOFFMAN, JACQUELINE	24	S1	817
0131	0131-CL82	C-English 1A (FA)	S1	6B(M-F)	English	GIORDANO, ANTHONY	26	S1	857
0131	0131-CL83	C-English 1A (FA)	S1	1(W-F) 7(M	English	GIORDANO, ANTHONY	26	S1	857
0131	0131-CL8IN	C-English 1A (FA)	S1	5B(M-F)	English	HOFFMAN, JACQUELINE	20	S1	817
0131	0131-CL91	C-English 1A (FA)	S1	4B(M-F)	English	SCHULTZ, KRISTEN	14	S1	910
0131	0131-CL94	C-English 1A (FA)	S1	1(W-F) 7(M	English	CARON, LYNDSAY	17	S1	905
0131	0131-CL95	C-English 1A (FA)	S1	2(M-F)	English	CARON, LYNDSAY	22	S1	905
0132	0132-CL73	C-English 1B (FA)	S2	4A(M-F)	English	LEAHY, AMANDA	28	S2	713
0132	0132-CL74	C-English 1B (FA)	S2	6A(M-F)	English	LEAHY, AMANDA	26	S2	713
0132	0132-CL81	C-English 1B (FA)	S2	2(M-F)	English	HOFFMAN, JACQUELINE	25	S2	817
0132	0132-CL810	C-English 1B (FA)	S2	1(W-F) 7(M	English	HOFFMAN, JACQUELINE	24	S2	817
0132	0132-CL82	C-English 1B (FA)	S2	6B(M-F)	English	GIORDANO, ANTHONY	26	S2	857
0132	0132-CL83	C-English 1B (FA)	S2	1(W-F) 7(M	English	GIORDANO, ANTHONY	26	S2	857
0132	0132-CL8IN	C-English 1B (FA)	S2	5B(M-F)	English	HOFFMAN, JACQUELINE	20	S2	817
0132	0132-CL91	C-English 1B (FA)	S2	4B(M-F)	English	SCHULTZ, KRISTEN	14	S2	910
0132	0132-CL94	C-English 1B (FA)	S2	1(W-F) 7(M	English	CARON, LYNDSAY	17	S2	905
0132	0132-CL95	C-English 1B (FA)	S2	2(M-F)	English	CARON, LYNDSAY	22	S2	905
0141	0141-CL71	H-English 1A	S1	1(W-F) 7(M	English	RZEPALA, MARTHA	23	S1	711
0141	0141-CL72	H-English 1A	S1	6A(M-F)	English	RZEPALA, MARTHA	26	S1	711
0141	0141-CL73	H-English 1A	S1	2(M-F)	English	LEAHY, AMANDA	23	S1	713
0141	0141-CL84	H-English 1A	S1	2(M-F)	English	MURPHY, NANCY	26	S1	853
0141	0141-CL85	H-English 1A	S1	6B(M-F)	English	MURPHY, NANCY	27	S1	853
0141	0141-CL86	H-English 1A	S1	5B(M-F)	English	MURPHY, NANCY	18	S1	853
0141	0141-CL88	H-English 1A	S1	1(W-F) 7(M	English	MURPHY, NANCY	22	S1	853
0141	0141-CL91	H-English 1A	S1	5B(M-F)	English	SCHULTZ, KRISTEN	26	S1	910
0141	0141-CL92	H-English 1A	S1	2(M-F)	English	SCHULTZ, KRISTEN	24	S1	910
0141	0141-CL93	H-English 1A	S1	4B(M-F)	English	CARON, LYNDSAY	25	S1	905

0142	0142-CL71	H-English 1B	S2	1(W-F) 7(M	English	RZEPALA, MARTHA	23	S2	711
0142	0142-CL72	H-English 1B	S2	6A(M-F)	English	RZEPALA, MARTHA	26	S2	711
0142	0142-CL73	H-English 1B	S2	2(M-F)	English	LEAHY, AMANDA	23	S2	713
0142	0142-CL84	H-English 1B	S2	2(M-F)	English	MURPHY, NANCY	26	S2	853
0142	0142-CL85	H-English 1B	S2	6B(M-F)	English	MURPHY, NANCY	27	S2	853
0142	0142-CL86	H-English 1B	S2	5B(M-F)	English	MURPHY, NANCY	18	S2	853
0142	0142-CL88	H-English 1B	S2	1(W-F) 7(M	English	MURPHY, NANCY	22	S2	853
0142	0142-CL91	H-English 1B	S2	5B(M-F)	English	SCHULTZ, KRISTEN	26	S2	910
0142	0142-CL92	H-English 1B	S2	2(M-F)	English	SCHULTZ, KRISTEN	24	S2	910
0142	0142-CL93	H-English 1B	S2	4B(M-F)	English	CARON, LYNDSAY	25	S2	905
0151	0151-CL71	HH-English 1A	S1	1(W-F) 7(M	English	LEAHY, AMANDA	26	S1	713
0151	0151-CL82	HH-English 1A	S1	6B(M-F)	English	HOFFMAN, JACQUELINE	21	S1	817
0151	0151-CL93	HH-English 1A	S1	5B(M-F)	English	CARON, LYNDSAY	29	S1	905
0151	0151-LL1	HH-English 1A	S1	5B(M-F)	English	APOSTOLOS, ELENA	25	S1	315
0151	0151-LL2	HH-English 1A	S1	6B(M-F)	English	APOSTOLOS, ELENA	24	S1	315
0152	0152-CL71	HH-English 1B	S2	1(W-F) 7(M	English	LEAHY, AMANDA	26	S2	713
0152	0152-CL82	HH-English 1B	S2	6B(M-F)	English	HOFFMAN, JACQUELINE	21	S2	817
0152	0152-CL93	HH-English 1B	S2	5B(M-F)	English	CARON, LYNDSAY	29	S2	905
0152	0152-LL1	HH-English 1B	S2	5B(M-F)	English	APOSTOLOS, ELENA	25	S2	315
0152	0152-LL2	HH-English 1B	S2	6B(M-F)	English	APOSTOLOS, ELENA	24	S2	315
0231	0231-001	C-English 2A	S1	1(M-TU) 7(	English	GABOR, TRICIA	29	S1	518
0231	0231-002	C-English 2A	S1	1(W-F) 7(M	English	CENTOLA, STACY	29	S1	655
0231	0231-003	C-English 2A	S1	1(M-TU) 7(	English	CENTOLA, STACY	29	S1	655
0231	0231-007	C-English 2A	S1	5A(M-F)	English	WILLIAMS, PATRICIA	28	S1	325
0231	0231-008	C-English 2A	S1	6A(M-F)	English	WILLIAMS, PATRICIA	21	S1	325
0231	0231-009	C-English 2A	S1	2(M-F)	English	WILLIAMS, PATRICIA	28	S1	325
0231	0231-012	C-English 2A	S1	6A(M-F)	English	GABOR, TRICIA	22	S1	518
0231	0231-IN3	C-English 2A	S1	5B(M-F)	English	RILEY, SUZANNE	29	S1	132
0231	0231-IN4	C-English 2A	S1	6B(M-F)	English	RILEY, SUZANNE	27	S1	132
0231	0231-R01	C-English 2A	S1	1(W-F) 7(M	English	APOSTOLOS, ELENA	20	S1	315
0231	0231-R02	C-English 2A	S1	3(M-F)	English	APOSTOLOS, ELENA	22	S1	315
0231	0231-R04	C-English 2A	S1	2(M-F)	English	KEEFE, SUZANNE	19	S1	315
0232	0232-001	C-English 2B	S2	1(M-TU) 7(	English	GABOR, TRICIA	29	S2	518
0232	0232-002	C-English 2B	S2	1(W-F) 7(M	English	CENTOLA, STACY	29	S2	655
0232	0232-003	C-English 2B	S2	1(M-TU) 7(	English	CENTOLA, STACY	29	S2	655
0232	0232-007	C-English 2B	S2	5A(M-F)	English	WILLIAMS, PATRICIA	29	S2	325
0232	0232-008	C-English 2B	S2	6A(M-F)	English	WILLIAMS, PATRICIA	21	S2	325
0232	0232-009	C-English 2B	S2	2(M-F)	English	WILLIAMS, PATRICIA	29	S2	325
0232	0232-012	C-English 2B	S2	6A(M-F)	English	GABOR, TRICIA	22	S2	518
0232	0232-IN3	C-English 2B	S2	5B(M-F)	English	RILEY, SUZANNE	28	S2	132
0232	0232-IN4	C-English 2B	S2	6B(M-F)	English	RILEY, SUZANNE	26	S2	132
0232	0232-R01	C-English 2B	S2	1(W-F) 7(M	English	APOSTOLOS, ELENA	20	S2	315
0232	0232-R02	C-English 2B	S2	3(M-F)	English	APOSTOLOS, ELENA	20	S2	315
0232	0232-R04	C-English 2B	S2	2(M-F)	English	KEEFE, SUZANNE	21	S2	315
0241	0241-003	H-English 2A	S1	1(M-TU) 7(	English	VOLANTE, KRISTIE	26	S1	105
0241	0241-004	H-English 2A	S1	6A(M-F)	English	BAUER, KENDRA	28	S1	128
0241	0241-005	H-English 2A	S1	4A(M-F)	English	BAUER, KENDRA	26	S1	128

0241	0241-006	H-English 2A	S1	6B(M-F)	English	CONNELLY, NANCY	19	S1	517
0241	0241-007	H-English 2A	S1	3(M-F)	English	CONNELLY, NANCY	27	S1	517
0241	0241-008	H-English 2A	S1	5B(M-F)	English	CONNELLY, NANCY	23	S1	517
0241	0241-009	H-English 2A	S1	2(M-F)	English	KEEFE, KATHLEEN	23	S1	329
0241	0241-010	H-English 2A	S1	1(W-F) 7(M	English	KEEFE, KATHLEEN	27	S1	329
0241	0241-011	H-English 2A	S1	5A(M-F)	English	VOLANTE, KRISTIE	22	S1	105
0241	0241-012	H-English 2A	S1	1(M-TU) 7(	English	BAUER, KENDRA	25	S1	128
0242	0242-003	H-English 2B	S2	1(M-TU) 7(	English	VOLANTE, KRISTIE	25	S2	105
0242	0242-004	H-English 2B	S2	1(M-TU) 7(	English	BAUER, KENDRA	25	S2	128
0242	0242-005	H-English 2B	S2	4A(M-F)	English	BAUER, KENDRA	27	S2	128
0242	0242-006	H-English 2B	S2	5B(M-F)	English	CONNELLY, NANCY	23	S2	517
0242	0242-007	H-English 2B	S2	6B(M-F)	English	CONNELLY, NANCY	18	S2	517
0242	0242-008	H-English 2B	S2	3(M-F)	English	CONNELLY, NANCY	27	S2	517
0242	0242-009	H-English 2B	S2	2(M-F)	English	KEEFE, KATHLEEN	23	S2	329
0242	0242-010	H-English 2B	S2	1(W-F) 7(M	English	KEEFE, KATHLEEN	27	S2	329
0242	0242-011	H-English 2B	S2	5A(M-F)	English	VOLANTE, KRISTIE	21	S2	105
0242	0242-012	H-English 2B	S2	6A(M-F)	English	BAUER, KENDRA	28	S2	128
0251	0251-001	HH-English 2A	S1	4B(M-F)	English	APOSTOLOS, ELENA	24	S1	315
0251	0251-002	HH-English 2A	S1	5A(M-F)	English	KEEFE, KATHLEEN	18	S1	329
0251	0251-003	HH-English 2A	S1	1(M-TU) 7(	English	KEEFE, KATHLEEN	25	S1	329
0251	0251-005	HH-English 2A	S1	1(W-F) 7(M	English	RILEY, SUZANNE	21	S1	132
0251	0251-011	HH-English 2A	S1	2(M-F)	English	RILEY, SUZANNE	17	S1	132
0251	0251-LL1	HH-English 2A	S1	1(W-F) 7(M	English	WILLIAMS, PATRICIA	26	S1	325
0251	0251-LL2	HH-English 2A	S1	3(M-F)	English	WILLIAMS, PATRICIA	23	S1	325
0252	0252-001	HH-English 2B	S2	4B(M-F)	English	APOSTOLOS, ELENA	24	S2	315
0252	0252-002	HH-English 2B	S2	5A(M-F)	English	KEEFE, KATHLEEN	18	S2	329
0252	0252-003	HH-English 2B	S2	1(M-TU) 7(	English	KEEFE, KATHLEEN	25	S2	329
0252	0252-005	HH-English 2B	S2	1(W-F) 7(M	English	RILEY, SUZANNE	21	S2	132
0252	0252-011	HH-English 2B	S2	2(M-F)	English	RILEY, SUZANNE	17	S2	132
0252	0252-LL1	HH-English 2B	S2	1(W-F) 7(M	English	WILLIAMS, PATRICIA	26	S2	325
0252	0252-LL2	HH-English 2B	S2	3(M-F)	English	WILLIAMS, PATRICIA	23	S2	325
0331	0331-001	C-English 3A	S1	3(M-F)	English	BERARD, DARRIN	24	S1	202
0331	0331-002	C-English 3A	S1	1(W-F) 7(M	English	BEAUCHESNE, BRIGITTE	25	S1	351
0331	0331-003	C-English 3A	S1	1(M-TU) 7(	English	BEAUCHESNE, BRIGITTE	27	S1	351
0331	0331-004	C-English 3A	S1	4B(M-F)	English	BUNKARTAS, JEFFREY	27	S1	654
0331	0331-006	C-English 3A	S1	5A(M-F)	English	DUBE, KATIE	28	S1	331
0331	0331-007	C-English 3A	S1	6A(M-F)	English	FRANCOEUR, PAUL	25	S1	136
0331	0331-011	C-English 3A	S1	6B(M-F)	English	BUNKARTAS, JEFFREY	24	S1	654
0331	0331-IN1	C-English 3A	S1	3(M-F)	English	STANFORD, DEANNA	26	S1	552
0331	0331-R08	C-English 3A	S1	1(W-F) 7(M	English	KEEFE, MARK	22	S1	348
0331	0331-R09	C-English 3A	S1	2(M-F)	English	KEEFE, MARK	14	S1	348
0331	0331-R12	C-English 3A	S1	6A(M-F)	English	KEEFE, KATHLEEN	16	S1	329
0332	0332-001	C-English 3B	S2	3(M-F)	English	BERARD, DARRIN	26	S2	202
0332	0332-002	C-English 3B	S2	1(W-F) 7(M	English	BEAUCHESNE, BRIGITTE	24	S2	351
0332	0332-003	C-English 3B	S2	1(M-TU) 7(	English	BEAUCHESNE, BRIGITTE	28	S2	351
0332	0332-004	C-English 3B	S2	4B(M-F)	English	BUNKARTAS, JEFFREY	28	S2	654
0332	0332-006	C-English 3B	S2	5A(M-F)	English	DUBE, KATIE	28	S2	331

0332	0332-007	C-English 3B	S2	6A(M-F)	English	FRANCOEUR, PAUL	25	S2	136
0332	0332-011	C-English 3B	S2	6B(M-F)	English	BUNKARTAS, JEFFREY	28	S2	654
0332	0332-IN1	C-English 3B	S2	3(M-F)	English	STANFORD, DEANNA	26	S2	552
0332	0332-R08	C-English 3B	S2	1(W-F) 7(M	English	KEEFE, MARK	20	S2	348
0332	0332-R09	C-English 3B	S2	2(M-F)	English	KEEFE, MARK	12	S2	348
0332	0332-R12	C-English 3B	S2	6A(M-F)	English	KEEFE, KATHLEEN	14	S2	329
0341	0341-001	H-English 3A	S1	6A(M-F)	English	BEAUCHESNE, BRIGITTE	27	S1	351
0341	0341-002	H-English 3A	S1	4A(M-F)	English	BEAUCHESNE, BRIGITTE	28	S1	351
0341	0341-003	H-English 3A	S1	1(W-F) 7(M	English	DUBE, KATIE	26	S1	331
0341	0341-004	H-English 3A	S1	6A(M-F)	English	DUBE, KATIE	29	S1	331
0341	0341-005	H-English 3A	S1	5A(M-F)	English	DESCHENEAUX, ERNEST	27	S1	615
0341	0341-006	H-English 3A	S1	3(M-F)	English	DESCHENEAUX, ERNEST	28	S1	615
0341	0341-007	H-English 3A	S1	2(M-F)	English	DESCHENEAUX, ERNEST	26	S1	615
0341	0341-008	H-English 3A	S1	3(M-F)	English	CENTOLA, STACY	26	S1	655
0341	0341-009	H-English 3A	S1	6B(M-F)	English	CENTOLA, STACY	26	S1	655
0341	0341-010	H-English 3A	S1	4B(M-F)	English	CENTOLA, STACY	26	S1	655
0342	0342-001	H-English 3B	S2	6A(M-F)	English	BEAUCHESNE, BRIGITTE	27	S2	351
0342	0342-002	H-English 3B	S2	4A(M-F)	English	BEAUCHESNE, BRIGITTE	28	S2	351
0342	0342-003	H-English 3B	S2	1(W-F) 7(M	English	DUBE, KATIE	26	S2	331
0342	0342-004	H-English 3B	S2	6A(M-F)	English	DUBE, KATIE	29	S2	331
0342	0342-005	H-English 3B	S2	5A(M-F)	English	DESCHENEAUX, ERNEST	27	S2	615
0342	0342-006	H-English 3B	S2	3(M-F)	English	DESCHENEAUX, ERNEST	28	S2	615
0342	0342-007	H-English 3B	S2	2(M-F)	English	DESCHENEAUX, ERNEST	27	S2	615
0342	0342-008	H-English 3B	S2	3(M-F)	English	CENTOLA, STACY	26	S2	655
0342	0342-009	H-English 3B	S2	6B(M-F)	English	CENTOLA, STACY	25	S2	655
0342	0342-010	H-English 3B	S2	4B(M-F)	English	CENTOLA, STACY	26	S2	655
0351	0351-001	HH-American Studies A	S1	5A(M-F)	English	GABOR, TRICIA	28	S1	518
0351	0351-002	HH-American Studies A	S1	3(M-F)	English	FRANCOEUR, PAUL	25	S1	136
0351	0351-003	HH-American Studies A	S1	2(M-F)	English	FRANCOEUR, PAUL	21	S1	136
0351	0351-006	HH-American Studies A	S1	4A(M-F)	English	GABOR, TRICIA	28	S1	518
0351	0351-007	HH-American Studies A	S1	1(M-TU) 7(	English	PASTRICK, JOHN	28	S1	620
0351	0351-008	HH-American Studies A	S1	6B(M-F)	English	PASTRICK, JOHN	24	S1	620
0351	0351-LL1	HH-American Studies A	S1	2(M-F)	English	BERARD, DARRIN	31	S1	202
0351	0351-LL2	HH-American Studies A	S1	4B(M-F)	English	BERARD, DARRIN	17	S1	202
0352	0352-001	HH-American Studies B	S2	5A(M-F)	English	GABOR, TRICIA	28	S2	518
0352	0352-002	HH-American Studies B	S2	3(M-F)	English	FRANCOEUR, PAUL	25	S2	136
0352	0352-003	HH-American Studies B	S2	2(M-F)	English	FRANCOEUR, PAUL	21	S2	136
0352	0352-006	HH-American Studies B	S2	4A(M-F)	English	GABOR, TRICIA	28	S2	518
0352	0352-007	HH-American Studies B	S2	1(M-TU) 7(	English	PASTRICK, JOHN	28	S2	620
0352	0352-008	HH-American Studies B	S2	6B(M-F)	English	PASTRICK, JOHN	24	S2	620
0352	0352-LL1	HH-American Studies B	S2	2(M-F)	English	BERARD, DARRIN	31	S2	202
0352	0352-LL2	HH-American Studies B	S2	4B(M-F)	English	BERARD, DARRIN	17	S2	202
0431	0431-001	C-English 4A	S1	2(M-F)	English	CONNELLY, NANCY	28	S1	517
0431	0431-003	C-English 4A	S1	6B(M-F)	English	DESCHENEAUX, ERNEST	26	S1	615
0431	0431-004	C-English 4A	S1	1(M-TU) 7(	English	DESCHENEAUX, ERNEST	29	S1	615
0431	0431-005	C-English 4A	S1	1(W-F) 7(M	English	PASTRICK, JOHN	29	S1	620
0431	0431-006	C-English 4A	S1	5A(M-F)	English	PASTRICK, JOHN	29	S1	620

0432	0432-001	C-English 4B	S2	2(M-F)	English	CONNELLY, NANCY	24	S2	517
0432	0432-003	C-English 4B	S2	6B(M-F)	English	DESCHENEAUX, ERNEST	26	S2	615
0432	0432-004	C-English 4B	S2	1(M-TU) 7(	English	DESCHENEAUX, ERNEST	27	S2	615
0432	0432-005	C-English 4B	S2	1(W-F) 7(M	English	PASTRICK, JOHN	29	S2	620
0432	0432-006	C-English 4B	S2	5A(M-F)	English	PASTRICK, JOHN	28	S2	620
0441	0441-001	H-English 4A	S1	2(M-F)	English	BUNKARTAS, JEFFREY	22	S1	654
0441	0441-002	H-English 4A	S1	1(W-F) 7(M	English	BUNKARTAS, JEFFREY	27	S1	654
0441	0441-004	H-English 4A	S1	3(M-F)	English	NORTHRUP, WILLIAM	23	S1	139
0441	0441-005	H-English 4A	S1	4B(M-F)	English	NORTHRUP, WILLIAM	23	S1	139
0441	0441-008	H-English 4A	S1	1(M-TU) 7(	English	CONNELLY, NANCY	26	S1	517
0442	0442-001	H-English 4B	S2	2(M-F)	English	BUNKARTAS, JEFFREY	22	S2	654
0442	0442-002	H-English 4B	S2	1(W-F) 7(M	English	BUNKARTAS, JEFFREY	27	S2	654
0442	0442-004	H-English 4B	S2	3(M-F)	English	NORTHRUP, WILLIAM	23	S2	139
0442	0442-005	H-English 4B	S2	4B(M-F)	English	NORTHRUP, WILLIAM	23	S2	139
0442	0442-008	H-English 4B	S2	1(M-TU) 7(	English	CONNELLY, NANCY	26	S2	517
0461	0461-003	A-English 4A (AP)	S1	5A(M-F)	English	FRANCOEUR, PAUL	22	S1	136
0461	0461-004	A-English 4A (AP)	S1	1(M-TU) 7(	English	FRANCOEUR, PAUL	20	S1	136
0461	0461-LL1	A-English 4A (AP)	S1	6B(M-F)	English	BERARD, DARRIN	23	S1	202
0461	0461-LL2	A-English 4A (AP)	S1	1(M-TU) 7(	English	BERARD, DARRIN	21	S1	202
0462	0462-003	A-English 4B (AP)	S2	5A(M-F)	English	FRANCOEUR, PAUL	22	S2	136
0462	0462-004	A-English 4B (AP)	S2	1(M-TU) 7(	English	FRANCOEUR, PAUL	20	S2	136
0462	0462-LL1	A-English 4B (AP)	S2	6B(M-F)	English	BERARD, DARRIN	23	S2	202
0462	0462-LL2	A-English 4B (AP)	S2	1(M-TU) 7(	English	BERARD, DARRIN	21	S2	202
0463	0463-001	A-English Composition 1 (DE)	S1	5B(M-F)	English	STANFORD, DEANNA	26	S1	552
0463	0463-002	A-English Composition 1 (DE)	S1	6B(M-F)	English	STANFORD, DEANNA	26	S1	552
0463	0463-003	A-English Composition 1 (DE)	S1	1(M-TU) 7(	English	STANFORD, DEANNA	26	S1	552
0463	0463-004	A-English Composition 1 (DE)	S1	1(W-F) 7(M	English	VOLANTE, KRISTIE	23	S1	105
0463	0463-005	A-English Composition 1 (DE)	S1	4A(M-F)	English	VOLANTE, KRISTIE	24	S1	105
0464	0464-001	A-English Composition 2 (DE)	S2	5B(M-F)	English	STANFORD, DEANNA	26	S2	552
0464	0464-002	A-English Composition 2 (DE)	S2	6B(M-F)	English	STANFORD, DEANNA	26	S2	552
0464	0464-003	A-English Composition 2 (DE)	S2	1(M-TU) 7(	English	STANFORD, DEANNA	26	S2	552
0464	0464-004	A-English Composition 2 (DE)	S2	1(W-F) 7(M	English	VOLANTE, KRISTIE	23	S2	105
0464	0464-005	A-English Composition 2 (DE)	S2	4A(M-F)	English	VOLANTE, KRISTIE	24	S2	105
0466	0466-001	C-Reading and Writing for the 21st Century	S1	3(M-F)	English	BUNKARTAS, JEFFREY	25	S1	654
0466	0466-002	C-Reading and Writing for the 21st Century	S2	3(M-F)	English	BUNKARTAS, JEFFREY	28	S2	654
0522	0522-001	H-Other Worlds, Whodonnits, and Westerns	S2	2(M-F)	English	PASTRICK, JOHN	24	S2	620
0523	0523-001	C-Public Speaking, Persuasion, and Presentations	S1	2(M-F)	English	PASTRICK, JOHN	27	S1	620
0524	0524-001	H-Public Speaking, Persuasion, and Presentations	S1	3(M-F)	English	VOLANTE, KRISTIE	26	S1	105
0524	0524-002	H-Public Speaking, Persuasion, and Presentations	S2	3(M-F)	English	VOLANTE, KRISTIE	22	S2	105
0525	0525-001	C-Short Fiction and Poetry	S2	3(M-F)	English	KEEFE, MARK	27	S2	348
0526	0526-001	H-Short Fiction and Poetry	S1	3(M-F)	English	KEEFE, MARK	17	S1	348
0527	0527-001	C-Sports Literature and Writing	S2	2(M-F)	English	GABOR, TRICIA	19	S2	518
0528	0528-001	H-Sports Literature and Writing	S1	2(M-F)	English	GABOR, TRICIA	24	S1	518
0531	0531-001	C-Creative Writing A	S1	1(W-F) 7(M	English	NORTHRUP, WILLIAM	29	S1	139
0531	0531-004	C-Creative Writing A	S1	1(M-TU) 7(	English	NORTHRUP, WILLIAM	27	S1	139
0532	0532-001	C-Creative Writing B	S2	1(W-F) 7(M	English	NORTHRUP, WILLIAM	28	S2	139
0532	0532-004	C-Creative Writing B	S2	1(M-TU) 7(	English	NORTHRUP, WILLIAM	28	S2	139

0533	0533-001	H-Creative Writing A	S1	2(M-F)	English	DUBE, KATIE	22	S1	331
0533	0533-002	H-Creative Writing A	S1	4A(M-F)	English	DUBE, KATIE	29	S1	331
0533	0533-003	H-Creative Writing A	S1	5B(M-F)	English	NORTHRUP, WILLIAM	28	S1	139
0534	0534-001	H-Creative Writing B	S2	2(M-F)	English	DUBE, KATIE	18	S2	331
0534	0534-002	H-Creative Writing B	S2	4A(M-F)	English	DUBE, KATIE	29	S2	331
0534	0534-003	H-Creative Writing B	S2	5B(M-F)	English	NORTHRUP, WILLIAM	29	S2	139
0537	0537-001	C-Expository Writing	S2	2(M-F)	English	STANFORD, DEANNA	26	S2	542
0538	0538-001	H-Expository Writing	S1	2(M-F)	English	STANFORD, DEANNA	26	S1	542
0541	0541-001	C-Race and Ethnicity and The Written Word	S1	3(M-F)	English	BAUER, KENDRA	28	S1	128
0542	0542-001	H-Race and Ethnicity and The Written Word	S1	2(M-F)	English	BAUER, KENDRA	28	S1	128
0542	0542-002	H-Race and Ethnicity and The Written Word	S2	2(M-F)	English	BAUER, KENDRA	28	S2	128
0543	0543-002	C-Literature of the Holocaust	S1	3(M-F)	English	RILEY, SUZANNE	28	S1	132
0544	0544-002	H-Literature of the Holocaust	S2	3(M-F)	English	RILEY, SUZANNE	29	S2	132
0801	0801-001	C-Beginning English Language A (ELL)	S1	5B,6B(M-F	ELL	WHALEN, PAULA	12	S1	622
0801	0801-005	C-Beginning English Language A (ELL)	S1	3,4A(M-F)	ELL	BRENNAN, MATTHEW	23	S1	131
0801	0801-006	C-Beginning English Language A (ELL)	S1	5B,6B(M-F	ELL	BRENNAN, MATTHEW	14	S1	131
0801	0801-007	C-Beginning English Language A (ELL)	S1	3,4A(M-F)	ELL	WOO, AMY	13	S1	107
0802	0802-001	C-Beginning English Language B (ELL)	S2	5B,6B(M-F	ELL	WHALEN, PAULA	12	S2	622
0802	0802-005	C-Beginning English Language B (ELL)	S2	3,4A(M-F)	ELL	BRENNAN, MATTHEW	23	S2	131
0802	0802-006	C-Beginning English Language B (ELL)	S2	5B,6B(M-F	ELL	BRENNAN, MATTHEW	14	S2	131
0802	0802-007	C-Beginning English Language B (ELL)	S2	3,4A(M-F)	ELL	WOO, AMY	13	S2	107
0811	0811-001	C-Developing English Language A (ELL)	S1	5B,6B(M-F	ELL	ZEMETRES, JULIA ISABEL	15	S1	123
0811	0811-002	C-Developing English Language A (ELL)	S1	5B,6B(M-F	ELL	RADZIK, CHRISTOPHER	15	S1	653
0811	0811-003	C-Developing English Language A (ELL)	S1	3,4A(M-F)	ELL	RADZIK, CHRISTOPHER	27	S1	653
0811	0811-004	C-Developing English Language A (ELL)	S1	3,4A(M-F)	ELL	GALVIN, LORI	27	S1	525
0811	0811-005	C-Developing English Language A (ELL)	S1	5B,6B(M-F	ELL	GALVIN, LORI	15	S1	525
0812	0812-001	C-Developing English Language B (ELL)	S2	5B,6B(M-F	ELL	ZEMETRES, JULIA ISABEL	15	S2	123
0812	0812-002	C-Developing English Language B (ELL)	S2	5B,6B(M-F	ELL	RADZIK, CHRISTOPHER	15	S2	653
0812	0812-003	C-Developing English Language B (ELL)	S2	3,4A(M-F)	ELL	RADZIK, CHRISTOPHER	27	S2	653
0812	0812-004	C-Developing English Language B (ELL)	S2	3,4A(M-F)	ELL	GALVIN, LORI	27	S2	525
0812	0812-005	C-Developing English Language B (ELL)	S2	5B,6B(M-F	ELL	GALVIN, LORI	15	S2	525
0821	0821-001	C-Expanding English Language A (ELL)	S1	3,4A(M-F)	ELL	BARRANCO, PAULA	26	S1	230
0821	0821-002	C-Expanding English Language A (ELL)	S1	5B,6B(M-F	ELL	BARRANCO, PAULA	22	S1	230
0821	0821-004	C-Expanding English Language A (ELL)	S1	5B,6B(M-F	ELL	BARRETT, JANICE	25	S1	119
0822	0822-001	C-Expanding English Language B (ELL)	S2	3,4A(M-F)	ELL	BARRANCO, PAULA	25	S2	230
0822	0822-002	C-Expanding English Language B (ELL)	S2	5B,6B(M-F	ELL	BARRANCO, PAULA	22	S2	230
0822	0822-004	C-Expanding English Language B (ELL)	S2	5B,6B(M-F	ELL	BARRETT, JANICE	24	S2	119
0831	0831-001	C-Bridging English Language A (ELL)	S1	5B,6B(M-F	ELL	WOO, AMY	21	S1	107
0831	0831-002	C-Bridging English Language A (ELL)	S1	3,4A(M-F)	ELL	ZEMETRES, JULIA ISABEL	26	S1	123
0832	0832-001	C-Bridging English Language B (ELL)	S2	5B,6B(M-F	ELL	WOO, AMY	21	S2	107
0832	0832-002	C-Bridging English Language B (ELL)	S2	3,4A(M-F)	ELL	ZEMETRES, JULIA ISABEL	26	S2	123
0841	0841-005	C-Support English Language Devel A (ELL)	S1	1(W-F) 7(M	ELL	WOO, AMY	20	S1	107
0841	0841-006	C-Support English Language Devel A (ELL)	S1	1(W-F) 7(M	ELL	BARRETT, JANICE	19	S1	119
0841	0841-007	C-Support English Language Devel A (ELL)	S1	1(M-TU) 7(	ELL	BARRETT, JANICE	22	S1	119
0842	0842-005	C-Support English Language Devel B (ELL)	S2	1(W-F) 7(M	ELL	WOO, AMY	20	S2	107
0842	0842-006	C-Support English Language Devel B (ELL)	S2	1(W-F) 7(M	ELL	BARRETT, JANICE	20	S2	119
0842	0842-007	C-Support English Language Devel B (ELL)	S2	1(M-TU) 7(	ELL	BARRETT, JANICE	21	S2	119

0861	0861-001	C-Beginner English Conversation A (ELL)	S1	1(M-TU) 7(	ELL	WHALEN, PAULA	28	S1	622
0861	0861-002	C-Beginner English Conversation A (ELL)	S1	2(M-F)	ELL	BARRANCO, PAULA	27	S1	230
0861	0861-003	C-Beginner English Conversation A (ELL)	S1	4A(M-F)	ELL	WHALEN, PAULA	3	S1	622
0862	0862-001	C-Beginner English Conversation B (ELL)	S2	1(M-TU) 7(	ELL	WHALEN, PAULA	27	S2	622
0862	0862-003	C-Beginner English Conversation B (ELL)	S2	2(M-F)	ELL	BARRANCO, PAULA	26	S2	230
0862	0862-004	C-Beginner English Conversation B (ELL)	S2	4A(M-F)	ELL	WHALEN, PAULA	1	S2	622
0867	0867-001	C-Pronunciation and Vocabulary A (ELL)	S1	2(M-F)	ELL	COLON, KRISTEN	9	S1	028
0868	0868-001	C-Pronunciation and Vocabulary B (ELL)	S2	2(M-F)	ELL	COLON, KRISTEN	11	S2	028
0873	0873-001	C-ESL Reading A (ELL)	S1	3,4A(M-F)	ELL	COLON, KRISTEN	8	S1	028
0874	0874-001	C-ESL Reading B (ELL)	S2	3,4A(M-F)	ELL	COLON, KRISTEN	8	S2	028
0875	0875-001	C-Literacy of Math A (ELL)	S1	5B,6B(M-F	ELL	COLON, KRISTEN	8	S1	028
0876	0876-001	C-Literacy of Math B (ELL)	S2	5B,6B(M-F	ELL	COLON, KRISTEN	8	S2	028
0901	0901-001	N-Reading Clinic Intermediate (ELL)	S1	1(W-F) 7(M	ELL	WHALEN, PAULA	26	S1	622
0901	0901-002	N-Reading Clinic Intermediate (ELL)	S2	1(W-F) 7(M	ELL	WHALEN, PAULA	10	S2	622
0901	0901-003	N-Reading Clinic Intermediate (ELL)	S1	2(M-F)	ELL	RADZIK, CHRISTOPHER	27	S1	653
0902	0902-001	N-Reading Clinic Advanced (ELL)	S1	2(M-F)	ELL	BARRETT, JANICE	19	S1	119
0902	0902-002	N-Reading Clinic Advanced (ELL)	S2	2(M-F)	ELL	BARRETT, JANICE	11	S2	119
0921	0921-001	N-Writing Lab Intermediate (ELL)	S2	1(W-F) 7(M	ELL	ZEMETRES, JULIA ISABEL	29	S2	123
0921	0921-002	N-Writing Lab Intermediate (ELL)	S2	2(M-F)	ELL	RADZIK, CHRISTOPHER	29	S2	653
0922	0922-001	N-Writing Lab Advanced (ELL)	S1	1(W-F) 7(M	ELL	GALVIN, LORI	19	S1	525
0922	0922-002	N-Writing Lab Advanced (ELL)	S2	1(W-F) 7(M	ELL	GALVIN, LORI	17	S2	525
0931	0931-003	N-Tutorial / Study Skills A (ELL)	S1	1(W-F) 7(M	ELL	ZEMETRES, JULIA ISABEL	16	S1	123
1027	1027-001	C-Intro to Mathematics 1A (ELL)	S1	5B(M-F)	ELL	SULLIVAN, ARACELIS	1	S1	115
1027	1027-002	C-Intro to Mathematics 1A (ELL)	S1	1(W-F) 7(M	ELL	ALRAWY, ZEENA	28	S1	652
1027	1027-003	C-Intro to Mathematics 1A (ELL)	S1	5B(M-F)	ELL	ALRAWY, ZEENA	26	S1	652
1028	1028-001	C-Intro to Mathematics 1B (ELL)	S2	5B(M-F)	ELL	SULLIVAN, ARACELIS	1	S2	115
1028	1028-002	C-Intro to Mathematics 1B (ELL)	S2	1(W-F) 7(M	ELL	ALRAWY, ZEENA	28	S2	652
1028	1028-003	C-Intro to Mathematics 1B (ELL)	S2	5B(M-F)	ELL	ALRAWY, ZEENA	26	S2	652
1062	1062-001	N-SAT Math Prep	S1	1(M-TU) 7(	Math	BOLIANITES, CHARLES	31	S1	556
1062	1062-003	N-SAT Math Prep	S2	2(M-F)	Math	BOLIANITES, CHARLES	29	S2	556
1062	1062-004	N-SAT Math Prep	S1	2(M-F)	Math	BOLIANITES, CHARLES	26	S1	556
1062	1062-005	N-SAT Math Prep	S2	1(M-TU) 7(	Math	BOLIANITES, CHARLES	30	S2	556
1062	1062-006	N-SAT Math Prep	S2	3(M-F)	Math	BOLIANITES, CHARLES	24	S2	556
1081	1081-CL721	N-Mathematics Seminar A	S1	1(M-TU) 7(	Math	BOUTSELIS, BOPHA	14	S1	721
1081	1081-CL858	N-Mathematics Seminar A	S1	1(M-TU) 7(	Math	HOR, SAMNANG	14	S1	858
1081	1081-CL909	N-Mathematics Seminar A	S1	1(M-TU) 7(	Math	BELLEROSE, STEPHANIE	10	S1	909
1082	1082-CL721	N-Mathematics Seminar B	S2	1(M-TU) 7(	Math	BOUTSELIS, BOPHA	14	S2	721
1082	1082-CL858	N-Mathematics Seminar B	S2	1(M-TU) 7(	Math	HOR, SAMNANG	14	S2	858
1082	1082-CL909	N-Mathematics Seminar B	S2	1(M-TU) 7(	Math	BELLEROSE, STEPHANIE	10	S2	909
1101	1101-CL71	C-Transition to Algebra	S1	1(W-F) 7(M	Math	BOUTSELIS, BOPHA	14	S1	721
1101	1101-CL85	C-Transition to Algebra	S1	3(M-F)	Math	HOR, SAMNANG	13	S1	858
1101	1101-CL91	C-Transition to Algebra	S1	3(M-F)	Math	BELLEROSE, STEPHANIE	11	S1	909
1111	1111-CL71	C-Topics in Algebra 1 A	S2	1(W-F) 7(M	Math	BOUTSELIS, BOPHA	14	S2	721
1111	1111-CL85	C-Topics in Algebra 1 A	S2	3(M-F)	Math	HOR, SAMNANG	13	S2	858
1111	1111-CL91	C-Topics in Algebra 1 A	S2	3(M-F)	Math	BELLEROSE, STEPHANIE	11	S2	909
1112	1112-OS01	C-Applications in Algebra1	S1	6B(M-F)	Math	FERREIRA, ADAM	16	S1	533
1112	1112-OS02	C-Applications in Algebra1	S1	3(M-F)	Math	LEIGHTON, KIMBERLY	15	S1	545

1112	1112-OS03	C-Applications in Algebra1	S1	4A(M-F)	Math	LEIGHTON, KIMBERLY	18	S1	545
1120	1120-001	C-Algebra 1 (BL)	S1	3,4A(M-F)	Math	MORASSE, PATRICK	14	S1	555
1120	1120-003	C-Algebra 1 (BL)	S1	3,4A(M-F)	Math	CARR, DELANEY	16	S1	523
1121	1121-R01	C-Algebra 1A	S1	6B(M-F)	Math	CREEGAN, PAUL	21	S1	656
1121	1121-R02	C-Algebra 1A	S1	5B(M-F)	Math	CREEGAN, PAUL	20	S1	656
1122	1122-R01	C-Algebra 1B	S2	6B(M-F)	Math	CREEGAN, PAUL	24	S2	656
1122	1122-R02	C-Algebra 1B	S2	5B(M-F)	Math	CREEGAN, PAUL	21	S2	656
1131	1131-CL72	C-Algebra 1A (FA)	S1	1(W-F) 7(M	Math	JARVIS, STEPHEN	25	S1	724
1131	1131-CL73	C-Algebra 1A (FA)	S1	2(M-F)	Math	JARVIS, STEPHEN	25	S1	724
1131	1131-CL74	C-Algebra 1A (FA)	S1	6A(M-F)	Math	JARVIS, STEPHEN	23	S1	724
1131	1131-CL81	C-Algebra 1A (FA)	S1	3(M-F)	Math	SANTARPIO, KRISANNE	24	S1	813
1131	1131-CL82	C-Algebra 1A (FA)	S1	5B(M-F)	Math	SANTARPIO, KRISANNE	22	S1	813
1131	1131-CL83	C-Algebra 1A (FA)	S1	2(M-F)	Math	OEUR, THY	24	S1	818
1131	1131-CL85	C-Algebra 1A (FA)	S1	2(M-F)	Math	HOR, SAMNANG	23	S1	858
1131	1131-CL86	C-Algebra 1A (FA)	S1	1(W-F) 7(M	Math	HOR, SAMNANG	24	S1	858
1131	1131-CL87	C-Algebra 1A (FA)	S1	5B(M-F)	Math	OEUR, THY	23	S1	818
1131	1131-CL8IN	C-Algebra 1A (FA)	S1	1(W-F) 7(M	Math	OEUR, THY	21	S1	818
1131	1131-CL91	C-Algebra 1A (FA)	S1	5B(M-F)	Math	PHAM, ALEXANDER	22	S1	907
1131	1131-CL92	C-Algebra 1A (FA)	S1	2(M-F)	Math	PHAM, ALEXANDER	26	S1	907
1131	1131-CL93	C-Algebra 1A (FA)	S1	3(M-F)	Math	PHAM, ALEXANDER	25	S1	907
1132	1132-CL72	C-Algebra 1B (FA)	S2	1(W-F) 7(M	Math	JARVIS, STEPHEN	25	S2	724
1132	1132-CL73	C-Algebra 1B (FA)	S2	2(M-F)	Math	JARVIS, STEPHEN	25	S2	724
1132	1132-CL74	C-Algebra 1B (FA)	S2	6A(M-F)	Math	JARVIS, STEPHEN	23	S2	724
1132	1132-CL81	C-Algebra 1B (FA)	S2	3(M-F)	Math	SANTARPIO, KRISANNE	24	S2	813
1132	1132-CL82	C-Algebra 1B (FA)	S2	5B(M-F)	Math	SANTARPIO, KRISANNE	22	S2	813
1132	1132-CL83	C-Algebra 1B (FA)	S2	2(M-F)	Math	OEUR, THY	24	S2	818
1132	1132-CL85	C-Algebra 1B (FA)	S2	2(M-F)	Math	HOR, SAMNANG	23	S2	858
1132	1132-CL86	C-Algebra 1B (FA)	S2	1(W-F) 7(M	Math	HOR, SAMNANG	24	S2	858
1132	1132-CL87	C-Algebra 1B (FA)	S2	5B(M-F)	Math	OEUR, THY	23	S2	818
1132	1132-CL8IN	C-Algebra 1B (FA)	S2	1(W-F) 7(M	Math	OEUR, THY	21	S2	818
1132	1132-CL91	C-Algebra 1B (FA)	S2	5B(M-F)	Math	PHAM, ALEXANDER	22	S2	907
1132	1132-CL92	C-Algebra 1B (FA)	S2	2(M-F)	Math	PHAM, ALEXANDER	26	S2	907
1132	1132-CL93	C-Algebra 1B (FA)	S2	3(M-F)	Math	PHAM, ALEXANDER	25	S2	907
1137	1137-001	C-Algebra 1A (ELL)	S1	1(W-F) 7(M	ELL	SULLIVAN, ARACELIS	26	S1	115
1137	1137-002	C-Algebra 1A (ELL)	S1	3(M-F)	ELL	SULLIVAN, ARACELIS	27	S1	115
1137	1137-003	C-Algebra 1A (ELL)	S1	4A(M-F)	ELL	ALRAWY, ZEENA	26	S1	652
1137	1137-004	C-Algebra 1A (ELL)	S1	2(M-F)	ELL	ALRAWY, ZEENA	27	S1	652
1137	1137-005	C-Algebra 1A (ELL)	S1	6B(M-F)	ELL	ALRAWY, ZEENA	26	S1	652
1137	1137-006	C-Algebra 1A (ELL)	S1	4A(M-F)	ELL	SULLIVAN, ARACELIS	9	S1	115
1138	1138-001	C-Algebra 1B (ELL)	S2	1(W-F) 7(M	ELL	SULLIVAN, ARACELIS	26	S2	115
1138	1138-002	C-Algebra 1B (ELL)	S2	3(M-F)	ELL	SULLIVAN, ARACELIS	27	S2	115
1138	1138-003	C-Algebra 1B (ELL)	S2	4A(M-F)	ELL	ALRAWY, ZEENA	27	S2	652
1138	1138-004	C-Algebra 1B (ELL)	S2	2(M-F)	ELL	ALRAWY, ZEENA	25	S2	652
1138	1138-005	C-Algebra 1B (ELL)	S2	6B(M-F)	ELL	ALRAWY, ZEENA	25	S2	652
1138	1138-006	C-Algebra 1B (ELL)	S2	4A(M-F)	ELL	SULLIVAN, ARACELIS	10	S2	115
1141	1141-CL71	H-Algebra 1A	S1	2(M-F)	Math	BOUTSELIS, BOPHA	25	S1	721
1141	1141-CL72	H-Algebra 1A	S1	6A(M-F)	Math	BOUTSELIS, BOPHA	28	S1	721

1141	1141-CL73	H-Algebra 1A	S1	5A(M-F)	Math	JARVIS, STEPHEN	22	S1	724
1141	1141-CL81	H-Algebra 1A	S1	1(W-F) 7(M	Math	SANTARPIO, KRISANNE	27	S1	813
1141	1141-CL82	H-Algebra 1A	S1	2(M-F)	Math	SANTARPIO, KRISANNE	28	S1	813
1141	1141-CL84	H-Algebra 1A	S1	3(M-F)	Math	OEUR, THY	28	S1	818
1141	1141-CL93	H-Algebra 1A	S1	4B(M-F)	Math	PHAM, ALEXANDER	21	S1	907
1141	1141-CL94a	H-Algebra 1A	S1	5B(M-F)	Math	BELLEROSE, STEPHANIE	23	S1	909
1141	1141-CL95	H-Algebra 1A	S1	2(M-F)	Math	BELLEROSE, STEPHANIE	24	S1	909
1141	1141-LL1	H-Algebra 1A	S1	1(W-F) 7(M	Math	AHERN, JODI	26	S1	210
1142	1142-CL71	H-Algebra 1B	S2	2(M-F)	Math	BOUTSELIS, BOPHA	25	S2	721
1142	1142-CL72	H-Algebra 1B	S2	6A(M-F)	Math	BOUTSELIS, BOPHA	28	S2	721
1142	1142-CL73	H-Algebra 1B	S2	5A(M-F)	Math	JARVIS, STEPHEN	22	S2	724
1142	1142-CL81	H-Algebra 1B	S2	1(W-F) 7(M	Math	SANTARPIO, KRISANNE	27	S2	813
1142	1142-CL82	H-Algebra 1B	S2	2(M-F)	Math	SANTARPIO, KRISANNE	28	S2	813
1142	1142-CL84	H-Algebra 1B	S2	3(M-F)	Math	OEUR, THY	28	S2	818
1142	1142-CL93	H-Algebra 1B	S2	4B(M-F)	Math	PHAM, ALEXANDER	21	S2	907
1142	1142-CL94a	H-Algebra 1B	S2	5B(M-F)	Math	BELLEROSE, STEPHANIE	23	S2	909
1142	1142-CL95	H-Algebra 1B	S2	2(M-F)	Math	BELLEROSE, STEPHANIE	24	S2	909
1142	1142-LL1	H-Algebra 1B	S2	1(W-F) 7(M	Math	AHERN, JODI	26	S2	210
1220	1220-002	C-Geometry (BL)	S2	3,4A(M-F)	Math	CARR, DELANEY	16	S2	523
1220	1220-003	C-Geometry (BL)	S2	3,4A(M-F)	Math	MORASSE, PATRICK	14	S2	555
1231	1231-004	C-Geometry A	S1	5B(M-F)	Math	BATURIN, ANNA	26	S1	234
1231	1231-005	C-Geometry A	S1	6B(M-F)	Math	BATURIN, ANNA	23	S1	234
1231	1231-008	C-Geometry A	S1	1(M-TU) 7(	Math	CREEGAN, PAUL	26	S1	656
1231	1231-009	C-Geometry A	S1	2(M-F)	Math	PATTERSON, TIMOTHY	24	S1	334
1231	1231-010	C-Geometry A	S1	4A(M-F)	Math	PATTERSON, TIMOTHY	26	S1	334
1231	1231-011	C-Geometry A	S1	1(W-F) 7(M	Math	FERREIRA, ADAM	24	S1	533
1231	1231-012	C-Geometry A	S1	3(M-F)	Math	BALAS, ELAINE	24	S1	543
1231	1231-013	C-Geometry A	S1	6B(M-F)	Math	SMULLIGAN, JOHN	26	S1	657
1231	1231-IN1	C-Geometry A	S1	2(M-F)	Math	SWEENEY, PAULA	26	S1	535
1231	1231-OS01	C-Geometry A	S2	6B(M-F)	Math	FERREIRA, ADAM	13	S2	533
1231	1231-OS04	C-Geometry A	S2	3(M-F)	Math	LEIGHTON, KIMBERLY	15	S2	545
1231	1231-OS05	C-Geometry A	S2	4A(M-F)	Math	LEIGHTON, KIMBERLY	15	S2	545
1231	1231-R02	C-Geometry A	S1	3(M-F)	Math	SWEENEY, PAULA	22	S1	535
1231	1231-R03	C-Geometry A	S1	5B(M-F)	Math	SWEENEY, PAULA	19	S1	535
1231	1231-R07	C-Geometry A	S1	6A(M-F)	Math	CHACE, LAURA	13	S1	216
1232	1232-004	C-Geometry B	S2	5B(M-F)	Math	BATURIN, ANNA	25	S2	234
1232	1232-005	C-Geometry B	S2	6B(M-F)	Math	BATURIN, ANNA	24	S2	234
1232	1232-008	C-Geometry B	S2	1(M-TU) 7(	Math	CREEGAN, PAUL	28	S2	656
1232	1232-009	C-Geometry B	S2	2(M-F)	Math	PATTERSON, TIMOTHY	24	S2	334
1232	1232-010	C-Geometry B	S2	4A(M-F)	Math	PATTERSON, TIMOTHY	28	S2	334
1232	1232-011	C-Geometry B	S2	1(W-F) 7(M	Math	FERREIRA, ADAM	25	S2	533
1232	1232-012	C-Geometry B	S2	3(M-F)	Math	BALAS, ELAINE	24	S2	543
1232	1232-013	C-Geometry B	S2	6B(M-F)	Math	SMULLIGAN, JOHN	28	S2	657
1232	1232-APP1	C-Geometry B	S1	6B(M-F)	Math	AHERN, JODI	19	S1	210
1232	1232-APP2	C-Geometry B	S1	1(M-TU) 7(	Math	AHERN, JODI	20	S1	210
1232	1232-IN1	C-Geometry B	S2	2(M-F)	Math	SWEENEY, PAULA	27	S2	535
1232	1232-OSR01	C-Geometry B	S1	3(M-F)	Math	BOLIANITES, CHARLES	12	S1	556

1232	1232-R02	C-Geometry B	S2	3(M-F)	Math	SWEENEY, PAULA	19	S2	535
1232	1232-R03	C-Geometry B	S2	5B(M-F)	Math	SWEENEY, PAULA	19	S2	535
1232	1232-R07	C-Geometry B	S2	6A(M-F)	Math	CHACE, LAURA	20	S2	216
1237	1237-001	C-Geometry A (ELL)	S1	2(M-F)	ELL	KEHOE, ERIN	30	S1	109
1237	1237-002	C-Geometry A (ELL)	S1	3(M-F)	ELL	KEHOE, ERIN	29	S1	109
1237	1237-003	C-Geometry A (ELL)	S1	5B(M-F)	ELL	KEHOE, ERIN	22	S1	109
1238	1238-001	C-Geometry B (ELL)	S2	2(M-F)	ELL	KEHOE, ERIN	28	S2	109
1238	1238-002	C-Geometry B (ELL)	S2	3(M-F)	ELL	KEHOE, ERIN	29	S2	109
1238	1238-003	C-Geometry B (ELL)	S2	5B(M-F)	ELL	KEHOE, ERIN	22	S2	109
1241	1241-001	H-Geometry A	S1	2(M-F)	Math	BALAS, ELAINE	24	S1	543
1241	1241-002	H-Geometry A	S1	2(M-F)	Math	BATURIN, ANNA	25	S1	234
1241	1241-003	H-Geometry A	S1	6B(M-F)	Math	SWEENEY, PAULA	23	S1	535
1241	1241-003x	H-Geometry A	S1	3(M-F)	Math	BATURIN, ANNA	28	S1	234
1241	1241-004	H-Geometry A	S1	1(M-TU) 7(	Math	SWEENEY, PAULA	27	S1	535
1241	1241-007	H-Geometry A	S1	1(W-F) 7(M	Math	BALAS, ELAINE	29	S1	543
1241	1241-009	H-Geometry A	S1	4A(M-F)	Math	BOLIANITES, CHARLES	29	S1	556
1241	1241-010x	H-Geometry A	S1	5A(M-F)	Math	BOLIANITES, CHARLES	22	S1	556
1241	1241-012	H-Geometry A	S1	1(W-F) 7(M	Math	PATTERSON, TIMOTHY	28	S1	334
1242	1242-001	H-Geometry B	S2	2(M-F)	Math	BALAS, ELAINE	25	S2	543
1242	1242-002	H-Geometry B	S2	2(M-F)	Math	BATURIN, ANNA	25	S2	234
1242	1242-003	H-Geometry B	S2	6B(M-F)	Math	SWEENEY, PAULA	23	S2	535
1242	1242-003x	H-Geometry B	S2	3(M-F)	Math	BATURIN, ANNA	27	S2	234
1242	1242-004	H-Geometry B	S2	1(M-TU) 7(	Math	SWEENEY, PAULA	27	S2	535
1242	1242-007	H-Geometry B	S2	1(W-F) 7(M	Math	BALAS, ELAINE	29	S2	543
1242	1242-009	H-Geometry B	S2	4A(M-F)	Math	BOLIANITES, CHARLES	29	S2	556
1242	1242-010x	H-Geometry B	S2	5A(M-F)	Math	BOLIANITES, CHARLES	22	S2	556
1242	1242-012	H-Geometry B	S2	1(W-F) 7(M	Math	PATTERSON, TIMOTHY	28	S2	334
1251	1251-CL71	HH-Geometry & Analytic Geom A	S1	5A(M-F)	Math	BOUTSELIS, BOPHA	22	S1	721
1251	1251-CL82	HH-Geometry & Analytic Geom A	S1	5B(M-F)	Math	HOR, SAMNANG	15	S1	858
1251	1251-CL91	HH-Geometry & Analytic Geom A	S1	4B(M-F)	Math	BELLEROSE, STEPHANIE	21	S1	909
1251	1251-LL10	HH-Geometry & Analytic Geom A	S1	4B(M-F)	Math	AHERN, JODI	25	S1	210
1251	1251-LL9	HH-Geometry & Analytic Geom A	S1	2(M-F)	Math	AHERN, JODI	26	S1	210
1252	1252-CL71	HH-Geometry & Analytic Geom B	S2	5A(M-F)	Math	BOUTSELIS, BOPHA	22	S2	721
1252	1252-CL82	HH-Geometry & Analytic Geom B	S2	5B(M-F)	Math	HOR, SAMNANG	15	S2	858
1252	1252-CL91	HH-Geometry & Analytic Geom B	S2	4B(M-F)	Math	BELLEROSE, STEPHANIE	21	S2	909
1252	1252-LL10	HH-Geometry & Analytic Geom B	S2	4B(M-F)	Math	AHERN, JODI	25	S2	210
1252	1252-LL9	HH-Geometry & Analytic Geom B	S2	2(M-F)	Math	AHERN, JODI	26	S2	210
1325	1325-APP1	C-Applications in Math	S2	6B(M-F)	Math	AHERN, JODI	18	S2	210
1325	1325-APP2	C-Applications in Math	S2	1(M-TU) 7(	Math	AHERN, JODI	20	S2	210
1331	1331-001	C-Algebra 2A	S1	4A(M-F)	Math	EARLEY, KRISTA	24	S1	311
1331	1331-002	C-Algebra 2A	S1	6B(M-F)	Math	EARLEY, KRISTA	19	S1	311
1331	1331-003	C-Algebra 2A	S1	2(M-F)	Math	FERREIRA, LENA	22	S1	104
1331	1331-004	C-Algebra 2A	S1	3(M-F)	Math	FERREIRA, LENA	24	S1	104
1331	1331-005	C-Algebra 2A	S1	1(M-TU) 7(	Math	LEIGHTON, KIMBERLY	26	S1	545
1331	1331-006	C-Algebra 2A	S1	1(W-F) 7(M	Math	TRIPATHI, NEETI	22	S1	232
1331	1331-007	C-Algebra 2A	S1	5A(M-F)	Math	TRIPATHI, NEETI	21	S1	232
1331	1331-008	C-Algebra 2A	S1	2(M-F)	Math	ROSSETTI, NICHOLAS	20	S1	547

1331	1331-009	C-Algebra 2A	S1	4A(M-F)	Math	ROSSETTI, NICHOLAS	24	S1	547
1332	1332-001	C-Algebra 2B	S2	4A(M-F)	Math	EARLEY, KRISTA	23	S2	311
1332	1332-002	C-Algebra 2B	S2	6B(M-F)	Math	EARLEY, KRISTA	20	S2	311
1332	1332-003	C-Algebra 2B	S2	2(M-F)	Math	FERREIRA, LENA	24	S2	104
1332	1332-004	C-Algebra 2B	S2	3(M-F)	Math	FERREIRA, LENA	24	S2	104
1332	1332-005	C-Algebra 2B	S2	1(M-TU) 7(	Math	LEIGHTON, KIMBERLY	27	S2	545
1332	1332-006	C-Algebra 2B	S2	1(W-F) 7(M	Math	TRIPATHI, NEETI	22	S2	232
1332	1332-007	C-Algebra 2B	S2	5A(M-F)	Math	TRIPATHI, NEETI	22	S2	232
1332	1332-008	C-Algebra 2B	S2	2(M-F)	Math	ROSSETTI, NICHOLAS	20	S2	547
1332	1332-009	C-Algebra 2B	S2	4A(M-F)	Math	ROSSETTI, NICHOLAS	24	S2	547
1337	1337-001	C-Algebra 2A (ELL)	S1	1(W-F) 7(M	ELL	KEHOE, ERIN	8	S1	109
1338	1338-001	C-Algebra 2B (ELL)	S2	1(W-F) 7(M	ELL	KEHOE, ERIN	8	S2	109
1341	1341-002	H-Algebra 2A	S1	6B(M-F)	Math	CARR, DELANEY	27	S1	523
1341	1341-003	H-Algebra 2A	S1	1(M-TU) 7(	Math	CARR, DELANEY	31	S1	523
1341	1341-004	H-Algebra 2A	S1	1(W-F) 7(M	Math	CHACE, LAURA	26	S1	216
1341	1341-005	H-Algebra 2A	S1	4A(M-F)	Math	CHACE, LAURA	30	S1	216
1341	1341-006	H-Algebra 2A	S1	5A(M-F)	Math	CHACE, LAURA	26	S1	216
1341	1341-007	H-Algebra 2A	S1	2(M-F)	Math	MEYER, VIRGINIA	21	S1	147
1341	1341-008	H-Algebra 2A	S1	3(M-F)	Math	MEYER, VIRGINIA	27	S1	147
1341	1341-009	H-Algebra 2A	S1	1(W-F) 7(M	Math	LEIGHTON, KIMBERLY	27	S1	545
1341	1341-010	H-Algebra 2A	S1	6A(M-F)	Math	LEIGHTON, KIMBERLY	28	S1	545
1341	1341-011	H-Algebra 2A	S1	4A(M-F)	Math	TRIPATHI, NEETI	30	S1	232
1341	1341-012	H-Algebra 2A	S1	2(M-F)	Math	CARR, DELANEY	22	S1	523
1342	1342-002	H-Algebra 2B	S2	6B(M-F)	Math	CARR, DELANEY	27	S2	523
1342	1342-003	H-Algebra 2B	S2	1(M-TU) 7(	Math	CARR, DELANEY	30	S2	523
1342	1342-004	H-Algebra 2B	S2	1(W-F) 7(M	Math	CHACE, LAURA	27	S2	216
1342	1342-005	H-Algebra 2B	S2	4A(M-F)	Math	CHACE, LAURA	30	S2	216
1342	1342-006	H-Algebra 2B	S2	5A(M-F)	Math	CHACE, LAURA	26	S2	216
1342	1342-007	H-Algebra 2B	S2	2(M-F)	Math	MEYER, VIRGINIA	21	S2	147
1342	1342-008	H-Algebra 2B	S2	3(M-F)	Math	MEYER, VIRGINIA	27	S2	147
1342	1342-009	H-Algebra 2B	S2	1(W-F) 7(M	Math	LEIGHTON, KIMBERLY	27	S2	545
1342	1342-010	H-Algebra 2B	S2	6A(M-F)	Math	LEIGHTON, KIMBERLY	28	S2	545
1342	1342-011	H-Algebra 2B	S2	4A(M-F)	Math	TRIPATHI, NEETI	31	S2	232
1342	1342-012	H-Algebra 2B	S2	2(M-F)	Math	CARR, DELANEY	22	S2	523
1351	1351-LL1	HH-Algebra 2 & Trigonometry A	S1	2(M-F)	Math	MORASSE, PATRICK	21	S1	555
1351	1351-LL2	HH-Algebra 2 & Trigonometry A	S1	6B(M-F)	Math	MORASSE, PATRICK	24	S1	555
1351	1351-LL3	HH-Algebra 2 & Trigonometry A	S1	1(M-TU) 7(	Math	SMULLIGAN, JOHN	27	S1	657
1351	1351-LL4	HH-Algebra 2 & Trigonometry A	S1	1(W-F) 7(M	Math	SMULLIGAN, JOHN	25	S1	657
1351	1351-LL5	HH-Algebra 2 & Trigonometry A	S1	5A(M-F)	Math	MORASSE, PATRICK	23	S1	555
1352	1352-LL1	HH-Algebra 2 & Trigonometry B	S2	2(M-F)	Math	MORASSE, PATRICK	21	S2	555
1352	1352-LL2	HH-Algebra 2 & Trigonometry B	S2	6B(M-F)	Math	MORASSE, PATRICK	24	S2	555
1352	1352-LL3	HH-Algebra 2 & Trigonometry B	S2	1(M-TU) 7(	Math	SMULLIGAN, JOHN	27	S2	657
1352	1352-LL4	HH-Algebra 2 & Trigonometry B	S2	1(W-F) 7(M	Math	SMULLIGAN, JOHN	25	S2	657
1352	1352-LL5	HH-Algebra 2 & Trigonometry B	S2	5A(M-F)	Math	MORASSE, PATRICK	23	S2	555
1353	1353-001	C-Financial Algebra A	S1	2(M-F)	Math	HARTY, KATHLEEN	24	S1	201
1353	1353-002	C-Financial Algebra A	S1	5B(M-F)	Math	MICHAUD, DENNIS	22	S1	642
1353	1353-003	C-Financial Algebra A	S1	6B(M-F)	Math	MICHAUD, DENNIS	22	S1	642

1353	1353-004	C-Financial Algebra A	S1	4A(M-F)	Math	MCGEOWN, ELAINE	24	S1	553
1354	1354-001	C-Financial Algebra B	S2	2(M-F)	Math	HARTY, KATHLEEN	18	S2	201
1354	1354-004	C-Financial Algebra B	S2	4A(M-F)	Math	MCGEOWN, ELAINE	24	S2	553
1354	1354-010	C-Financial Algebra B	S2	6B(M-F)	Math	MICHAUD, DENNIS	17	S2	642
1354	1354-011	C-Financial Algebra B	S2	5B(M-F)	Math	MICHAUD, DENNIS	22	S2	642
1411	1411-001	C-Introduction to Statistics	S1	1(M-TU) 7(	Math	MEYER, VIRGINIA	20	S1	147
1411	1411-002	C-Introduction to Statistics	S1	6A(M-F)	Math	MEYER, VIRGINIA	8	S1	147
1414	1414-001	C-Discrete Mathematics	S2	1(M-TU) 7(	Math	MEYER, VIRGINIA	20	S2	147
1414	1414-002	C-Discrete Mathematics	S2	6A(M-F)	Math	MEYER, VIRGINIA	8	S2	147
1425	1425-001	C-Adv Quantitative Reasoning A	S1	4A(M-F)	Math	HARTY, KATHLEEN	24	S1	201
1425	1425-002	C-Adv Quantitative Reasoning A	S1	3(M-F)	Math	HARTY, KATHLEEN	16	S1	201
1426	1426-001	C-Adv Quantitative Reasoning B	S2	4A(M-F)	Math	HARTY, KATHLEEN	24	S2	201
1426	1426-002	C-Adv Quantitative Reasoning B	S2	3(M-F)	Math	HARTY, KATHLEEN	16	S2	201
1427	1427-001	H-Adv Quantitative Reasoning A	S1	1(W-F) 7(M	Math	ROSSETTI, NICHOLAS	21	S1	547
1427	1427-002	H-Adv Quantitative Reasoning A	S1	6A(M-F)	Math	ROSSETTI, NICHOLAS	23	S1	547
1428	1428-001	H-Adv Quantitative Reasoning B	S2	1(W-F) 7(M	Math	ROSSETTI, NICHOLAS	20	S2	547
1428	1428-002	H-Adv Quantitative Reasoning B	S2	6A(M-F)	Math	ROSSETTI, NICHOLAS	22	S2	547
1429	1429-001	C-Math 4 A	S1	5A(M-F)	Math	BALAS, ELAINE	14	S1	543
1429	1429-002	C-Math 4 A	S1	6B(M-F)	Math	BALAS, ELAINE	13	S1	543
1430	1430-001	C-Math 4 B	S2	5A(M-F)	Math	BALAS, ELAINE	13	S2	543
1430	1430-002	C-Math 4 B	S2	6B(M-F)	Math	BALAS, ELAINE	13	S2	543
1431	1431-001	C-Pre-Calculus A	S1	2(M-F)	Math	CHACE, LAURA	16	S1	216
1431	1431-002	C-Pre-Calculus A	S1	3(M-F)	Math	CREEGAN, PAUL	26	S1	656
1431	1431-003	C-Pre-Calculus A	S1	1(W-F) 7(M	Math	CREEGAN, PAUL	19	S1	656
1431	1431-004	C-Pre-Calculus A	S1	6B(M-F)	Math	MCGEOWN, ELAINE	22	S1	553
1431	1431-005	C-Pre-Calculus A	S1	5B(M-F)	Math	MCGEOWN, ELAINE	23	S1	553
1432	1432-001	C-Pre-Calculus B	S2	2(M-F)	Math	CHACE, LAURA	16	S2	216
1432	1432-002	C-Pre-Calculus B	S2	3(M-F)	Math	CREEGAN, PAUL	26	S2	656
1432	1432-003	C-Pre-Calculus B	S2	1(W-F) 7(M	Math	CREEGAN, PAUL	19	S2	656
1432	1432-004	C-Pre-Calculus B	S2	6B(M-F)	Math	MCGEOWN, ELAINE	22	S2	553
1432	1432-005	C-Pre-Calculus B	S2	5B(M-F)	Math	MCGEOWN, ELAINE	23	S2	553
1441	1441-002	H-Pre-Calculus A	S1	4B(M-F)	Math	FERREIRA, ADAM	25	S1	533
1441	1441-003	H-Pre-Calculus A	S1	1(M-TU) 7(	Math	FERREIRA, ADAM	30	S1	533
1441	1441-004	H-Pre-Calculus A	S1	6A(M-F)	Math	PATTERSON, TIMOTHY	22	S1	334
1441	1441-005	H-Pre-Calculus A	S1	5A(M-F)	Math	PATTERSON, TIMOTHY	29	S1	334
1441	1441-006	H-Pre-Calculus A	S1	2(M-F)	Math	MCGEOWN, ELAINE	23	S1	553
1441	1441-007	H-Pre-Calculus A	S1	3(M-F)	Math	MCGEOWN, ELAINE	26	S1	553
1442	1442-002	H-Pre-Calculus B	S2	4B(M-F)	Math	FERREIRA, ADAM	25	S2	533
1442	1442-003	H-Pre-Calculus B	S2	1(M-TU) 7(	Math	FERREIRA, ADAM	30	S2	533
1442	1442-004	H-Pre-Calculus B	S2	6A(M-F)	Math	PATTERSON, TIMOTHY	22	S2	334
1442	1442-005	H-Pre-Calculus B	S2	5A(M-F)	Math	PATTERSON, TIMOTHY	29	S2	334
1442	1442-006	H-Pre-Calculus B	S2	2(M-F)	Math	MCGEOWN, ELAINE	24	S2	553
1442	1442-007	H-Pre-Calculus B	S2	3(M-F)	Math	MCGEOWN, ELAINE	25	S2	553
1443	1443-001	H-Fundamentals of Calculus A	S1	3(M-F)	Math	ESTRELLA, TRACY	16	S1	232
1443	1443-002	H-Fundamentals of Calculus A	S1	2(M-F)	Math	TRIPATHI, NEETI	14	S1	232
1443	1443-003	H-Fundamentals of Calculus A	S1	6A(M-F)	Math	TRIPATHI, NEETI	15	S1	232
1444	1444-001	H-Fundamentals of Calculus B	S2	3(M-F)	Math	ESTRELLA, TRACY	16	S2	232

1444	1444-002	H-Fundamentals of Calculus B	S2	2(M-F)	Math	TRIPATHI, NEETI	14	S2	232
1444	1444-003	H-Fundamentals of Calculus B	S2	6A(M-F)	Math	TRIPATHI, NEETI	15	S2	232
1451	1451-001	A-Advanced Pre-Calculus	S1	4B(M-F)	Math	FERREIRA, LENA	31	S1	104
1451	1451-002	A-Advanced Pre-Calculus	S1	1(M-TU) 7(	Math	FERREIRA, LENA	31	S1	104
1465	1465-003	A-Statistics A (AP)	S1	4B(M-F)	Math	SMULLIGAN, JOHN	18	S1	657
1465	1465-004	A-Statistics A (AP)	S1	5B(M-F)	Math	SMULLIGAN, JOHN	25	S1	657
1466	1466-003	A-Statistics B (AP)	S2	4B(M-F)	Math	SMULLIGAN, JOHN	18	S2	657
1466	1466-004	A-Statistics B (AP)	S2	5B(M-F)	Math	SMULLIGAN, JOHN	25	S2	657
1467	1467-001	H-Statistics A	S1	1(M-TU) 7(	Math	HARTY, KATHLEEN	26	S1	201
1467	1467-002	H-Statistics A	S1	6B(M-F)	Math	HARTY, KATHLEEN	14	S1	201
1467	1467-003	H-Statistics A	S1	4A(M-F)	Math	MEYER, VIRGINIA	27	S1	147
1468	1468-001	H-Statistics B	S2	1(M-TU) 7(	Math	HARTY, KATHLEEN	26	S2	201
1468	1468-002	H-Statistics B	S2	6B(M-F)	Math	HARTY, KATHLEEN	14	S2	201
1468	1468-003	H-Statistics B	S2	4A(M-F)	Math	MEYER, VIRGINIA	27	S2	147
1470	1470-001	A-Calculus A	S2	4B(M-F)	Math	FERREIRA, LENA	31	S2	104
1470	1470-002	A-Calculus A	S2	1(M-TU) 7(	Math	FERREIRA, LENA	31	S2	104
1475	1475-002	A-Calculus AB 1 (AP)	S1	3(M-F)	Math	EARLEY, KRISTA	31	S1	311
1475	1475-003	A-Calculus AB 1 (AP)	S1	1(M-TU) 7(	Math	EARLEY, KRISTA	31	S1	311
1476	1476-002	A-Calculus AB 2 (AP)	S2	3(M-F)	Math	EARLEY, KRISTA	31	S2	311
1476	1476-003	A-Calculus AB 2 (AP)	S2	1(M-TU) 7(	Math	EARLEY, KRISTA	31	S2	311
1477	1477-001	A-Calculus BC 1 (AP)	S1	6B(M-F)	Math	FERREIRA, LENA	24	S1	104
1477	1477-002	A-Calculus BC 1 (AP)	S1	1(W-F) 7(M	Math	EARLEY, KRISTA	22	S1	311
1478	1478-001	A-Calculus BC 2 (AP)	S2	6B(M-F)	Math	FERREIRA, LENA	24	S2	104
1478	1478-002	A-Calculus BC 2 (AP)	S2	1(W-F) 7(M	Math	EARLEY, KRISTA	22	S2	311
1613	1613-001	H-Introduction to Programming A	S1	4A(M-F)	Math	BATURIN, ANNA	23	S1	542
1613	1613-002	H-Introduction to Programming A	S1	5A(M-F)	Math	ROSSETTI, NICHOLAS	26	S1	542
1614	1614-001	H-Introduction to Programming B	S2	4A(M-F)	Math	BATURIN, ANNA	22	S2	542
1614	1614-002	H-Introduction to Programming B	S2	5A(M-F)	Math	ROSSETTI, NICHOLAS	26	S2	542
1621	1621-001	H-Visual Basic Programming A	S1	3(M-F)	Math	MICHAUD, DENNIS	19	S1	542
1621	1621-002	H-Visual Basic Programming A	S1	1(W-F) 7(M	Math	MICHAUD, DENNIS	19	S1	542
1622	1622-001	H-Visual Basic Programming B	S2	3(M-F)	Math	MICHAUD, DENNIS	19	S2	542
1622	1622-002	H-Visual Basic Programming B	S2	1(W-F) 7(M	Math	MICHAUD, DENNIS	16	S2	542
1641	1641-X01	H-Computer Programming A	S1	1(M-TU) 7(	Math	MICHAUD, DENNIS	11	S1	542
1642	1642-X01	H-Computer Programming B	S2	1(M-TU) 7(	Math	MICHAUD, DENNIS	10	S2	542
1651	1651-X01	A-Computer Programming AP A	S1	1(M-TU) 7(	Math	MICHAUD, DENNIS	11	S1	542
1652	1652-X01	A-Computer Programming AP B	S2	1(M-TU) 7(	Math	MICHAUD, DENNIS	11	S2	542
2113	2113-001	H-Latin 1A	S1	3(M-F)	World Languages	BOOTS, ROBIN	22	S1	219
2113	2113-002	H-Latin 1A	S1	6B(M-F)	World Languages	BOOTS, ROBIN	11	S1	219
2113	2113-003	H-Latin 1A	S1	4B(M-F)	World Languages	BOOTS, ROBIN	28	S1	219
2114	2114-001	H-Latin 1B	S2	3(M-F)	World Languages	BOOTS, ROBIN	22	S2	219
2114	2114-002	H-Latin 1B	S2	6B(M-F)	World Languages	BOOTS, ROBIN	11	S2	219
2114	2114-003	H-Latin 1B	S2	4B(M-F)	World Languages	BOOTS, ROBIN	28	S2	219
2123	2123-001	H-Latin 2A	S1	1(M-TU) 7(	World Languages	ARWE, MICHAEL	31	S1	137
2123	2123-003	H-Latin 2A	S1	1(M-TU) 7(	World Languages	BOOTS, ROBIN	28	S1	219
2124	2124-001	H-Latin 2B	S2	1(M-TU) 7(	World Languages	ARWE, MICHAEL	31	S2	137
2124	2124-003	H-Latin 2B	S2	1(M-TU) 7(	World Languages	BOOTS, ROBIN	29	S2	219
2133	2133-X01	H-Latin 3A	S1	5A(M-F)	World Languages	ARWE, MICHAEL	9	S1	137

2133	2133-X02	H-Latin 3A	S1	1(W-F) 7(M	World Languages	ARWE, MICHAEL	23	S1	137
2134	2134-X01	H-Latin 3B	S2	5A(M-F)	World Languages	ARWE, MICHAEL	9	S2	137
2134	2134-X02	H-Latin 3B	S2	1(W-F) 7(M	World Languages	ARWE, MICHAEL	23	S2	137
2135	2135-001	A-Latin 3A (AP)	S1	6B(M-F)	World Languages	ARWE, MICHAEL	11	S1	137
2136	2136-001	A-Latin 3B (AP)	S2	6B(M-F)	World Languages	ARWE, MICHAEL	11	S2	137
2143	2143-X01	H-Latin 4 A	S1	5A(M-F)	World Languages	ARWE, MICHAEL	2	S1	137
2143	2143-X02	H-Latin 4 A	S1	1(W-F) 7(M	World Languages	ARWE, MICHAEL	3	S1	137
2144	2144-X01	H-Latin 4 B	S2	5A(M-F)	World Languages	ARWE, MICHAEL	2	S2	137
2144	2144-X02	H-Latin 4 B	S2	1(W-F) 7(M	World Languages	ARWE, MICHAEL	3	S2	137
2145	2145-001	A-Latin 4 A (AP)	S1	4A(M-F)	World Languages	ARWE, MICHAEL	13	S1	137
2146	2146-001	A-Latin 4 B (AP)	S2	4A(M-F)	World Languages	ARWE, MICHAEL	13	S2	137
2311	2311-001	C-French 1 A	S1	3(M-F)	World Languages	ARHUIDESE, RAPHAEL	22	S1	812
2311	2311-002	C-French 1 A	S1	1(W-F) 7(M	World Languages	ARHUIDESE, RAPHAEL	22	S1	812
2312	2312-001	C-French 1 B	S2	3(M-F)	World Languages	ARHUIDESE, RAPHAEL	22	S2	812
2312	2312-002	C-French 1 B	S2	1(W-F) 7(M	World Languages	ARHUIDESE, RAPHAEL	21	S2	812
2313	2313-001	H-French 1 A	S1	4A(M-F)	World Languages	ARHUIDESE, RAPHAEL	27	S1	812
2313	2313-002	H-French 1 A	S1	6B(M-F)	World Languages	ARHUIDESE, RAPHAEL	25	S1	812
2313	2313-003	H-French 1 A	S1	5B(M-F)	World Languages	ARHUIDESE, RAPHAEL	16	S1	812
2314	2314-001	H-French 1 B	S2	4A(M-F)	World Languages	ARHUIDESE, RAPHAEL	27	S2	812
2314	2314-002	H-French 1 B	S2	6B(M-F)	World Languages	ARHUIDESE, RAPHAEL	25	S2	812
2314	2314-003	H-French 1 B	S2	5B(M-F)	World Languages	ARHUIDESE, RAPHAEL	16	S2	812
2321	2321-001	C-French 2 A	S1	4B(M-F)	World Languages	POPESCU, DORIAN	24	S1	254
2321	2321-002	C-French 2 A	S1	6B(M-F)	World Languages	POPESCU, DORIAN	17	S1	254
2322	2322-001	C-French 2 B	S2	4B(M-F)	World Languages	POPESCU, DORIAN	22	S2	254
2322	2322-002	C-French 2 B	S2	6B(M-F)	World Languages	POPESCU, DORIAN	17	S2	254
2323	2323-001	H-French 2 A	S1	3(M-F)	World Languages	POPESCU, DORIAN	22	S1	254
2323	2323-002	H-French 2 A	S1	2(M-F)	World Languages	POPESCU, DORIAN	21	S1	254
2323	2323-003	H-French 2 A	S1	1(M-TU) 7(	World Languages	POPESCU, DORIAN	26	S1	254
2324	2324-001	H-French 2 B	S2	3(M-F)	World Languages	POPESCU, DORIAN	22	S2	254
2324	2324-002	H-French 2 B	S2	2(M-F)	World Languages	POPESCU, DORIAN	20	S2	254
2324	2324-003	H-French 2 B	S2	1(M-TU) 7(	World Languages	POPESCU, DORIAN	26	S2	254
2331	2331-001	C-French 3 A	S1	5B(M-F)	World Languages	AMEDURI, JEANNINE	20	S1	223
2332	2332-001	C-French 3 B	S2	5B(M-F)	World Languages	AMEDURI, JEANNINE	20	S2	223
2333	2333-001	H-French 3 A	S1	1(M-TU) 7(	World Languages	AMEDURI, JEANNINE	26	S1	223
2333	2333-002	H-French 3 A	S1	3(M-F)	World Languages	AMEDURI, JEANNINE	20	S1	223
2333	2333-003	H-French 3 A	S1	6B(M-F)	World Languages	AMEDURI, JEANNINE	15	S1	223
2334	2334-001	H-French 3 B	S2	1(M-TU) 7(	World Languages	AMEDURI, JEANNINE	26	S2	223
2334	2334-002	H-French 3 B	S2	3(M-F)	World Languages	AMEDURI, JEANNINE	20	S2	223
2334	2334-003	H-French 3 B	S2	6B(M-F)	World Languages	AMEDURI, JEANNINE	15	S2	223
2343	2343-001	H-French 4 A	S1	1(W-F) 7(M	World Languages	AMEDURI, JEANNINE	13	S1	223
2344	2344-001	H-French 4 B	S2	1(W-F) 7(M	World Languages	AMEDURI, JEANNINE	13	S2	223
2503	2503-001	H-Spanish 1 A Heritage Speaker	S1	2(M-F)	World Languages	KOWALSKI, EVA	14	S1	224
2504	2504-001	H-Spanish 1 B Heritage Speaker	S2	2(M-F)	World Languages	KOWALSKI, EVA	13	S2	224
2507	2507-001	H-Spanish 2 A Heritage Speaker	S1	1(M-TU) 7(	World Languages	KOWALSKI, EVA	14	S1	224
2508	2508-001	H-Spanish 2 B Heritage Speaker	S2	1(M-TU) 7(	World Languages	KOWALSKI, EVA	13	S2	224
2511	2511-001	C-Spanish 1 A	S1	2(M-F)	World Languages	DONAGHEY, WILLIAM	28	S1	215
2511	2511-002	C-Spanish 1 A	S1	1(W-F) 7(M	World Languages	DURKIN, KATHLEEN	28	S1	217

2511	2511-004	C-Spanish 1 A	S1	3(M-F)	World Languages	DELGADO, AMARILIS	29	S1	701
2511	2511-005	C-Spanish 1 A	S1	4B(M-F)	World Languages	DELGADO, AMARILIS	27	S1	701
2511	2511-006	C-Spanish 1 A	S1	5B(M-F)	World Languages	DELGADO, AMARILIS	23	S1	701
2511	2511-007	C-Spanish 1 A	S1	2(M-F)	World Languages	QUILES, RAFAEL	27	S1	250
2511	2511-008	C-Spanish 1 A	S1	6B(M-F)	World Languages	QUILES, RAFAEL	27	S1	250
2512	2512-001	C-Spanish 1 B	S2	2(M-F)	World Languages	DONAGHEY, WILLIAM	29	S2	215
2512	2512-002	C-Spanish 1 B	S2	1(W-F) 7(M	World Languages	DURKIN, KATHLEEN	29	S2	217
2512	2512-004	C-Spanish 1 B	S2	3(M-F)	World Languages	DELGADO, AMARILIS	29	S2	701
2512	2512-005	C-Spanish 1 B	S2	4B(M-F)	World Languages	DELGADO, AMARILIS	27	S2	701
2512	2512-006	C-Spanish 1 B	S2	5B(M-F)	World Languages	DELGADO, AMARILIS	23	S2	701
2512	2512-007	C-Spanish 1 B	S2	2(M-F)	World Languages	QUILES, RAFAEL	28	S2	250
2512	2512-008	C-Spanish 1 B	S2	6B(M-F)	World Languages	QUILES, RAFAEL	27	S2	250
2513	2513-001	H-Spanish 1 A	S1	6B(M-F)	World Languages	SULLIVAN, ARACELIS	26	S1	115
2513	2513-002	H-Spanish 1 A	S1	1(W-F) 7(M	World Languages	DELGADO, AMARILIS	29	S1	701
2513	2513-003	H-Spanish 1 A	S1	3(M-F)	World Languages	DYSON, MARYANN	30	S1	101
2513	2513-004	H-Spanish 1 A	S1	2(M-F)	World Languages	BOOTS, ROBIN	29	S1	219
2513	2513-005	H-Spanish 1 A	S1	4B(M-F)	World Languages	DYSON, MARYANN	30	S1	101
2513	2513-012	H-Spanish 1 A	S1	6B(M-F)	World Languages	SMITH, ERICA	29	S1	213
2514	2514-001	H-Spanish 1 B	S2	6B(M-F)	World Languages	SULLIVAN, ARACELIS	26	S2	115
2514	2514-002	H-Spanish 1 B	S2	1(W-F) 7(M	World Languages	DELGADO, AMARILIS	29	S2	701
2514	2514-003	H-Spanish 1 B	S2	3(M-F)	World Languages	DYSON, MARYANN	30	S2	101
2514	2514-004	H-Spanish 1 B	S2	2(M-F)	World Languages	BOOTS, ROBIN	29	S2	219
2514	2514-005	H-Spanish 1 B	S2	4B(M-F)	World Languages	DYSON, MARYANN	30	S2	101
2514	2514-012	H-Spanish 1 B	S2	6B(M-F)	World Languages	SMITH, ERICA	28	S2	213
2521	2521-001	C-Spanish 2 A	S1	6B(M-F)	World Languages	MAIA, PHILIP	21	S1	226
2521	2521-002	C-Spanish 2 A	S1	3(M-F)	World Languages	MAIA, PHILIP	26	S1	226
2521	2521-003	C-Spanish 2 A	S1	2(M-F)	World Languages	MAIA, PHILIP	24	S1	226
2521	2521-004	C-Spanish 2 A	S1	1(W-F) 7(M	World Languages	KOWALSKI, EVA	27	S1	224
2521	2521-005	C-Spanish 2 A	S1	4B(M-F)	World Languages	KOWALSKI, EVA	25	S1	224
2521	2521-006	C-Spanish 2 A	S1	5B(M-F)	World Languages	KOWALSKI, EVA	27	S1	224
2522	2522-001	C-Spanish 2 B	S2	6B(M-F)	World Languages	MAIA, PHILIP	20	S2	226
2522	2522-002	C-Spanish 2 B	S2	2(M-F)	World Languages	MAIA, PHILIP	22	S2	226
2522	2522-003	C-Spanish 2 B	S2	3(M-F)	World Languages	MAIA, PHILIP	27	S2	226
2522	2522-004	C-Spanish 2 B	S2	1(W-F) 7(M	World Languages	KOWALSKI, EVA	24	S2	224
2522	2522-005	C-Spanish 2 B	S2	4B(M-F)	World Languages	KOWALSKI, EVA	23	S2	224
2522	2522-006	C-Spanish 2 B	S2	5B(M-F)	World Languages	KOWALSKI, EVA	27	S2	224
2523	2523-001	H-Spanish 2 A	S1	4A(M-F)	World Languages	DURKIN, KATHLEEN	22	S1	217
2523	2523-002	H-Spanish 2 A	S1	6A(M-F)	World Languages	DURKIN, KATHLEEN	26	S1	217
2523	2523-003	H-Spanish 2 A	S1	5A(M-F)	World Languages	DURKIN, KATHLEEN	16	S1	217
2523	2523-004	H-Spanish 2 A	S1	4B(M-F)	World Languages	QUILES, RAFAEL	21	S1	250
2523	2523-005	H-Spanish 2 A	S1	1(M-TU) 7(	World Languages	QUILES, RAFAEL	22	S1	250
2523	2523-006	H-Spanish 2 A	S1	5B(M-F)	World Languages	SMITH, ERICA	26	S1	213
2523	2523-007	H-Spanish 2 A	S1	2(M-F)	World Languages	SMITH, ERICA	23	S1	213
2523	2523-008	H-Spanish 2 A	S1	1(W-F) 7(M	World Languages	SMITH, ERICA	25	S1	213
2524	2524-001	H-Spanish 2 B	S2	4A(M-F)	World Languages	DURKIN, KATHLEEN	23	S2	217
2524	2524-002	H-Spanish 2 B	S2	6A(M-F)	World Languages	DURKIN, KATHLEEN	26	S2	217
2524	2524-003	H-Spanish 2 B	S2	5A(M-F)	World Languages	DURKIN, KATHLEEN	16	S2	217

2524	2524-004	H-Spanish 2 B	S2	4B(M-F)	World Languages	QUILES, RAFAEL	21	S2	250
2524	2524-005	H-Spanish 2 B	S2	1(M-TU) 7(	World Languages	QUILES, RAFAEL	22	S2	250
2524	2524-006	H-Spanish 2 B	S2	5B(M-F)	World Languages	SMITH, ERICA	26	S2	213
2524	2524-007	H-Spanish 2 B	S2	2(M-F)	World Languages	SMITH, ERICA	23	S2	213
2524	2524-008	H-Spanish 2 B	S2	1(W-F) 7(M	World Languages	SMITH, ERICA	25	S2	213
2531	2531-001	C-Spanish 3 A	S1	1(W-F) 7(M	World Languages	DYSON, MARYANN	21	S1	101
2531	2531-002	C-Spanish 3 A	S1	6B(M-F)	World Languages	DYSON, MARYANN	25	S1	101
2531	2531-003	C-Spanish 3 A	S1	2(M-F)	World Languages	DYSON, MARYANN	23	S1	101
2532	2532-001	C-Spanish 3 B	S2	1(W-F) 7(M	World Languages	DYSON, MARYANN	21	S2	101
2532	2532-002	C-Spanish 3 B	S2	6B(M-F)	World Languages	DYSON, MARYANN	24	S2	101
2532	2532-003	C-Spanish 3 B	S2	2(M-F)	World Languages	DYSON, MARYANN	22	S2	101
2533	2533-001	H-Spanish 3 A	S1	6B(M-F)	World Languages	DONAGHEY, WILLIAM	27	S1	215
2533	2533-002	H-Spanish 3 A	S1	1(W-F) 7(M	World Languages	DONAGHEY, WILLIAM	26	S1	215
2533	2533-003	H-Spanish 3 A	S1	2(M-F)	World Languages	DURKIN, KATHLEEN	23	S1	217
2533	2533-004	H-Spanish 3 A	S1	5B(M-F)	World Languages	DONAGHEY, WILLIAM	29	S1	215
2533	2533-005	H-Spanish 3 A	S1	3(M-F)	World Languages	DONAGHEY, WILLIAM	26	S1	215
2534	2534-001	H-Spanish 3 B	S2	6B(M-F)	World Languages	DONAGHEY, WILLIAM	27	S2	215
2534	2534-002	H-Spanish 3 B	S2	1(W-F) 7(M	World Languages	DONAGHEY, WILLIAM	26	S2	215
2534	2534-003	H-Spanish 3 B	S2	2(M-F)	World Languages	DURKIN, KATHLEEN	23	S2	217
2534	2534-004	H-Spanish 3 B	S2	5B(M-F)	World Languages	DONAGHEY, WILLIAM	28	S2	215
2534	2534-005	H-Spanish 3 B	S2	3(M-F)	World Languages	DONAGHEY, WILLIAM	26	S2	215
2535	2535-001	A-Spanish 3 (AP) A	S1	1(W-F) 7(M	World Languages	QUILES, RAFAEL	26	S1	250
2535	2535-002	A-Spanish 3 (AP) A	S1	1(M-TU) 7(	World Languages	DELGADO, AMARILIS	24	S1	701
2536	2536-001	A-Spanish 3 (AP) B	S2	1(W-F) 7(M	World Languages	QUILES, RAFAEL	26	S2	250
2536	2536-002	A-Spanish 3 (AP) B	S2	1(M-TU) 7(	World Languages	DELGADO, AMARILIS	24	S2	701
2541	2541-001	C-Spanish 4A	S1	1(M-TU) 7(	World Languages	SMITH, ERICA	4	S1	213
2542	2542-002	C-Spanish 4B	S2	1(M-TU) 7(	World Languages	SMITH, ERICA	4	S2	213
2543	2543-001	H-Spanish 4A	S1	1(M-TU) 7(	World Languages	SMITH, ERICA	9	S1	213
2544	2544-001	H-Spanish 4B	S2	1(M-TU) 7(	World Languages	SMITH, ERICA	9	S2	213
2545	2545-001	A-Spanish 4A (AP)	S1	1(M-TU) 7(	World Languages	MAIA, PHILIP	11	S1	226
2546	2546-001	A-Spanish 4B (AP)	S2	1(M-TU) 7(	World Languages	MAIA, PHILIP	11	S2	226
2553	2553-001	H-Spanish Conversation A	S1	5B(M-F)	World Languages	MAIA, PHILIP	19	S1	226
2554	2554-001	H-Spanish Conversation B	S2	5B(M-F)	World Languages	MAIA, PHILIP	18	S2	226
2613	2613-001	H-Portuguese 1 A	S1	3(M-F)	World Languages	DECARVALHO, JULIO	12	S1	227
2613	2613-002	H-Portuguese 1 A	S1	4A(M-F)	World Languages	DECARVALHO, JULIO	16	S1	227
2614	2614-001	H-Portuguese 1 B	S2	3(M-F)	World Languages	DECARVALHO, JULIO	12	S2	227
2614	2614-002	H-Portuguese 1 B	S2	4A(M-F)	World Languages	DECARVALHO, JULIO	16	S2	227
2623	2623-001	H-Portuguese 2 A	S1	6B(M-F)	World Languages	DECARVALHO, JULIO	23	S1	227
2624	2624-001	H-Portuguese 2 B	S2	6B(M-F)	World Languages	DECARVALHO, JULIO	22	S2	227
2633	2633-001	H-Portuguese 3 A	S1	5B(M-F)	World Languages	DECARVALHO, JULIO	21	S1	227
2634	2634-001	H-Portuguese 3 B	S2	5B(M-F)	World Languages	DECARVALHO, JULIO	21	S2	227
2643	2643-001	H-Portuguese 4 A	S1	2(M-F)	World Languages	DECARVALHO, JULIO	12	S1	227
2644	2644-001	H-Portuguese 4 B	S2	2(M-F)	World Languages	DECARVALHO, JULIO	12	S2	227
2711	2711-001	C-Khmer 1A	S1	3(M-F)	World Languages	PRAK, CHENDA	20	S1	702
2711	2711-002	C-Khmer 1A	S1	4A(M-F)	World Languages	PRAK, CHENDA	27	S1	702
2711	2711-003	C-Khmer 1A	S1	5A(M-F)	World Languages	PRAK, CHENDA	12	S1	702
2712	2712-001	C-Khmer 1B	S2	3(M-F)	World Languages	PRAK, CHENDA	20	S2	702

2712	2712-002	C-Khmer 1B	S2	4A(M-F)	World Languages	PRAK, CHENDA	27	S2	702
2712	2712-003	C-Khmer 1B	S2	5A(M-F)	World Languages	PRAK, CHENDA	12	S2	702
2713	2713-001	H-Khmer 1A	S1	1(W-F) 7(M	World Languages	PRAK, CHENDA	23	S1	702
2713	2713-002	H-Khmer 1A	S1	6B(M-F)	World Languages	PRAK, CHENDA	24	S1	702
2714	2714-001	H-Khmer 1B	S2	1(W-F) 7(M	World Languages	PRAK, CHENDA	23	S2	702
2714	2714-002	H-Khmer 1B	S2	6B(M-F)	World Languages	PRAK, CHENDA	24	S2	702
2721	2721-001	C-Khmer 2A	S1	1(W-F) 7(M	World Languages	PRUM, SENG	12	S1	121
2721	2721-002	C-Khmer 2A	S1	2(M-F)	World Languages	PRUM, SENG	13	S1	121
2722	2722-001	C-Khmer 2B	S2	1(W-F) 7(M	World Languages	PRUM, SENG	13	S2	121
2722	2722-002	C-Khmer 2B	S2	2(M-F)	World Languages	PRUM, SENG	13	S2	121
2723	2723-001	H-Khmer 2A	S1	5B(M-F)	World Languages	PRUM, SENG	24	S1	121
2723	2723-002	H-Khmer 2A	S1	6B(M-F)	World Languages	PRUM, SENG	16	S1	121
2723	2723-003	H-Khmer 2A	S1	1(M-TU) 7(	World Languages	PRUM, SENG	28	S1	121
2724	2724-001	H-Khmer 2B	S2	5B(M-F)	World Languages	PRUM, SENG	25	S2	121
2724	2724-002	H-Khmer 2B	S2	6B(M-F)	World Languages	PRUM, SENG	16	S2	121
2724	2724-003	H-Khmer 2B	S2	1(M-TU) 7(	World Languages	PRUM, SENG	29	S2	121
2733	2733-001	H-Khmer 3A	S1	4B(M-F)	World Languages	SO, PAN	16	S1	133
2733	2733-002	H-Khmer 3A	S1	1(M-TU) 7(	World Languages	SO, PAN	24	S1	133
2733	2733-003	H-Khmer 3A	S1	6B(M-F)	World Languages	SO, PAN	15	S1	133
2733	2733-004	H-Khmer 3A	S1	1(W-F) 7(M	World Languages	SO, PAN	17	S1	133
2734	2734-001	H-Khmer 3B	S2	4B(M-F)	World Languages	SO, PAN	16	S2	133
2734	2734-002	H-Khmer 3B	S2	1(M-TU) 7(	World Languages	SO, PAN	23	S2	133
2734	2734-003	H-Khmer 3B	S2	6B(M-F)	World Languages	SO, PAN	15	S2	133
2734	2734-004	H-Khmer 3B	S2	1(W-F) 7(M	World Languages	SO, PAN	17	S2	133
2741	2741-X01	C-Khmer 4A	S1	2(M-F)	World Languages	SO, PAN	2	S1	133
2742	2742-X01	C-Khmer 4B	S2	2(M-F)	World Languages	SO, PAN	2	S2	133
2743	2743-001	H-Khmer 4A	S1	2(M-F)	World Languages	SO, PAN	13	S1	133
2744	2744-001	H-Khmer 4B	S2	2(M-F)	World Languages	SO, PAN	13	S2	133
3051	3051-001	C-MCAS Biology Prep	S1	2(M-F)	Science	PLOURDE, DENNIS	17	S1	624
3051	3051-002	C-MCAS Biology Prep	S2	2(M-F)	Science	PLOURDE, DENNIS	10	S2	624
3093	3093-003	HH-M2D2 Partnership Experience A	S1	1(M-TU) 7(	Science	JUMPER, WILLIAM	8	S1	321
3094	3094-003	HH-M2D2 Partnership Experience B	S2	1(M-TU) 7(	Science	JUMPER, WILLIAM	8	S2	321
3131	3131-CL71	C-Integrated Science A	S1	2(M-F)	Science	URBAN, KAITLIN	23	S1	720
3131	3131-CL72	C-Integrated Science A	S1	1(W-F) 7(M	Science	PAREDES, ALICIA	27	S1	723
3131	3131-CL73	C-Integrated Science A	S1	5A(M-F)	Science	PAREDES, ALICIA	22	S1	723
3131	3131-CL81	C-Integrated Science A	S1	3(M-F)	Science	PRENTICE, HYACINTH	26	S1	856
3131	3131-CL82	C-Integrated Science A	S1	5B(M-F)	Science	PRENTICE, HYACINTH	19	S1	856
3131	3131-CL85	C-Integrated Science A	S1	5B(M-F)	Science	BURNHAM, KATHLEEN	19	S1	820
3131	3131-CL86	C-Integrated Science A	S1	2(M-F)	Science	BURNHAM, KATHLEEN	26	S1	820
3131	3131-CL87	C-Integrated Science A	S1	3(M-F)	Science	BURNHAM, KATHLEEN	28	S1	820
3131	3131-CL88	C-Integrated Science A	S1	6B(M-F)	Science	BURNHAM, KATHLEEN	28	S1	820
3131	3131-CL91	C-Integrated Science A	S1	4B(M-F)	Science	RASMUSSEN, ROBERT	24	S1	904
3131	3131-CL92	C-Integrated Science A	S1	1(W-F) 7(M	Science	RASMUSSEN, ROBERT	25	S1	904
3131	3131-CL95	C-Integrated Science A	S1	3(M-F)	Science	WINWARD, MARA	27	S1	911
3132	3132-CL71	C-Integrated Science B	S2	2(M-F)	Science	URBAN, KAITLIN	23	S2	720
3132	3132-CL72	C-Integrated Science B	S2	1(W-F) 7(M	Science	PAREDES, ALICIA	27	S2	723
3132	3132-CL73	C-Integrated Science B	S2	5A(M-F)	Science	PAREDES, ALICIA	22	S2	723

3132	3132-CL81	C-Integrated Science B	S2	3(M-F)	Science	PRENTICE, HYACINTH	25	S2	856
3132	3132-CL82	C-Integrated Science B	S2	5B(M-F)	Science	PRENTICE, HYACINTH	19	S2	856
3132	3132-CL85	C-Integrated Science B	S2	5B(M-F)	Science	BURNHAM, KATHLEEN	19	S2	820
3132	3132-CL86	C-Integrated Science B	S2	2(M-F)	Science	BURNHAM, KATHLEEN	26	S2	820
3132	3132-CL87	C-Integrated Science B	S2	3(M-F)	Science	BURNHAM, KATHLEEN	28	S2	820
3132	3132-CL88	C-Integrated Science B	S2	6B(M-F)	Science	BURNHAM, KATHLEEN	28	S2	820
3132	3132-CL91	C-Integrated Science B	S2	4B(M-F)	Science	RASMUSSEN, ROBERT	24	S2	904
3132	3132-CL92	C-Integrated Science B	S2	1(W-F) 7(M	Science	RASMUSSEN, ROBERT	25	S2	904
3132	3132-CL95	C-Integrated Science B	S2	3(M-F)	Science	WINWARD, MARA	27	S2	911
3137	3137-001	C-Integrated Science A (ELL)	S1	1(W-F) 7(M	ELL	KENNEDY, MARGARET	29	S1	218
3137	3137-002	C-Integrated Science A (ELL)	S1	2(M-F)	ELL	KENNEDY, MARGARET	27	S1	218
3137	3137-003	C-Integrated Science A (ELL)	S1	5B(M-F)	ELL	KENNEDY, MARGARET	25	S1	218
3138	3138-001	C-Integrated Science B (ELL)	S2	1(W-F) 7(M	ELL	KENNEDY, MARGARET	28	S2	218
3138	3138-002	C-Integrated Science B (ELL)	S2	2(M-F)	ELL	KENNEDY, MARGARET	28	S2	218
3138	3138-003	C-Integrated Science B (ELL)	S2	5B(M-F)	ELL	KENNEDY, MARGARET	25	S2	218
3141	3141-CL71	H-Integrated Science A	S1	1(W-F) 7(M	Science	URBAN, KAITLIN	26	S1	720
3141	3141-CL72	H-Integrated Science A	S1	4A(M-F)	Science	URBAN, KAITLIN	24	S1	720
3141	3141-CL73	H-Integrated Science A	S1	5A(M-F)	Science	URBAN, KAITLIN	19	S1	720
3141	3141-CL74	H-Integrated Science A	S1	4A(M-F)	Science	PAREDES, ALICIA	27	S1	723
3141	3141-CL81	H-Integrated Science A	S1	6B(M-F)	Science	PRENTICE, HYACINTH	24	S1	856
3141	3141-CL82	H-Integrated Science A	S1	2(M-F)	Science	PRENTICE, HYACINTH	21	S1	856
3141	3141-CL83	H-Integrated Science A	S1	5B(M-F)	Science	MONTEMURRO, ALISON	24	S1	851
3141	3141-CL84	H-Integrated Science A	S1	3(M-F)	Science	MONTEMURRO, ALISON	28	S1	851
3141	3141-CL91	H-Integrated Science A	S1	2(M-F)	Science	RASMUSSEN, ROBERT	23	S1	904
3141	3141-CL92	H-Integrated Science A	S1	3(M-F)	Science	RASMUSSEN, ROBERT	26	S1	904
3141	3141-CL93	H-Integrated Science A	S1	1(W-F) 7(M	Science	WINWARD, MARA	22	S1	911
3141	3141-CL94	H-Integrated Science A	S1	4B(M-F)	Science	WINWARD, MARA	19	S1	911
3141	3141-LL1	H-Integrated Science A	S1	1(W-F) 7(M	Science	SELVAGGIO, STEPHANIE	23	S1	304
3141	3141-LL2	H-Integrated Science A	S1	2(M-F)	Science	SELVAGGIO, STEPHANIE	26	S1	304
3142	3142-CL71	H-Integrated Science B	S2	1(W-F) 7(M	Science	URBAN, KAITLIN	26	S2	720
3142	3142-CL72	H-Integrated Science B	S2	4A(M-F)	Science	URBAN, KAITLIN	24	S2	720
3142	3142-CL73	H-Integrated Science B	S2	5A(M-F)	Science	URBAN, KAITLIN	19	S2	720
3142	3142-CL74	H-Integrated Science B	S2	4A(M-F)	Science	PAREDES, ALICIA	27	S2	723
3142	3142-CL81	H-Integrated Science B	S2	6B(M-F)	Science	PRENTICE, HYACINTH	24	S2	856
3142	3142-CL82	H-Integrated Science B	S2	2(M-F)	Science	PRENTICE, HYACINTH	21	S2	856
3142	3142-CL83	H-Integrated Science B	S2	5B(M-F)	Science	MONTEMURRO, ALISON	25	S2	851
3142	3142-CL84	H-Integrated Science B	S2	3(M-F)	Science	MONTEMURRO, ALISON	28	S2	851
3142	3142-CL91	H-Integrated Science B	S2	2(M-F)	Science	RASMUSSEN, ROBERT	23	S2	904
3142	3142-CL92	H-Integrated Science B	S2	3(M-F)	Science	RASMUSSEN, ROBERT	26	S2	904
3142	3142-CL93	H-Integrated Science B	S2	1(W-F) 7(M	Science	WINWARD, MARA	22	S2	911
3142	3142-CL94	H-Integrated Science B	S2	4B(M-F)	Science	WINWARD, MARA	19	S2	911
3142	3142-LL1	H-Integrated Science B	S2	1(W-F) 7(M	Science	SELVAGGIO, STEPHANIE	23	S2	304
3142	3142-LL2	H-Integrated Science B	S2	2(M-F)	Science	SELVAGGIO, STEPHANIE	26	S2	304
3221	3221-CL72	C-Explorations in Integrated Science A	S1	2(M-F)	Science	PAREDES, ALICIA	16	S1	723
3221	3221-CL83	C-Explorations in Integrated Science A	S1	2(M-F)	Science	MONTEMURRO, ALISON	14	S1	851
3221	3221-CL84	C-Explorations in Integrated Science A	S1	6B(M-F)	Science	MONTEMURRO, ALISON	15	S1	851
3221	3221-CL94	C-Explorations in Integrated Science A	S1	2(M-F)	Science	WINWARD, MARA	15	S1	911

3222	3222-CL72	C-Explorations in Integrated Science B	S2	2(M-F)	Science	PAREDES, ALICIA	16	S2	723
3222	3222-CL83	C-Explorations in Integrated Science B	S2	2(M-F)	Science	MONTEMURRO, ALISON	14	S2	851
3222	3222-CL84	C-Explorations in Integrated Science B	S2	6B(M-F)	Science	MONTEMURRO, ALISON	15	S2	851
3222	3222-CL94	C-Explorations in Integrated Science B	S2	2(M-F)	Science	WINWARD, MARA	15	S2	911
3231	3231-001	C-Biology A	S1	6A(M-F)	Science	CAVIGNANO, TRICIA	22	S1	623
3231	3231-002	C-Biology A	S1	3(M-F)	Science	MARAIS, JOAN	28	S1	318
3231	3231-004	C-Biology A	S1	4A(M-F)	Science	HUGHES, SCOTT	30	S1	614
3231	3231-009	C-Biology A	S1	3(M-F)	Science	STEINBERG, EMILY	28	S1	644
3231	3231-010	C-Biology A	S1	1(M-TU) 7(	Science	STEINBERG, EMILY	30	S1	644
3231	3231-020	C-Biology A	S1	1(M-TU) 7(	Science	STAMATOYANAKIS, GEORGE	30	S1	316
3231	3231-021	C-Biology A	S1	2(M-F)	Science	MARAIS, JOAN	30	S1	318
3231	3231-025	C-Biology A	S1	1(W-F) 7(M	Science	GONZALEZ, KIMBERLY	31	S1	643
3231	3231-032	C-Biology A	S1	4A(M-F)	Science	SPENCER, JUSTIN	30	S1	646
3232	3232-001	C-Biology B	S2	6A(M-F)	Science	CAVIGNANO, TRICIA	22	S2	623
3232	3232-002	C-Biology B	S2	3(M-F)	Science	MARAIS, JOAN	28	S2	318
3232	3232-004	C-Biology B	S2	4A(M-F)	Science	HUGHES, SCOTT	27	S2	614
3232	3232-009	C-Biology B	S2	3(M-F)	Science	STEINBERG, EMILY	27	S2	644
3232	3232-010	C-Biology B	S2	1(M-TU) 7(	Science	STEINBERG, EMILY	28	S2	644
3232	3232-020	C-Biology B	S2	1(M-TU) 7(	Science	STAMATOYANAKIS, GEORGE	29	S2	316
3232	3232-021	C-Biology B	S2	2(M-F)	Science	MARAIS, JOAN	29	S2	318
3232	3232-025	C-Biology B	S2	1(W-F) 7(M	Science	GONZALEZ, KIMBERLY	29	S2	643
3232	3232-032	C-Biology B	S2	4A(M-F)	Science	SPENCER, JUSTIN	28	S2	646
3237	3237-001	C-Biology A (ELL)	S1	1(W-F) 7(M	ELL	VERZONE, JACQUELINE	29	S1	558
3237	3237-002	C-Biology A (ELL)	S1	2(M-F)	ELL	VERZONE, JACQUELINE	30	S1	558
3237	3237-003	C-Biology A (ELL)	S1	4A(M-F)	ELL	VERZONE, JACQUELINE	28	S1	558
3237	3237-004	C-Biology A (ELL)	S1	5B(M-F)	ELL	VERZONE, JACQUELINE	25	S1	558
3237	3237-005	C-Biology A (ELL)	S1	6B(M-F)	ELL	VERZONE, JACQUELINE	25	S1	558
3238	3238-001	C-Biology B (ELL)	S2	1(W-F) 7(M	ELL	VERZONE, JACQUELINE	26	S2	558
3238	3238-002	C-Biology B (ELL)	S2	2(M-F)	ELL	VERZONE, JACQUELINE	28	S2	558
3238	3238-003	C-Biology B (ELL)	S2	4A(M-F)	ELL	VERZONE, JACQUELINE	27	S2	558
3238	3238-004	C-Biology B (ELL)	S2	5B(M-F)	ELL	VERZONE, JACQUELINE	26	S2	558
3238	3238-005	C-Biology B (ELL)	S2	6B(M-F)	ELL	VERZONE, JACQUELINE	25	S2	558
3241	3241-001	H-Biology A	S1	5A(M-F)	Science	CAVIGNANO, TRICIA	26	S1	623
3241	3241-004	H-Biology A	S1	1(M-TU) 7(	Science	HUGHES, SCOTT	30	S1	614
3241	3241-005	H-Biology A	S1	6B(M-F)	Science	HUGHES, SCOTT	22	S1	614
3241	3241-006	H-Biology A	S1	5B(M-F)	Science	DUNHAM, KEVIN	31	S1	626
3241	3241-007	H-Biology A	S1	2(M-F)	Science	GONZALEZ, KIMBERLY	29	S1	643
3241	3241-008	H-Biology A	S1	4A(M-F)	Science	MARAIS, JOAN	28	S1	318
3241	3241-009	H-Biology A	S1	1(M-TU) 7(	Science	MARAIS, JOAN	28	S1	318
3241	3241-012	H-Biology A	S1	4A(M-F)	Science	STEINBERG, EMILY	28	S1	644
3241	3241-013	H-Biology A	S1	6A(M-F)	Science	STEINBERG, EMILY	29	S1	644
3241	3241-014	H-Biology A	S1	1(W-F) 7(M	Science	STEINBERG, EMILY	32	S1	644
3241	3241-015	H-Biology A	S1	3(M-F)	Science	CAVIGNANO, TRICIA	29	S1	623
3241	3241-020	H-Biology A	S1	6B(M-F)	Science	DUNHAM, KEVIN	21	S1	626
3241	3241-LL1	H-Biology A	S1	5B(M-F)	Science	SELVAGGIO, STEPHANIE	25	S1	304
3241	3241-LL2	H-Biology A	S1	6B(M-F)	Science	SELVAGGIO, STEPHANIE	17	S1	304
3242	3242-001	H-Biology B	S2	5A(M-F)	Science	CAVIGNANO, TRICIA	25	S2	623

3242	3242-004	H-Biology B	S2	1(M-TU) 7(	Science	HUGHES, SCOTT	30	S2	614
3242	3242-005	H-Biology B	S2	6B(M-F)	Science	HUGHES, SCOTT	22	S2	614
3242	3242-006	H-Biology B	S2	5B(M-F)	Science	DUNHAM, KEVIN	31	S2	626
3242	3242-007	H-Biology B	S2	2(M-F)	Science	GONZALEZ, KIMBERLY	29	S2	643
3242	3242-008	H-Biology B	S2	4A(M-F)	Science	MARAIS, JOAN	28	S2	318
3242	3242-012	H-Biology B	S2	4A(M-F)	Science	STEINBERG, EMILY	28	S2	644
3242	3242-013	H-Biology B	S2	6A(M-F)	Science	STEINBERG, EMILY	29	S2	644
3242	3242-014	H-Biology B	S2	1(W-F) 7(M	Science	STEINBERG, EMILY	32	S2	644
3242	3242-015	H-Biology B	S2	3(M-F)	Science	CAVIGNANO, TRICIA	29	S2	623
3242	3242-020	H-Biology B	S2	6B(M-F)	Science	DUNHAM, KEVIN	21	S2	626
3242	3242-021	H-Biology B	S2	1(M-TU) 7(	Science	MARAIS, JOAN	28	S2	318
3242	3242-LL1	H-Biology B	S2	5B(M-F)	Science	SELVAGGIO, STEPHANIE	25	S2	304
3242	3242-LL2	H-Biology B	S2	6B(M-F)	Science	SELVAGGIO, STEPHANIE	17	S2	304
3247	3247-001	C-Explorations In Biology A	S1	6B(M-F)	Science	MARAIS, JOAN	19	S1	318
3247	3247-003	C-Explorations In Biology A	S1	1(M-TU) 7(	Science	MCANANEY, KILLIAN	25	S1	313
3247	3247-IN1	C-Explorations In Biology A	S1	3(M-F)	Science	MCANANEY, KILLIAN	29	S1	313
3248	3248-001	C-Explorations in Biology B	S2	6B(M-F)	Science	MARAIS, JOAN	16	S2	318
3248	3248-003	C-Explorations in Biology B	S2	1(M-TU) 7(	Science	MCANANEY, KILLIAN	26	S2	313
3248	3248-IN1	C-Explorations in Biology B	S2	3(M-F)	Science	MCANANEY, KILLIAN	26	S2	313
3250	3250-001	A-General Biology (DE)	S1	6B(M-F)	Science	GONZALEZ, KIMBERLY	23	S1	643
3250	3250-002	A-General Biology (DE)	S2	6B(M-F)	Science	GONZALEZ, KIMBERLY	17	S2	643
3331	3331-001	C-Chemistry A	S1	4B(M-F)	Science	LUONG, VAN	24	S1	612
3331	3331-002	C-Chemistry A	S1	2(M-F)	Science	LUONG, VAN	23	S1	612
3331	3331-003	C-Chemistry A	S1	4A(M-F)	Science	EDDY, BARBARA	28	S1	645
3331	3331-004	C-Chemistry A	S1	3(M-F)	Science	EDDY, BARBARA	25	S1	645
3331	3331-005	C-Chemistry A	S1	5B(M-F)	Science	SILVERBERG, JASON	28	S1	314
3331	3331-006	C-Chemistry A	S1	1(M-TU) 7(	Science	SILVERBERG, JASON	28	S1	314
3331	3331-007	C-Chemistry A	S1	2(M-F)	Science	WOODWARD, ANNE	20	S1	625
3331	3331-008	C-Chemistry A	S1	1(W-F) 7(M	Science	VERZONE, SALLY	25	S1	613
3331	3331-009	C-Chemistry A	S1	3(M-F)	Science	VERZONE, SALLY	24	S1	613
3331	3331-010	C-Chemistry A	S1	6B(M-F)	Science	VERZONE, SALLY	20	S1	613
3331	3331-011	C-Chemistry A	S1	5A(M-F)	Science	VERZONE, SALLY	26	S1	613
3331	3331-012	C-Chemistry A	S1	4A(M-F)	Science	VERZONE, SALLY	27	S1	613
3332	3332-001	C-Chemistry B	S2	4B(M-F)	Science	LUONG, VAN	24	S2	612
3332	3332-002	C-Chemistry B	S2	2(M-F)	Science	LUONG, VAN	24	S2	612
3332	3332-003	C-Chemistry B	S2	4A(M-F)	Science	EDDY, BARBARA	28	S2	645
3332	3332-004	C-Chemistry B	S2	3(M-F)	Science	EDDY, BARBARA	25	S2	645
3332	3332-005	C-Chemistry B	S2	5B(M-F)	Science	SILVERBERG, JASON	27	S2	314
3332	3332-006	C-Chemistry B	S2	1(M-TU) 7(	Science	SILVERBERG, JASON	25	S2	314
3332	3332-007	C-Chemistry B	S2	2(M-F)	Science	WOODWARD, ANNE	19	S2	625
3332	3332-008	C-Chemistry B	S2	1(W-F) 7(M	Science	VERZONE, SALLY	26	S2	613
3332	3332-009	C-Chemistry B	S2	3(M-F)	Science	VERZONE, SALLY	24	S2	613
3332	3332-010	C-Chemistry B	S2	6B(M-F)	Science	VERZONE, SALLY	19	S2	613
3332	3332-011	C-Chemistry B	S2	5A(M-F)	Science	VERZONE, SALLY	26	S2	613
3332	3332-012	C-Chemistry B	S2	4A(M-F)	Science	VERZONE, SALLY	28	S2	613
3337	3337-001	C-Chemistry A (ELL)	S1	1(M-TU) 7(	ELL	KENNEDY, MARGARET	30	S1	218
3337	3337-004	C-Chemistry A (ELL)	S1	6B(M-F)	ELL	KENNEDY, MARGARET	6	S1	218

3338	3338-001	C-Chemistry B (ELL)	S2	1(M-TU) 7(	ELL	KENNEDY, MARGARET	30	S2	218
3338	3338-004	C-Chemistry B (ELL)	S2	6B(M-F)	ELL	KENNEDY, MARGARET	6	S2	218
3341	3341-002	H-Chemistry A	S1	5A(M-F)	Science	EDDY, BARBARA	28	S1	645
3341	3341-003	H-Chemistry A	S1	1(W-F) 7(M	Science	EDDY, BARBARA	23	S1	645
3341	3341-004	H-Chemistry A	S1	4A(M-F)	Science	SILVERBERG, JASON	29	S1	314
3341	3341-005	H-Chemistry A	S1	1(W-F) 7(M	Science	WOODWARD, ANNE	24	S1	625
3341	3341-006	H-Chemistry A	S1	3(M-F)	Science	WOODWARD, ANNE	27	S1	625
3341	3341-033	H-Chemistry A	S1	2(M-F)	Science	SILVERBERG, JASON	28	S1	314
3342	3342-002	H-Chemistry B	S2	5A(M-F)	Science	EDDY, BARBARA	28	S2	645
3342	3342-003	H-Chemistry B	S2	1(W-F) 7(M	Science	EDDY, BARBARA	22	S2	645
3342	3342-004	H-Chemistry B	S2	4A(M-F)	Science	SILVERBERG, JASON	29	S2	314
3342	3342-005	H-Chemistry B	S2	1(W-F) 7(M	Science	WOODWARD, ANNE	24	S2	625
3342	3342-006	H-Chemistry B	S2	3(M-F)	Science	WOODWARD, ANNE	27	S2	625
3342	3342-033	H-Chemistry B	S2	2(M-F)	Science	SILVERBERG, JASON	28	S2	314
3441	3441-002	H-Physics A	S1	1(W-F) 7(M	Science	DOMINGUEZ, ESTEBAN	27	S1	324
3441	3441-003	H-Physics A	S1	2(M-F)	Science	DOMINGUEZ, ESTEBAN	28	S1	324
3441	3441-004	H-Physics A	S1	6B(M-F)	Science	DOMINGUEZ, ESTEBAN	28	S1	324
3441	3441-005	H-Physics A	S1	3(M-F)	Science	JUMPER, WILLIAM	28	S1	321
3441	3441-006	H-Physics A	S1	1(W-F) 7(M	Science	JUMPER, WILLIAM	17	S1	321
3441	3441-010	H-Physics A	S1	4B(M-F)	Science	JUMPER, WILLIAM	23	S1	321
3442	3442-002	H-Physics B	S2	1(W-F) 7(M	Science	DOMINGUEZ, ESTEBAN	27	S2	324
3442	3442-003	H-Physics B	S2	2(M-F)	Science	DOMINGUEZ, ESTEBAN	28	S2	324
3442	3442-004	H-Physics B	S2	6B(M-F)	Science	DOMINGUEZ, ESTEBAN	28	S2	324
3442	3442-005	H-Physics B	S2	3(M-F)	Science	JUMPER, WILLIAM	28	S2	321
3442	3442-006	H-Physics B	S2	1(W-F) 7(M	Science	JUMPER, WILLIAM	16	S2	321
3442	3442-010	H-Physics B	S2	4B(M-F)	Science	JUMPER, WILLIAM	23	S2	321
3461	3461-001	A-Physics 1 (AP) A	S1	4B(M-F)	Science	DOMINGUEZ, ESTEBAN	14	S1	324
3461	3461-002	A-Physics 1 (AP) A	S1	5B(M-F)	Science	DOMINGUEZ, ESTEBAN	30	S1	324
3462	3462-001	A-Physics 1 (AP) B	S2	4B(M-F)	Science	DOMINGUEZ, ESTEBAN	14	S2	324
3462	3462-002	A-Physics 1 (AP) B	S2	5B(M-F)	Science	DOMINGUEZ, ESTEBAN	30	S2	324
3463	3463-002	A-Physics 2 (AP) A	S1	5B(M-F)	Science	JUMPER, WILLIAM	15	S1	321
3464	3464-001	A-Physics 2 (AP) B	S2	5B(M-F)	Science	JUMPER, WILLIAM	15	S2	321
3535	3535-001	H-Physical Geology	S1	1(M-TU) 7(	Science	PLOURDE, DENNIS	28	S1	624
3536	3536-001	H-Meteorology	S2	1(M-TU) 7(	Science	PLOURDE, DENNIS	28	S2	624
3536	3536-002	H-Meteorology	S2	1(W-F) 7(M	Science	STAMATOYANAKIS, GEORGE	28	S2	316
3537	3537-001	H-Oceanography	S1	1(W-F) 7(M	Science	LUONG, VAN	28	S1	612
3537	3537-002	H-Oceanography	S2	3(M-F)	Science	SILVERBERG, JASON	26	S2	314
3537	3537-004	H-Oceanography	S2	2(M-F)	Science	MORNEAU, ROGER	27	S2	313
3537	3537-005	H-Oceanography	S1	1(M-TU) 7(	Science	LUONG, VAN	28	S1	612
3537	3537-012	H-Oceanography	S1	6B(M-F)	Science	LUONG, VAN	27	S1	612
3538	3538-001	H-Astronomy	S1	3(M-F)	Science	SILVERBERG, JASON	30	S1	314
3538	3538-003	H-Astronomy	S1	2(M-F)	Science	MORNEAU, ROGER	30	S1	313
3538	3538-005	H-Astronomy	S2	1(W-F) 7(M	Science	LUONG, VAN	28	S2	612
3538	3538-006	H-Astronomy	S2	1(M-TU) 7(	Science	LUONG, VAN	29	S2	612
3538	3538-007	H-Astronomy	S2	6B(M-F)	Science	LUONG, VAN	29	S2	612
3543	3543-001	H-Anatomy & Physiology A	S1	3(M-F)	Science	DUNHAM, KEVIN	30	S1	626
3543	3543-002	H-Anatomy & Physiology A	S1	1(W-F) 7(M	Science	DUNHAM, KEVIN	30	S1	626

3543	3543-003	H-Anatomy & Physiology A	S1	4A(M-F)	Science	DUNHAM, KEVIN	30	S1	626
3543	3543-004	H-Anatomy & Physiology A	S1	2(M-F)	Science	SPENCER, JUSTIN	31	S1	646
3543	3543-005	H-Anatomy & Physiology A	S1	5A(M-F)	Science	SPENCER, JUSTIN	29	S1	646
3543	3543-006	H-Anatomy & Physiology A	S1	1(M-TU) 7(	Science	SPENCER, JUSTIN	30	S1	646
3543	3543-007	H-Anatomy & Physiology A	S1	6A(M-F)	Science	SPENCER, JUSTIN	30	S1	646
3544	3544-001	H-Anatomy & Physiology B	S2	3(M-F)	Science	DUNHAM, KEVIN	30	S2	626
3544	3544-002	H-Anatomy & Physiology B	S2	1(W-F) 7(M	Science	DUNHAM, KEVIN	30	S2	626
3544	3544-003	H-Anatomy & Physiology B	S2	4A(M-F)	Science	DUNHAM, KEVIN	30	S2	626
3544	3544-004	H-Anatomy & Physiology B	S2	2(M-F)	Science	SPENCER, JUSTIN	31	S2	646
3544	3544-005	H-Anatomy & Physiology B	S2	5A(M-F)	Science	SPENCER, JUSTIN	29	S2	646
3544	3544-006	H-Anatomy & Physiology B	S2	1(M-TU) 7(	Science	SPENCER, JUSTIN	30	S2	646
3544	3544-007	H-Anatomy & Physiology B	S2	6A(M-F)	Science	SPENCER, JUSTIN	30	S2	646
3548	3548-001	H-Genetics	S1	4A(M-F)	Science	MCANANEY, KILLIAN	30	S1	313
3548	3548-002	H-Genetics	S1	5A(M-F)	Science	MCANANEY, KILLIAN	29	S1	313
3548	3548-005	H-Genetics	S2	4A(M-F)	Science	MCANANEY, KILLIAN	32	S2	313
3548	3548-007	H-Genetics	S1	1(W-F) 7(M	Science	MCANANEY, KILLIAN	30	S1	313
3548	3548-008	H-Genetics	S2	1(W-F) 7(M	Science	MCANANEY, KILLIAN	27	S2	313
3552	3552-001	H-Clean Energy Career Explorations A	S1	5A(M-F)	Science	MCLEOD, MICHAEL	14	S1	147
3553	3553-001	H-Clean Energy Career Explorations B	S2	5A(M-F)	Science	MCANANEY, KILLIAN	16	S2	313
3560	3560-002	H-Forensics Science	S1	4A(M-F)	Science	PLOURDE, DENNIS	30	S1	624
3560	3560-003	H-Forensics Science	S2	4A(M-F)	Science	PLOURDE, DENNIS	30	S2	624
3560	3560-004	H-Forensics Science	S1	3(M-F)	Science	PLOURDE, DENNIS	30	S1	624
3560	3560-005	H-Forensics Science	S1	2(M-F)	Science	HUGHES, SCOTT	30	S1	614
3560	3560-007	H-Forensics Science	S2	3(M-F)	Science	PLOURDE, DENNIS	30	S2	624
3560	3560-008	H-Forensics Science	S2	6B(M-F)	Science	PLOURDE, DENNIS	28	S2	624
3560	3560-009	H-Forensics Science	S1	6B(M-F)	Science	PLOURDE, DENNIS	29	S1	624
3560	3560-010	H-Forensics Science	S2	2(M-F)	Science	HUGHES, SCOTT	30	S2	614
3560	3560-015	H-Forensics Science	S1	5B(M-F)	Science	HUGHES, SCOTT	29	S1	614
3560	3560-016	H-Forensics Science	S2	5B(M-F)	Science	HUGHES, SCOTT	29	S2	614
3721	3721-001	A-Chemistry A (UML)	S1	4A(M-F)	Science	WOODWARD, ANNE	15	S1	625
3722	3722-001	A-Chemistry B (UML)	S2	4A(M-F)	Science	WOODWARD, ANNE	15	S2	625
3723	3723-001	A-Chemistry Laboratory A (UML)	S1	5A(M-F)	Science	WOODWARD, ANNE	15	S1	625
3724	3724-001	A-Chemistry Laboratory B (UML)	S2	5A(M-F)	Science	WOODWARD, ANNE	15	S2	625
3731	3731-001	A-Principles of Biology A (UML)	S1	1(W-F) 7(M	Science	CAVIGNANO, TRICIA	14	S1	623
3732	3732-001	A-Principles of Biology B (UML)	S2	1(W-F) 7(M	Science	CAVIGNANO, TRICIA	14	S2	623
3733	3733-001	A-Principles of Biology Lab A (UML)	S1	2(M-F)	Science	CAVIGNANO, TRICIA	12	S1	623
3734	3734-001	A-Principles of Biology Lab B (UML)	S2	2(M-F)	Science	CAVIGNANO, TRICIA	12	S2	623
3735	3735-001	A-Environmental Studies (DE)	S2	6B(M-F)	Science	EDDY, BARBARA	16	S2	645
3735	3735-003	A-Environmental Studies (DE)	S1	6B(M-F)	Science	EDDY, BARBARA	19	S1	645
3783	3783-001	H-Microbiology	S1	5B(M-F)	Science	GONZALEZ, KIMBERLY	26	S1	643
3783	3783-002	H-Microbiology	S1	4A(M-F)	Science	GONZALEZ, KIMBERLY	28	S1	643
3783	3783-003	H-Microbiology	S2	4A(M-F)	Science	GONZALEZ, KIMBERLY	25	S2	643
3783	3783-004	H-Microbiology	S2	5A(M-F)	Science	GONZALEZ, KIMBERLY	26	S2	643
3911	3911-001	H-Introduction to Engineering Design A (PLTW)	S1	6B(M-F)	Science	VILCANS, MEGAN	22	S1	310
3911	3911-002	H-Introduction to Engineering Design A (PLTW)	S1	3(M-F)	Science	VILCANS, MEGAN	21	S1	310
3911	3911-003	H-Introduction to Engineering Design A (PLTW)	S1	4A(M-F)	Science	VILCANS, MEGAN	29	S1	310
3912	3912-001	H-Introduction to Engineering Design B (PLTW)	S2	6B(M-F)	Science	VILCANS, MEGAN	21	S2	310

3912	3912-002	H-Introduction to Engineering Design B (PLTW)	S2	3(M-F)	Science	VILCANS, MEGAN	20	S2	310
3912	3912-003	H-Introduction to Engineering Design B (PLTW)	S2	4A(M-F)	Science	VILCANS, MEGAN	27	S2	310
3921	3921-001	H-Principles of Engineering A (PLTW)	S1	2(M-F)	Science	VILCANS, MEGAN	17	S1	310
3921	3921-003	H-Principles of Engineering A (PLTW)	S1	6A(M-F)	Science	NEKRASZ, DOUGLAS	6	S1	330
3922	3922-001	H-Principles of Engineering B (PLTW)	S2	2(M-F)	Science	VILCANS, MEGAN	20	S2	310
3922	3922-004	H-Principles of Engineering B (PLTW)	S2	6A(M-F)	Science	NEKRASZ, DOUGLAS	6	S2	330
3945	3945-001	H-Architectural Design A	S1	5A(M-F)	Science	NEKRASZ, DOUGLAS	27	S1	330
3945	3945-002	H-Architectural Design A	S1	2(M-F)	Science	NEKRASZ, DOUGLAS	25	S1	330
3946	3946-001	H-Architectural Design B	S2	5A(M-F)	Science	NEKRASZ, DOUGLAS	25	S2	330
3946	3946-002	H-Architectural Design B	S2	2(M-F)	Science	NEKRASZ, DOUGLAS	25	S2	330
3953	3953-001	H-Robotics A	S1	5B(M-F)	Science	VILCANS, MEGAN	25	S1	310
3953	3953-002	H-Robotics A	S1	3(M-F)	Science	NEKRASZ, DOUGLAS	26	S1	330
3954	3954-001	H-Robotics B	S2	5B(M-F)	Science	VILCANS, MEGAN	23	S2	310
3954	3954-002	H-Robotics B	S2	3(M-F)	Science	NEKRASZ, DOUGLAS	24	S2	330
3971	3971-001	A-Introduction to Engineering (DE)	S1	1(M-TU) 7(	Science	NEKRASZ, DOUGLAS	5	S1	330
3978	3978-001	H-Engineering Externship	S2	1(M-TU) 7(	Science	NEKRASZ, DOUGLAS	9	S2	330
4027	4027-001	C-Intro to Social Studies 1A (ELL)	S1	1(M-TU) 7(	ELL	KEHOE, ERIN	23	S1	109
4028	4028-001	C-Intro to Social Studies 1B (ELL)	S2	1(M-TU) 7(	ELL	KEHOE, ERIN	23	S2	109
4121	4121-CL73	C-Essential Skills for World History	S1	5A(M-F)	Social Studies	GALLAGHER, GLEN	27	S1	712
4121	4121-CL74	C-Essential Skills for World History	S1	6A(M-F)	Social Studies	GALLAGHER, GLEN	15	S1	712
4121	4121-CL75	C-Essential Skills for World History	S1	4A(M-F)	Social Studies	JARACZ, EDWARD	27	S1	714
4121	4121-CL76	C-Essential Skills for World History	S1	6A(M-F)	Social Studies	JARACZ, EDWARD	16	S1	714
4121	4121-CL81	C-Essential Skills for World History	S1	5B(M-F)	Social Studies	PIGEON, RITA	15	S1	860
4121	4121-CL812	C-Essential Skills for World History	S1	6B(M-F)	Social Studies	COMEAU, PHILIP	23	S1	855
4121	4121-CL82	C-Essential Skills for World History	S1	3(M-F)	Social Studies	PIGEON, RITA	25	S1	860
4121	4121-CL84	C-Essential Skills for World History	S1	6B(M-F)	Social Studies	KEEFE, RYAN	24	S1	816
4121	4121-CL87	C-Essential Skills for World History	S1	5B(M-F)	Social Studies	COMEAU, PHILIP	14	S1	855
4121	4121-CL88	C-Essential Skills for World History	S1	3(M-F)	Social Studies	COMEAU, PHILIP	24	S1	855
4121	4121-CL89	C-Essential Skills for World History	S1	1(W-F) 7(M	Social Studies	COMEAU, PHILIP	28	S1	855
4121	4121-CL91	C-Essential Skills for World History	S1	5B(M-F)	Social Studies	CULLEN, MARK	27	S1	906
4121	4121-CL92	C-Essential Skills for World History	S1	4B(M-F)	Social Studies	CULLEN, MARK	16	S1	906
4121	4121-CL93	C-Essential Skills for World History	S1	4B(M-F)	Social Studies	MORALES, KERRI	13	S1	908
4121	4121-CL94	C-Essential Skills for World History	S1	3(M-F)	Social Studies	MORALES, KERRI	18	S1	908
4122	4122-CL73	C-Topics In World History	S2	5A(M-F)	Social Studies	GALLAGHER, GLEN	27	S2	712
4122	4122-CL74	C-Topics In World History	S2	6A(M-F)	Social Studies	GALLAGHER, GLEN	15	S2	712
4122	4122-CL75	C-Topics In World History	S2	4A(M-F)	Social Studies	JARACZ, EDWARD	27	S2	714
4122	4122-CL76	C-Topics In World History	S2	6A(M-F)	Social Studies	JARACZ, EDWARD	16	S2	714
4122	4122-CL81	C-Topics In World History	S2	5B(M-F)	Social Studies	PIGEON, RITA	15	S2	860
4122	4122-CL812	C-Topics In World History	S2	6B(M-F)	Social Studies	COMEAU, PHILIP	23	S2	855
4122	4122-CL82	C-Topics In World History	S2	3(M-F)	Social Studies	PIGEON, RITA	25	S2	860
4122	4122-CL84	C-Topics In World History	S2	6B(M-F)	Social Studies	KEEFE, RYAN	24	S2	816
4122	4122-CL87	C-Topics In World History	S2	5B(M-F)	Social Studies	COMEAU, PHILIP	14	S2	855
4122	4122-CL88	C-Topics In World History	S2	3(M-F)	Social Studies	COMEAU, PHILIP	24	S2	855
4122	4122-CL89	C-Topics In World History	S2	1(W-F) 7(M	Social Studies	COMEAU, PHILIP	28	S2	855
4122	4122-CL91	C-Topics In World History	S2	5B(M-F)	Social Studies	CULLEN, MARK	27	S2	906
4122	4122-CL92	C-Topics In World History	S2	4B(M-F)	Social Studies	CULLEN, MARK	16	S2	906
4122	4122-CL93	C-Topics In World History	S2	4B(M-F)	Social Studies	MORALES, KERRI	13	S2	908

4122	4122-CL94	C-Topics In World History	S2	3(M-F)	Social Studies	MORALES, KERRI	18	S2	908
4137	4137-002	C-World History A (ELL)	S1	3(M-F)	ELL	RONAN, KATHRYN	25	S1	546
4137	4137-003	C-World History A (ELL)	S1	6B(M-F)	ELL	LANDER, JESSICA	24	S1	102
4138	4138-002	C-World History B (ELL)	S2	3(M-F)	ELL	RONAN, KATHRYN	25	S2	546
4138	4138-003	C-World History B (ELL)	S2	6B(M-F)	ELL	LANDER, JESSICA	24	S2	102
4141	4141-CL73	H-World History 1A	S1	2(M-F)	Social Studies	GALLAGHER, GLEN	19	S1	712
4141	4141-CL74	H-World History 1A	S1	4A(M-F)	Social Studies	GALLAGHER, GLEN	30	S1	712
4141	4141-CL75	H-World History 1A	S1	5A(M-F)	Social Studies	JARACZ, EDWARD	23	S1	714
4141	4141-CL81	H-World History 1A	S1	6B(M-F)	Social Studies	PIGEON, RITA	28	S1	860
4141	4141-CL82	H-World History 1A	S1	1(W-F) 7(M	Social Studies	PIGEON, RITA	22	S1	860
4141	4141-CL84	H-World History 1A	S1	3(M-F)	Social Studies	KEEFE, RYAN	26	S1	816
4141	4141-CL85	H-World History 1A	S1	5B(M-F)	Social Studies	KEEFE, RYAN	18	S1	816
4141	4141-CL92	H-World History 1A	S1	3(M-F)	Social Studies	CULLEN, MARK	27	S1	906
4141	4141-CL93	H-World History 1A	S1	1(W-F) 7(M	Social Studies	MORALES, KERRI	24	S1	908
4141	4141-CL94	H-World History 1A	S1	5B(M-F)	Social Studies	MORALES, KERRI	25	S1	908
4142	4142-CL73	H-World History 1B	S2	2(M-F)	Social Studies	GALLAGHER, GLEN	19	S2	712
4142	4142-CL74	H-World History 1B	S2	4A(M-F)	Social Studies	GALLAGHER, GLEN	30	S2	712
4142	4142-CL75	H-World History 1B	S2	5A(M-F)	Social Studies	JARACZ, EDWARD	23	S2	714
4142	4142-CL81	H-World History 1B	S2	6B(M-F)	Social Studies	PIGEON, RITA	28	S2	860
4142	4142-CL82	H-World History 1B	S2	1(W-F) 7(M	Social Studies	PIGEON, RITA	22	S2	860
4142	4142-CL84	H-World History 1B	S2	3(M-F)	Social Studies	KEEFE, RYAN	26	S2	816
4142	4142-CL85	H-World History 1B	S2	5B(M-F)	Social Studies	KEEFE, RYAN	18	S2	816
4142	4142-CL92	H-World History 1B	S2	3(M-F)	Social Studies	CULLEN, MARK	27	S2	906
4142	4142-CL93	H-World History 1B	S2	1(W-F) 7(M	Social Studies	MORALES, KERRI	24	S2	908
4142	4142-CL94	H-World History 1B	S2	5B(M-F)	Social Studies	MORALES, KERRI	25	S2	908
4181	4181-CL75	HH-World History A	S1	2(M-F)	Social Studies	JARACZ, EDWARD	26	S1	714
4181	4181-CL84	HH-World History A	S1	1(W-F) 7(M	Social Studies	KEEFE, RYAN	21	S1	816
4181	4181-CL91	HH-World History A	S1	1(W-F) 7(M	Social Studies	CULLEN, MARK	27	S1	906
4181	4181-LL1	HH-World History A	S1	5B(M-F)	Social Studies	SZECSKAS, STEPHEN	24	S1	319
4181	4181-LL2	HH-World History A	S1	6B(M-F)	Social Studies	SZECSKAS, STEPHEN	25	S1	319
4182	4182-CL75	HH-World History B	S2	2(M-F)	Social Studies	JARACZ, EDWARD	26	S2	714
4182	4182-CL84	HH-World History B	S2	1(W-F) 7(M	Social Studies	KEEFE, RYAN	21	S2	816
4182	4182-CL91	HH-World History B	S2	1(W-F) 7(M	Social Studies	CULLEN, MARK	27	S2	906
4182	4182-LL1	HH-World History B	S2	5B(M-F)	Social Studies	SZECSKAS, STEPHEN	24	S2	319
4182	4182-LL2	HH-World History B	S2	6B(M-F)	Social Studies	SZECSKAS, STEPHEN	25	S2	319
4221	4221-001	C-Essential Skills for US History	S1	2(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	24	S1	617
4221	4221-002	C-Essential Skills for US History	S1	4B(M-F)	Social Studies	COSTELLO, DEBBIE	24	S1	616
4221	4221-003	C-Essential Skills for US History	S1	6B(M-F)	Social Studies	HANLON, DANIEL	24	S1	554
4221	4221-004	C-Essential Skills for US History	S1	1(W-F) 7(M	Social Studies	HANLON, DANIEL	23	S1	554
4221	4221-005	C-Essential Skills for US History	S1	1(M-TU) 7(	Social Studies	CASEY, DAVID	23	S1	526
4221	4221-006	C-Essential Skills for US History	S1	4A(M-F)	Social Studies	CASEY, DAVID	24	S1	526
4221	4221-007	C-Essential Skills for US History	S1	5A(M-F)	Social Studies	CROWE, MICHAEL	26	S1	527
4221	4221-008	C-Essential Skills for US History	S1	6A(M-F)	Social Studies	CROWE, MICHAEL	22	S1	527
4221	4221-009	C-Essential Skills for US History	S1	3(M-F)	Social Studies	MCCABE, JAMES	26	S1	203
4221	4221-010	C-Essential Skills for US History	S1	1(M-TU) 7(	Social Studies	MCCABE, JAMES	23	S1	203
4221	4221-011	C-Essential Skills for US History	S1	3(M-F)	Social Studies	COSTELLO, DEBBIE	26	S1	616
4221	4221-012	C-Essential Skills for US History	S1	5B(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	25	S1	617

4221	4221-013	C-Essential Skills for US History	S1	2(M-F)	Social Studies	THORNTON, THOMAS	23	S1	546
4222	4222-001	C-Topics In US History	S2	2(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	27	S2	617
4222	4222-002	C-Topics In US History	S2	4B(M-F)	Social Studies	COSTELLO, DEBBIE	24	S2	616
4222	4222-003	C-Topics In US History	S2	6B(M-F)	Social Studies	HANLON, DANIEL	25	S2	554
4222	4222-004	C-Topics In US History	S2	1(W-F) 7(M	Social Studies	HANLON, DANIEL	25	S2	554
4222	4222-005	C-Topics In US History	S2	1(M-TU) 7(	Social Studies	CASEY, DAVID	24	S2	526
4222	4222-008	C-Topics In US History	S2	6A(M-F)	Social Studies	CROWE, MICHAEL	21	S2	527
4222	4222-008a	C-Topics In US History	S2	4A(M-F)	Social Studies	CASEY, DAVID	23	S2	526
4222	4222-009	C-Topics In US History	S2	5A(M-F)	Social Studies	CROWE, MICHAEL	26	S2	527
4222	4222-009a	C-Topics In US History	S2	3(M-F)	Social Studies	MCCABE, JAMES	28	S2	203
4222	4222-010	C-Topics In US History	S2	1(M-TU) 7(	Social Studies	MCCABE, JAMES	24	S2	203
4222	4222-011	C-Topics In US History	S2	3(M-F)	Social Studies	COSTELLO, DEBBIE	29	S2	616
4222	4222-012	C-Topics In US History	S2	5B(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	26	S2	617
4222	4222-013	C-Topics In US History	S2	2(M-F)	Social Studies	THORNTON, THOMAS	24	S2	546
4223	4223-001	H-Survey of US History A	S1	1(M-TU) 7(	Social Studies	SELVAGGIO, CHRISTOPHER	24	S1	617
4223	4223-002	H-Survey of US History A	S1	1(W-F) 7(M	Social Studies	SELVAGGIO, CHRISTOPHER	26	S1	617
4223	4223-003	H-Survey of US History A	S1	5B(M-F)	Social Studies	SHECKMAN, BRYAN	20	S1	537
4223	4223-004	H-Survey of US History A	S1	4B(M-F)	Social Studies	SHECKMAN, BRYAN	21	S1	537
4223	4223-005	H-Survey of US History A	S1	1(W-F) 7(M	Social Studies	COSTELLO, DEBBIE	26	S1	616
4223	4223-006	H-Survey of US History A	S1	1(M-TU) 7(	Social Studies	COSTELLO, DEBBIE	23	S1	616
4223	4223-007	H-Survey of US History A	S1	4A(M-F)	Social Studies	FILLMORE, ROBERTA	22	S1	557
4223	4223-008	H-Survey of US History A	S1	5B(M-F)	Social Studies	CASEY, DAVID	22	S1	526
4223	4223-009	H-Survey of US History A	S1	6B(M-F)	Social Studies	CASEY, DAVID	15	S1	526
4223	4223-010	H-Survey of US History A	S1	2(M-F)	Social Studies	MCCABE, JAMES	22	S1	203
4223	4223-011	H-Survey of US History A	S1	4B(M-F)	Social Studies	MCCABE, JAMES	22	S1	203
4223	4223-012	H-Survey of US History A	S1	3(M-F)	Social Studies	CROWE, MICHAEL	28	S1	527
4223	4223-013	H-Survey of US History A	S1	2(M-F)	Social Studies	CROWE, MICHAEL	22	S1	527
4223	4223-014	H-Survey of US History A	S1	2(M-F)	Social Studies	JUSSAUME, JOSEPH	20	S1	630
4223	4223-015	H-Survey of US History A	S1	5A(M-F)	Social Studies	JUSSAUME, JOSEPH	18	S1	630
4224	4224-001	H-Survey of US History B	S2	1(M-TU) 7(	Social Studies	SELVAGGIO, CHRISTOPHER	24	S2	617
4224	4224-002	H-Survey of US History B	S2	1(W-F) 7(M	Social Studies	SELVAGGIO, CHRISTOPHER	26	S2	617
4224	4224-003	H-Survey of US History B	S2	5B(M-F)	Social Studies	SHECKMAN, BRYAN	20	S2	537
4224	4224-004	H-Survey of US History B	S2	4B(M-F)	Social Studies	SHECKMAN, BRYAN	21	S2	537
4224	4224-005	H-Survey of US History B	S2	1(W-F) 7(M	Social Studies	COSTELLO, DEBBIE	26	S2	616
4224	4224-006	H-Survey of US History B	S2	1(M-TU) 7(	Social Studies	COSTELLO, DEBBIE	23	S2	616
4224	4224-007	H-Survey of US History B	S2	4A(M-F)	Social Studies	FILLMORE, ROBERTA	24	S2	557
4224	4224-008	H-Survey of US History B	S2	5B(M-F)	Social Studies	CASEY, DAVID	24	S2	526
4224	4224-009	H-Survey of US History B	S2	6B(M-F)	Social Studies	CASEY, DAVID	15	S2	526
4224	4224-010	H-Survey of US History B	S2	2(M-F)	Social Studies	MCCABE, JAMES	22	S2	203
4224	4224-011	H-Survey of US History B	S2	4B(M-F)	Social Studies	MCCABE, JAMES	22	S2	203
4224	4224-012	H-Survey of US History B	S2	3(M-F)	Social Studies	CROWE, MICHAEL	28	S2	527
4224	4224-013	H-Survey of US History B	S2	2(M-F)	Social Studies	CROWE, MICHAEL	23	S2	527
4224	4224-014	H-Survey of US History B	S2	2(M-F)	Social Studies	JUSSAUME, JOSEPH	20	S2	630
4224	4224-015	H-Survey of US History B	S2	5A(M-F)	Social Studies	JUSSAUME, JOSEPH	18	S2	630
4237	4237-001	C-US History 1A (ELL)	S1	4A(M-F)	ELL	RONAN, KATHRYN	26	S1	546
4237	4237-002	C-US History 1A (ELL)	S1	6B(M-F)	ELL	RONAN, KATHRYN	22	S1	546
4237	4237-003	C-US History 1A (ELL)	S1	1(M-TU) 7(	ELL	RONAN, KATHRYN	32	S1	546

4237	4237-004	C-US History 1A (ELL)	S1	2(M-F)	ELL	COSTELLO, DEBBIE	28	S1	616
4237	4237-006	C-US History 1A (ELL)	S1	1(W-F) 7(M	ELL	RONAN, KATHRYN	27	S1	546
4238	4238-001	C-US History 1B (ELL)	S2	4A(M-F)	ELL	RONAN, KATHRYN	27	S2	546
4238	4238-002	C-US History 1B (ELL)	S2	6B(M-F)	ELL	RONAN, KATHRYN	20	S2	546
4238	4238-003	C-US History 1B (ELL)	S2	1(M-TU) 7(	ELL	RONAN, KATHRYN	34	S2	546
4238	4238-004	C-US History 1B (ELL)	S2	2(M-F)	ELL	COSTELLO, DEBBIE	26	S2	616
4238	4238-006	C-US History 1B (ELL)	S2	1(W-F) 7(M	ELL	RONAN, KATHRYN	26	S2	546
4261	4261-001	A-US History 1 A (AP)	S1	5B(M-F)	Social Studies	HANLON, DANIEL	27	S1	554
4261	4261-002	A-US History 1 A (AP)	S1	3(M-F)	Social Studies	HANLON, DANIEL	29	S1	554
4261	4261-003	A-US History 1 A (AP)	S1	6B(M-F)	Social Studies	MCCABE, JAMES	27	S1	203
4261	4261-LL1	A-US History 1 A (AP)	S1	3(M-F)	Social Studies	SZECSKAS, STEPHEN	31	S1	319
4261	4261-LL2	A-US History 1 A (AP)	S1	4B(M-F)	Social Studies	SZECSKAS, STEPHEN	16	S1	319
4262	4262-001	A-US History 1 B (AP)	S2	5B(M-F)	Social Studies	HANLON, DANIEL	27	S2	554
4262	4262-002	A-US History 1 B (AP)	S2	3(M-F)	Social Studies	HANLON, DANIEL	29	S2	554
4262	4262-003	A-US History 1 B (AP)	S2	6B(M-F)	Social Studies	MCCABE, JAMES	27	S2	203
4262	4262-LL1	A-US History 1 B (AP)	S2	3(M-F)	Social Studies	SZECSKAS, STEPHEN	31	S2	319
4262	4262-LL2	A-US History 1 B (AP)	S2	4B(M-F)	Social Studies	SZECSKAS, STEPHEN	16	S2	319
4331	4331-001	C-US History 2 A	S1	1(M-TU) 7(	Social Studies	JUSSAUME, JOSEPH	28	S1	630
4331	4331-002	C-US History 2 A	S1	6A(M-F)	Social Studies	MURPHY, DANIEL	25	S1	333
4331	4331-003	C-US History 2 A	S1	5A(M-F)	Social Studies	MURPHY, DANIEL	27	S1	333
4331	4331-004	C-US History 2 A	S1	2(M-F)	Social Studies	OLOUGHLIN, RICHARD	20	S1	039
4331	4331-005	C-US History 2 A	S1	1(W-F) 7(M	Social Studies	OLOUGHLIN, RICHARD	27	S1	039
4331	4331-006	C-US History 2 A	S1	2(M-F)	Social Studies	PIGEON, KARA	23	S1	214A
4331	4331-007	C-US History 2 A	S1	4A(M-F)	Social Studies	PIGEON, KARA	29	S1	214A
4331	4331-008	C-US History 2 A	S1	3(M-F)	Social Studies	FILLMORE, ROBERTA	27	S1	557
4331	4331-009	C-US History 2 A	S1	6B(M-F)	Social Studies	FILLMORE, ROBERTA	27	S1	557
4332	4332-001	C-US History 2 B	S2	1(M-TU) 7(	Social Studies	JUSSAUME, JOSEPH	29	S2	630
4332	4332-002	C-US History 2 B	S2	6A(M-F)	Social Studies	MURPHY, DANIEL	25	S2	333
4332	4332-003	C-US History 2 B	S2	5A(M-F)	Social Studies	MURPHY, DANIEL	28	S2	333
4332	4332-004	C-US History 2 B	S2	2(M-F)	Social Studies	OLOUGHLIN, RICHARD	21	S2	039
4332	4332-005	C-US History 2 B	S2	1(W-F) 7(M	Social Studies	OLOUGHLIN, RICHARD	27	S2	039
4332	4332-006	C-US History 2 B	S2	2(M-F)	Social Studies	PIGEON, KARA	25	S2	214A
4332	4332-007	C-US History 2 B	S2	4A(M-F)	Social Studies	PIGEON, KARA	29	S2	214A
4332	4332-008	C-US History 2 B	S2	3(M-F)	Social Studies	FILLMORE, ROBERTA	27	S2	557
4332	4332-009	C-US History 2 B	S2	6B(M-F)	Social Studies	FILLMORE, ROBERTA	28	S2	557
4337	4337-001	C-US History 2 A (ELL)	S1	1(W-F) 7(M	ELL	LANDER, JESSICA	27	S1	102
4337	4337-002	C-US History 2 A (ELL)	S1	3(M-F)	ELL	LANDER, JESSICA	25	S1	102
4337	4337-003	C-US History 2 A (ELL)	S1	5B(M-F)	ELL	LANDER, JESSICA	17	S1	102
4338	4338-001	C-US History 2 B (ELL)	S2	1(W-F) 7(M	ELL	LANDER, JESSICA	27	S2	102
4338	4338-002	C-US History 2 B (ELL)	S2	3(M-F)	ELL	LANDER, JESSICA	25	S2	102
4338	4338-003	C-US History 2 B (ELL)	S2	5B(M-F)	ELL	LANDER, JESSICA	17	S2	102
4341	4341-001	H-US History 2 A	S1	1(W-F) 7(M	Social Studies	CROWE, MICHAEL	22	S1	527
4341	4341-002	H-US History 2 A	S1	3(M-F)	Social Studies	JUSSAUME, JOSEPH	28	S1	630
4341	4341-003	H-US History 2 A	S1	1(W-F) 7(M	Social Studies	JUSSAUME, JOSEPH	22	S1	630
4341	4341-004	H-US History 2 A	S1	1(M-TU) 7(	Social Studies	BIENVENUE, ANN	31	S1	251
4341	4341-005	H-US History 2 A	S1	2(M-F)	Social Studies	BIENVENUE, ANN	25	S1	251
4341	4341-006	H-US History 2 A	S1	3(M-F)	Social Studies	BIENVENUE, ANN	28	S1	251

4341	4341-007	H-US History 2 A	S1	1(W-F) 7(M	Social Studies	FILLMORE, ROBERTA	22	S1	557
4341	4341-008	H-US History 2 A	S1	1(M-TU) 7(	Social Studies	FILLMORE, ROBERTA	31	S1	557
4341	4341-009	H-US History 2 A	S1	2(M-F)	Social Studies	CASEY, DAVID	25	S1	526
4341	4341-010	H-US History 2 A	S1	1(W-F) 7(M	Social Studies	SHECKMAN, BRYAN	16	S1	537
4341	4341-012	H-US History 2 A	S1	1(M-TU) 7(	Social Studies	HANLON, DANIEL	31	S1	554
4341	4341-013	H-US History 2 A	S1	5B(M-F)	Social Studies	OLOUGHLIN, RICHARD	30	S1	039
4341	4341-014	H-US History 2 A	S1	4B(M-F)	Social Studies	OLOUGHLIN, RICHARD	26	S1	039
4341	4341-015	H-US History 2 A	S1	6B(M-F)	Social Studies	PIGEON, KARA	29	S1	214A
4341	4341-R11	H-US History 2 A	S1	2(M-F)	Social Studies	SHECKMAN, BRYAN	0	S1	537
4342	4342-001	H-US History 2 B	S2	1(W-F) 7(M	Social Studies	CROWE, MICHAEL	22	S2	527
4342	4342-002	H-US History 2 B	S2	3(M-F)	Social Studies	JUSSAUME, JOSEPH	27	S2	630
4342	4342-003	H-US History 2 B	S2	1(W-F) 7(M	Social Studies	JUSSAUME, JOSEPH	22	S2	630
4342	4342-004	H-US History 2 B	S2	1(M-TU) 7(	Social Studies	BIENVENUE, ANN	31	S2	251
4342	4342-005	H-US History 2 B	S2	2(M-F)	Social Studies	BIENVENUE, ANN	25	S2	251
4342	4342-006	H-US History 2 B	S2	3(M-F)	Social Studies	BIENVENUE, ANN	29	S2	251
4342	4342-007	H-US History 2 B	S2	1(W-F) 7(M	Social Studies	FILLMORE, ROBERTA	22	S2	557
4342	4342-008	H-US History 2 B	S2	1(M-TU) 7(	Social Studies	FILLMORE, ROBERTA	31	S2	557
4342	4342-009	H-US History 2 B	S2	2(M-F)	Social Studies	CASEY, DAVID	25	S2	526
4342	4342-010	H-US History 2 B	S2	1(W-F) 7(M	Social Studies	SHECKMAN, BRYAN	16	S2	537
4342	4342-012	H-US History 2 B	S2	1(M-TU) 7(	Social Studies	HANLON, DANIEL	31	S2	554
4342	4342-013	H-US History 2 B	S2	5B(M-F)	Social Studies	OLOUGHLIN, RICHARD	30	S2	039
4342	4342-014	H-US History 2 B	S2	4B(M-F)	Social Studies	OLOUGHLIN, RICHARD	27	S2	039
4342	4342-015	H-US History 2 B	S2	6B(M-F)	Social Studies	PIGEON, KARA	29	S2	214A
4361	4361-001	A-US History 2 A (AP)	S1	4B(M-F)	Social Studies	COLLOCA, LISA	22	S1	204
4361	4361-002	A-US History 2 A (AP)	S1	1(M-TU) 7(	Social Studies	COLLOCA, LISA	27	S1	204
4361	4361-003	A-US History 2 A (AP)	S1	6B(M-F)	Social Studies	COLLOCA, LISA	30	S1	204
4362	4362-001	A-US History 2 B (AP)	S2	4B(M-F)	Social Studies	COLLOCA, LISA	21	S2	204
4362	4362-002	A-US History 2 B (AP)	S2	1(M-TU) 7(	Social Studies	COLLOCA, LISA	27	S2	204
4362	4362-003	A-US History 2 B (AP)	S2	6B(M-F)	Social Studies	COLLOCA, LISA	30	S2	204
4371	4371-001	H-Education In America	S2	2(M-F)	Social Studies	MCLEOD, AMY	16	S2	555
4399	4399-R01	C-Topics in US History	S1	2(M-F)	Social Studies	SHECKMAN, BRYAN	6	S1	537
4415	4415-001	H-Intro to Economics & Finance A	S1	3(M-F)	Social Studies	OLOUGHLIN, RICHARD	19	S1	039
4416	4416-001	H-Intro to Economics & Finance B	S2	3(M-F)	Social Studies	OLOUGHLIN, RICHARD	17	S2	039
4430	4430-001	C-Introduction to Sociology	S2	4A(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	24	S2	617
4430	4430-002	C-Introduction to Sociology	S1	4A(M-F)	Social Studies	SELVAGGIO, CHRISTOPHER	24	S1	617
4431	4431-001	H-Sociology A	S1	6B(M-F)	Social Studies	CALLAHAN, JAMES	28	S1	030
4431	4431-002	H-Sociology A	S1	1(W-F) 7(M	Social Studies	CALLAHAN, JAMES	27	S1	030
4431	4431-003	H-Sociology A	S1	5A(M-F)	Social Studies	CALLAHAN, JAMES	31	S1	030
4431	4431-004	H-Sociology A	S1	2(M-F)	Social Studies	DELOSSA, ROBERT	30	S1	105
4432	4432-001	H-Sociology B	S2	6B(M-F)	Social Studies	CALLAHAN, JAMES	27	S2	030
4432	4432-002	H-Sociology B	S2	1(W-F) 7(M	Social Studies	CALLAHAN, JAMES	25	S2	030
4432	4432-003	H-Sociology B	S2	5A(M-F)	Social Studies	CALLAHAN, JAMES	29	S2	030
4432	4432-004	H-Sociology B	S2	2(M-F)	Social Studies	DELOSSA, ROBERT	26	S2	105
4435	4435-001	A-Intro to Sociology (DE)	S1	2(M-F)	Social Studies	CALLAHAN, JAMES	33	S1	030
4435	4435-002	A-Intro to Sociology (DE)	S1	3(M-F)	Social Studies	CALLAHAN, JAMES	31	S1	030
4435	4435-003	A-Intro to Sociology (DE)	S2	2(M-F)	Social Studies	CALLAHAN, JAMES	32	S2	030
4435	4435-004	A-Intro to Sociology (DE)	S2	3(M-F)	Social Studies	CALLAHAN, JAMES	31	S2	030

4441	4441-001	C-Psychology A	S1	1(W-F) 7(M	Social Studies	ANSARA, KATHERINE	25	S1	352
4441	4441-002	C-Psychology A	S1	2(M-F)	Social Studies	ANSARA, KATHERINE	21	S1	352
4441	4441-003	C-Psychology A	S1	6B(M-F)	Social Studies	ANSARA, KATHERINE	20	S1	352
4442	4442-001	C-Psychology B	S2	1(W-F) 7(M	Social Studies	ANSARA, KATHERINE	25	S2	352
4442	4442-002	C-Psychology B	S2	2(M-F)	Social Studies	ANSARA, KATHERINE	20	S2	352
4442	4442-003	C-Psychology B	S2	6B(M-F)	Social Studies	ANSARA, KATHERINE	20	S2	352
4443	4443-001	H-Psychology A	S1	4B(M-F)	Social Studies	ANSARA, KATHERINE	24	S1	352
4443	4443-002	H-Psychology A	S1	1(M-TU) 7(	Social Studies	ANSARA, KATHERINE	33	S1	352
4443	4443-003	H-Psychology A	S1	5B(M-F)	Social Studies	PIGEON, KARA	32	S1	214A
4443	4443-004	H-Psychology A	S1	1(W-F) 7(M	Social Studies	PIGEON, KARA	30	S1	214A
4444	4444-001	H-Psychology B	S2	4B(M-F)	Social Studies	ANSARA, KATHERINE	24	S2	352
4444	4444-002	H-Psychology B	S2	1(M-TU) 7(	Social Studies	ANSARA, KATHERINE	34	S2	352
4444	4444-003	H-Psychology B	S2	5B(M-F)	Social Studies	PIGEON, KARA	32	S2	214A
4444	4444-004	H-Psychology B	S2	1(W-F) 7(M	Social Studies	PIGEON, KARA	28	S2	214A
4445	4445-001	A-Psychology A (AP)	S1	1(W-F) 7(M	Social Studies	CAREY, JENNIFER	26	S1	239
4445	4445-002	A-Psychology A (AP)	S1	6B(M-F)	Social Studies	CAREY, JENNIFER	22	S1	239
4445	4445-003	A-Psychology A (AP)	S1	5B(M-F)	Social Studies	CAREY, JENNIFER	25	S1	239
4445	4445-004	A-Psychology A (AP)	S1	1(M-TU) 7(	Social Studies	SZECSKAS, STEPHEN	17	S1	319
4446	4446-001	A-Psychology B (AP)	S2	1(W-F) 7(M	Social Studies	CAREY, JENNIFER	26	S2	239
4446	4446-002	A-Psychology B (AP)	S2	6B(M-F)	Social Studies	CAREY, JENNIFER	22	S2	239
4446	4446-003	A-Psychology B (AP)	S2	5B(M-F)	Social Studies	CAREY, JENNIFER	25	S2	239
4446	4446-004	A-Psychology B (AP)	S2	1(M-TU) 7(	Social Studies	SZECSKAS, STEPHEN	17	S2	319
4447	4447-001	A-Intro to Psychology (DE)	S1	2(M-F)	Social Studies	CAREY, JENNIFER	29	S1	239
4447	4447-002	A-Intro to Psychology (DE)	S1	3(M-F)	Social Studies	CAREY, JENNIFER	30	S1	239
4447	4447-003	A-Intro to Psychology (DE)	S2	2(M-F)	Social Studies	CAREY, JENNIFER	29	S2	239
4447	4447-004	A-Intro to Psychology (DE)	S2	3(M-F)	Social Studies	CAREY, JENNIFER	29	S2	239
4473	4473-001	H-Philosophy A	S1	1(W-F) 7(M	Social Studies	MURPHY, DANIEL	28	S1	333
4473	4473-002	H-Philosophy A	S1	2(M-F)	Social Studies	MURPHY, DANIEL	26	S1	333
4474	4474-001	H-Philosophy B	S2	1(W-F) 7(M	Social Studies	MURPHY, DANIEL	26	S2	333
4474	4474-002	H-Philosophy B	S2	2(M-F)	Social Studies	MURPHY, DANIEL	25	S2	333
4513	4513-001	H-Topics in Facing History	S2	2(M-F)	Social Studies	SHECKMAN, BRYAN	10	S2	537
4524	4524-001	H-Cambodia: Culture & Conflict	S1	1(M-TU) 7(	Social Studies	SHECKMAN, BRYAN	24	S1	537
4541	4541-001	H-Political Science A	S1	6B(M-F)	Social Studies	BIENVENUE, ANN	23	S1	251
4542	4542-001	H-Political Science B	S2	6B(M-F)	Social Studies	BIENVENUE, ANN	22	S2	251
4561	4561-LL1	A-European History A (AP)	S1	2(M-F)	Social Studies	COLLOCA, LISA	31	S1	204
4561	4561-LL2	A-European History A (AP)	S1	3(M-F)	Social Studies	COLLOCA, LISA	23	S1	204
4562	4562-LL1	A-European History B (AP)	S2	2(M-F)	Social Studies	COLLOCA, LISA	31	S2	204
4562	4562-LL2	A-European History B (AP)	S2	3(M-F)	Social Studies	COLLOCA, LISA	23	S2	204
4563	4563-001	H-City of Lowell	S1	3(M-F)	Social Studies	THORNTON, THOMAS	30	S1	526
4563	4563-002	H-City of Lowell	S2	3(M-F)	Social Studies	THORNTON, THOMAS	27	S2	526
4566	4566-002	H-Gender and Identity	S2	3(M-F)	Social Studies	BAUER, KENDRA	18	S2	128
4568	4568-001	H-Digital Journalism	S1	1(W-F) 7(M	Social Studies	BRENNAN, MATTHEW	14	S1	131
4569	4569-001	H-Projects in Digital Journalism	S2	1(W-F) 7(M	Social Studies	BRENNAN, MATTHEW	9	S2	131
4570	4570-001	H-Seminar on American Diversity	S1	2(M-F)	Social Studies	LANDER, JESSICA	16	S1	102
4570	4570-002	H-Seminar on American Diversity	S2	2(M-F)	Social Studies	LANDER, JESSICA	16	S2	102
4571	4571-001	H-Internship and Capstone in the CCC Pathway A	S2	1(M-TU) 7(	Social Studies	SHECKMAN, BRYAN	6	S2	537
4661	4661-001	A-U.S. Government and Politics A (AP)	S1	4A(M-F)	Social Studies	BIENVENUE, ANN	18	S1	251

4662	4662-001	A-U.S. Government and Politics B (AP)	S2	4A(M-F)	Social Studies	BIENVENUE, ANN	18	S2	251
5085	5085-001	C-The Melting Pot	S1	1(W-F) 7(M	Fam & Cons	MARCHAND, ADAM	24	S1	017
5085	5085-002	C-The Melting Pot	S1	6B(M-F)	Fam & Cons	MARCHAND, ADAM	24	S1	017
5085	5085-003	C-The Melting Pot	S1	1(M-TU) 7(	Fam & Cons	MARCHAND, ADAM	24	S1	017
5086	5086-001	C-Regional Cuisine	S1	2(M-F)	Fam & Cons	MARCHAND, ADAM	23	S1	017
5086	5086-002	C-Regional Cuisine	S1	3(M-F)	Fam & Cons	MARCHAND, ADAM	25	S1	017
5087	5087-001	C-World of Foods	S2	1(W-F) 7(M	Fam & Cons	MARCHAND, ADAM	24	S2	017
5087	5087-002	C-World of Foods	S2	6B(M-F)	Fam & Cons	MARCHAND, ADAM	24	S2	017
5087	5087-003	C-World of Foods	S2	1(M-TU) 7(	Fam & Cons	MARCHAND, ADAM	24	S2	017
5088	5088-001	C-No Passport Needed	S2	2(M-F)	Fam & Cons	MARCHAND, ADAM	23	S2	017
5088	5088-002	C-No Passport Needed	S2	3(M-F)	Fam & Cons	MARCHAND, ADAM	24	S2	017
5311	5311-002	H-Culinary Arts Beginner A	S1	5A,6A(M-F	Fam & Cons	BRASSARD, SUSAN	14	S1	009
5311	5311-003	H-Culinary Arts Beginner A	S1	3,4A(M-F)	Fam & Cons	BRASSARD, SUSAN	19	S1	009
5312	5312-001	H-Culinary Arts Beginner B	S2	5A,6A(M-F	Fam & Cons	BRASSARD, SUSAN	14	S2	009
5312	5312-002	H-Culinary Arts Beginner B	S2	3,4A(M-F)	Fam & Cons	BRASSARD, SUSAN	19	S2	009
5313	5313-001	H-Culinary Arts Intermediate A	S1	1(W-F) 2(M	Fam & Cons	BRASSARD, SUSAN	8	S1	009
5314	5314-001	H-Culinary Arts Intermediate B	S2	1(W-F) 2(M	Fam & Cons	BRASSARD, SUSAN	8	S2	009
5315	5315-001	H-Culinary Arts Advanced A	S1	1(W-F) 2(M	Fam & Cons	OVERLAN, MARGARET	1	S1	009
5316	5316-001	H-Culinary Arts Advanced B	S2	1(W-F) 2(M	Fam & Cons	BRASSARD, SUSAN	1	S2	009
6013	6013-001	C-Google This	S2	4A(M-F)	Business	MCCABE, MICHAEL	26	S2	346
6091	6091-001	N-Office Intern A	S1	1(M-F)	Business	SEPE, GINA	1	S1	
6092	6092-001	N-Office Intern B	S2	1(M-F)	Business	SEPE, GINA	1	S2	
6111	6111-003	C-Accounting A	S1	1(M-TU) 7(	Business	MCNAMARA, JILL	28	S1	629
6112	6112-003	C-Accounting B	S2	1(M-TU) 7(	Business	MCNAMARA, JILL	28	S2	629
6113	6113-001	H-Accounting A	S1	1(W-F) 7(M	Business	TAYLOR, JACQUELINE	26	S1	648
6113	6113-002	H-Accounting A	S1	2(M-F)	Business	TAYLOR, JACQUELINE	20	S1	648
6114	6114-001	H-Accounting B	S2	1(W-F) 7(M	Business	TAYLOR, JACQUELINE	26	S2	648
6114	6114-002	H-Accounting B	S2	2(M-F)	Business	TAYLOR, JACQUELINE	19	S2	648
6141	6141-002	C-Personal Finance	S1	3(M-F)	Business	FERRI, STEVEN	28	S1	649
6141	6141-003	C-Personal Finance	S2	3(M-F)	Business	FERRI, STEVEN	28	S2	649
6141	6141-004	C-Personal Finance	S2	6B(M-F)	Business	MCNAMARA, JILL	28	S2	629
6143	6143-001	H-Personal Finance	S1	4A(M-F)	Business	MCCABE, MICHAEL	28	S1	346
6143	6143-002	H-Personal Finance	S1	1(W-F) 7(M	Business	MCCABE, MICHAEL	26	S1	346
6143	6143-003	H-Personal Finance	S1	2(M-F)	Business	MCCABE, MICHAEL	26	S1	346
6143	6143-004	H-Personal Finance	S2	1(W-F) 7(M	Business	MCCABE, MICHAEL	26	S2	346
6143	6143-005	H-Personal Finance	S2	2(M-F)	Business	MCCABE, MICHAEL	26	S2	346
6143	6143-006	H-Personal Finance	S2	5A(M-F)	Business	TAYLOR, WAYNE	25	S2	648
6161	6161-001	C-Intro to Financial Services 1	S1	1(M-TU) 7(	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-002	C-Intro to Financial Services 1	S1	2(M-F)	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-003	C-Intro to Financial Services 1	S1	3(M-F)	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-004	C-Intro to Financial Services 1	S1	4A(M-F)	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-005	C-Intro to Financial Services 1	S1	5A(M-F)	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-006	C-Intro to Financial Services 1	S1	6A(M-F)	Business	BEDARD, NICOLE	2	S1	JDCU
6161	6161-007	C-Intro to Financial Services 1	S1	1(W-F) 7(M	Business	BEDARD, NICOLE	2	S1	JDCU
6162	6162-001	C-Intro to Financial Services 2	S2	1(M-TU) 7(	Business	BEDARD, NICOLE	2	S2	JDCU
6162	6162-002	C-Intro to Financial Services 2	S2	2(M-F)	Business	BEDARD, NICOLE	2	S2	JDCU
6162	6162-003	C-Intro to Financial Services 2	S2	3(M-F)	Business	BEDARD, NICOLE	2	S2	JDCU

6162	6162-004	C-Intro to Financial Services 2	S2	4A(M-F)	Business	BEDARD, NICOLE	2	S2	JDCU
6162	6162-005	C-Intro to Financial Services 2	S2	5A(M-F)	Business	BEDARD, NICOLE	2	S2	JDCU
6162	6162-006	C-Intro to Financial Services 2	S2	6A(M-F)	Business	BEDARD, NICOLE	2	S2	JDCU
6162	6162-007	C-Intro to Financial Services 2	S2	1(W-F) 7(M	Business	BEDARD, NICOLE	3	S2	JDCU
6211	6211-001	C-Business Law 1	S1	5A(M-F)	Business	TAYLOR, WAYNE	13	S1	648
6213	6213-001	H-Business Law 1	S1	6B(M-F)	Business	TAYLOR, WAYNE	26	S1	648
6213	6213-002	H-Business Law 1	S1	1(M-TU) 7(	Business	TAYLOR, WAYNE	26	S1	648
6214	6214-001	H-Business Law 2	S2	6B(M-F)	Business	TAYLOR, WAYNE	20	S2	648
6214	6214-002	H-Business Law 2	S2	1(M-TU) 7(	Business	TAYLOR, WAYNE	25	S2	648
6311	6311-001	C-Marketing & Entrepeneurship A	S1	1(W-F) 7(M	Business	MCNAMARA, JILL	28	S1	629
6311	6311-002	C-Marketing & Entrepeneurship A	S1	3(M-F)	Business	MCNAMARA, JILL	27	S1	629
6312	6312-001	C-Marketing & Entrepeneurship B	S2	1(W-F) 7(M	Business	MCNAMARA, JILL	26	S2	629
6312	6312-002	C-Marketing & Entrepeneurship B	S2	3(M-F)	Business	MCNAMARA, JILL	26	S2	629
6313	6313-001	H-Marketing & Entrepeneurship A	S1	1(W-F) 7(M	Business	FERRI, STEVEN	27	S1	649
6313	6313-002	H-Marketing & Entrepeneurship A	S1	6B(M-F)	Business	FERRI, STEVEN	23	S1	649
6313	6313-003	H-Marketing & Entrepeneurship A	S1	3(M-F)	Business	TAYLOR, WAYNE	24	S1	648
6313	6313-004	H-Marketing & Entrepeneurship A	S1	4A(M-F)	Business	TAYLOR, WAYNE	26	S1	648
6314	6314-001	H-Marketing & Entrepeneurship B	S2	1(W-F) 7(M	Business	FERRI, STEVEN	25	S2	649
6314	6314-002	H-Marketing & Entrepeneurship B	S2	6B(M-F)	Business	FERRI, STEVEN	19	S2	649
6314	6314-003	H-Marketing & Entrepeneurship B	S2	3(M-F)	Business	TAYLOR, WAYNE	24	S2	648
6314	6314-004	H-Marketing & Entrepeneurship B	S2	4A(M-F)	Business	TAYLOR, WAYNE	26	S2	648
6315	6315-001	H-Retail Marketing 1	S1	3(M-F)	Business	TAYLOR, JACQUELINE	9	S1	417
6315	6315-002	H-Retail Marketing 1	S1	5B(M-F)	Business	TAYLOR, JACQUELINE	10	S1	417
6315	6315-003	H-Retail Marketing 1	S1	6B(M-F)	Business	TAYLOR, JACQUELINE	10	S1	417
6315	6315-004	H-Retail Marketing 1	S1	4A(M-F)	Business	FERRI, STEVEN	10	S1	417
6315	6315-005	H-Retail Marketing 1	S1	5A(M-F)	Business	FERRI, STEVEN	11	S1	417
6316	6316-001	H-Retail Marketing 2	S2	3(M-F)	Business	TAYLOR, JACQUELINE	4	S2	417
6316	6316-002	H-Retail Marketing 2	S2	5B(M-F)	Business	TAYLOR, JACQUELINE	10	S2	417
6316	6316-003	H-Retail Marketing 2	S2	6B(M-F)	Business	TAYLOR, JACQUELINE	10	S2	417
6316	6316-004	H-Retail Marketing 2	S2	4A(M-F)	Business	FERRI, STEVEN	10	S2	417
6316	6316-005	H-Retail Marketing 2	S2	5A(M-F)	Business	FERRI, STEVEN	10	S2	417
6350	6350-004	C-Sports & Entertainment Marketing	S1	6B(M-F)	Business	MCCABE, MICHAEL	21	S1	346
6350	6350-005	C-Sports & Entertainment Marketing	S1	1(M-TU) 7(	Business	MCCABE, MICHAEL	24	S1	346
6350	6350-006	C-Sports & Entertainment Marketing	S2	6B(M-F)	Business	MCCABE, MICHAEL	15	S2	346
6350	6350-007	C-Sports & Entertainment Marketing	S2	1(M-TU) 7(	Business	MCCABE, MICHAEL	25	S2	346
6351	6351-001	C-Event Planning	S1	4A(M-F)	Business	MCNAMARA, JILL	27	S1	629
6351	6351-002	C-Event Planning	S1	6B(M-F)	Business	MCNAMARA, JILL	25	S1	629
6352	6352-001	C-Fashion Merchandising	S2	4A(M-F)	Business	MCNAMARA, JILL	28	S2	629
7011	7011-FR01	H-String Ensemble 1 A	S1	3(M-F)	Fine Arts	CLARK, SHARON	1	S1	037
7012	7012-FR01	H-String Ensemble 1 B	S2	3(M-F)	Fine Arts	CLARK, SHARON	1	S2	037
7013	7013-SM01	H-String Ensemble 2 A	S1	3(M-F)	Fine Arts	CLARK, SHARON	0	S1	037
7014	7014-SM01	H-String Ensemble 2 B	S2	3(M-F)	Fine Arts	CLARK, SHARON	0	S2	037
7015	7015-JR01	H-String Ensemble 3 A	S1	3(M-F)	Fine Arts	CLARK, SHARON	0	S1	037
7016	7016-JR01	H-String Ensemble 3 B	S2	3(M-F)	Fine Arts	CLARK, SHARON	0	S2	037
7017	7017-SR01	H-String Ensemble 4 A	S1	3(M-F)	Fine Arts	CLARK, SHARON	4	S1	037
7018	7018-SR01	H-String Ensemble 4 B	S2	3(M-F)	Fine Arts	CLARK, SHARON	4	S2	037
7121	7121-002	N-Beginner Piano Keyboard & Theory 1	S1	4A(M-F)	Fine Arts	FITZPATRICK, PATRICIA	20	S1	037

7121	7121-003	N-Beginner Piano Keyboard & Theory 1	S1	2(M-F)	Fine Arts	FITZPATRICK, PATRICIA	20	S1	037
7122	7122-002	N-Beginner Piano Keyboard & Theory 2	S2	4A(M-F)	Fine Arts	FITZPATRICK, PATRICIA	18	S2	037
7122	7122-003	N-Beginner Piano Keyboard & Theory 2	S2	2(M-F)	Fine Arts	FITZPATRICK, PATRICIA	14	S2	037
7125	7125-001	N-World of Drums 1	S1	5B(M-F)	Fine Arts	LUTZ, JAMES	17	S1	029
7125	7125-002	N-World of Drums 1	S2	5B(M-F)	Fine Arts	LUTZ, JAMES	7	S2	029
7127	7127-001	H-Advanced Piano Keyboard & Theory A	S1	1(W-F) 7(M	Fine Arts	FITZPATRICK, PATRICIA	13	S1	037
7128	7128-001	H-Advanced Piano Keyboard & Theory B	S2	1(W-F) 7(M	Fine Arts	FITZPATRICK, PATRICIA	13	S2	037
7131	7131-001	N-Beginner Guitar & Theory A	S1	1(W-F) 7(M	Fine Arts	BUSSIERE, BECKY	6	S1	029
7131	7131-X01	N-Beginner Guitar & Theory A	S1	4A(M-F)	Fine Arts	LUTZ, JAMES	13	S1	029
7132	7132-001	N-Beginner Guitar & Theory B	S2	1(W-F) 7(M	Fine Arts	BUSSIERE, BECKY	5	S2	029
7132	7132-X01	N-Beginner Guitar & Theory B	S2	4A(M-F)	Fine Arts	LUTZ, JAMES	10	S2	029
7135	7135-X02	H-Advanced Guitar & Theory A	S1	4A(M-F)	Fine Arts	LUTZ, JAMES	8	S1	029
7136	7136-X02	H-Advanced Guitar & Theory B	S2	4A(M-F)	Fine Arts	LUTZ, JAMES	7	S2	029
7141	7141-001	H-Band 1A	S1	3(M-F)	Fine Arts	LUTZ, JAMES	16	S1	029
7142	7142-001	H-Band 1B	S2	3(M-F)	Fine Arts	LUTZ, JAMES	16	S2	029
7143	7143-001	H-Band 2A	S1	3(M-F)	Fine Arts	LUTZ, JAMES	20	S1	029
7144	7144-001	H-Band 2B	S2	3(M-F)	Fine Arts	LUTZ, JAMES	20	S2	029
7145	7145-001	H-Band 3A	S1	3(M-F)	Fine Arts	LUTZ, JAMES	15	S1	029
7146	7146-001	H-Band 3B	S2	3(M-F)	Fine Arts	LUTZ, JAMES	14	S2	029
7147	7147-001	H-Band 4A	S1	3(M-F)	Fine Arts	LUTZ, JAMES	11	S1	029
7148	7148-001	H-Band 4B	S2	3(M-F)	Fine Arts	LUTZ, JAMES	11	S2	029
7301	7301-FR01	H-Show Choir 1A	S1	3(M-F)	Fine Arts	BUSSIERE, BECKY	25	S1	026
7302	7302-FR01	H-Show Choir 1B	S2	3(M-F)	Fine Arts	BUSSIERE, BECKY	26	S2	026
7303	7303-SM01	H-Show Choir 2A	S1	3(M-F)	Fine Arts	BUSSIERE, BECKY	20	S1	026
7304	7304-SM01	H-Show Choir 2B	S2	3(M-F)	Fine Arts	BUSSIERE, BECKY	20	S2	026
7305	7305-JR01	H-Show Choir 3A	S1	3(M-F)	Fine Arts	BUSSIERE, BECKY	8	S1	026
7306	7306-JR01	H-Show Choir 3B	S2	3(M-F)	Fine Arts	BUSSIERE, BECKY	8	S2	026
7307	7307-SR01	H-Show Choir 4A	S1	3(M-F)	Fine Arts	BUSSIERE, BECKY	10	S1	026
7308	7308-SR01	H-Show Choir 4B	S2	3(M-F)	Fine Arts	BUSSIERE, BECKY	8	S2	026
7341	7341-FR01	H-Concert Chorus 1A	S1	2(M-F)	Fine Arts	BUSSIERE, BECKY	1	S1	026
7342	7342-FR01	H-Concert Chorus 1B	S2	2(M-F)	Fine Arts	BUSSIERE, BECKY	1	S2	026
7343	7343-SM01	H-Concert Chorus 2A	S1	2(M-F)	Fine Arts	BUSSIERE, BECKY	4	S1	026
7344	7344-SM01	H-Concert Chorus 2B	S2	2(M-F)	Fine Arts	BUSSIERE, BECKY	4	S2	026
7345	7345-JR01	H-Concert Chorus 3A	S1	2(M-F)	Fine Arts	BUSSIERE, BECKY	7	S1	026
7346	7346-JR01	H-Concert Chorus 3B	S2	2(M-F)	Fine Arts	BUSSIERE, BECKY	6	S2	026
7347	7347-SR01	H-Concert Chorus 4A	S1	2(M-F)	Fine Arts	BUSSIERE, BECKY	7	S1	026
7348	7348-SR01	H-Concert Chorus 4B	S2	2(M-F)	Fine Arts	BUSSIERE, BECKY	4	S2	026
7363	7363-001	H-Digital Audio Production A	S1	6B(M-F)	Fine Arts	FITZPATRICK, PATRICIA	10	S1	037
7363	7363-002	H-Digital Audio Production A	S1	5A(M-F)	Fine Arts	FITZPATRICK, PATRICIA	12	S1	037
7364	7364-001	H-Digital Audio Production B	S2	6B(M-F)	Fine Arts	FITZPATRICK, PATRICIA	9	S2	037
7364	7364-002	H-Digital Audio Production B	S2	5A(M-F)	Fine Arts	FITZPATRICK, PATRICIA	8	S2	037
7411	7411-001	H-Introduction to Theater Arts A	S1	5B(M-F)	Fine Arts	BUSSIERE, BECKY	28	S1	026
7412	7412-001	H-Introduction to Theater Arts B	S2	5B(M-F)	Fine Arts	BUSSIERE, BECKY	28	S2	026
7413	7413-001	H-Intermediate Theater Arts A	S1	1(M-TU) 7(	Fine Arts	BUSSIERE, BECKY	4	S1	026
7414	7414-001	H-Intermediate Theater Arts B	S2	1(M-TU) 7(	Fine Arts	BUSSIERE, BECKY	3	S2	026
7415	7415-001	H-Advanced Theater Arts A	S1	1(M-TU) 7(	Fine Arts	BUSSIERE, BECKY	6	S1	026
7416	7416-001	H-Advanced Theater Arts B	S2	1(M-TU) 7(	Fine Arts	BUSSIERE, BECKY	6	S2	026

7501	7501-001	N-Art Explorations A	S1	1(W-F) 7(M	Fine Arts	SHERIDAN, KATHLEEN	10	S1	015
7502	7502-001	N-Art Explorations B	S2	1(W-F) 7(M	Fine Arts	SHERIDAN, KATHLEEN	9	S2	015
7511	7511-001	C-Intro to Studio Art A	S1	6B(M-F)	Fine Arts	SHERIDAN, KATHLEEN	23	S1	015
7512	7512-001	C-Intro to Studio Art B	S2	6B(M-F)	Fine Arts	SHERIDAN, KATHLEEN	21	S2	015
7513	7513-001	H-Intro to Studio Art A	S1	2(M-F)	Fine Arts	LUCAS, ANDREW	25	S1	013
7514	7514-001	H-Intro to Studio Art B	S2	2(M-F)	Fine Arts	LUCAS, ANDREW	24	S2	013
7543	7543-001	H-Studio Art Portfolio A	S1	1(W-F) 7(M	Fine Arts	LUCAS, ANDREW	12	S1	013
7544	7544-001	H-Studio Art Portfolio B	S2	1(W-F) 7(M	Fine Arts	LUCAS, ANDREW	12	S2	013
7591	7591-001	N-Drawing 1	S1	5A(M-F)	Fine Arts	LUCAS, ANDREW	25	S1	013
7591	7591-002	N-Drawing 1	S1	2(M-F)	Fine Arts	LEE, MARY	24	S1	014
7592	7592-001	N-Drawing 2	S2	5A(M-F)	Fine Arts	LUCAS, ANDREW	24	S2	013
7592	7592-002	N-Drawing 2	S2	2(M-F)	Fine Arts	LEE, MARY	19	S2	014
7621	7621-001	N-Sculpture 1	S1	3(M-F)	Fine Arts	LUCAS, ANDREW	25	S1	013
7621	7621-002	N-Sculpture 1	S1	1(M-TU) 7(	Fine Arts	LUCAS, ANDREW	25	S1	013
7622	7622-001	N-Sculpture 2	S2	3(M-F)	Fine Arts	LUCAS, ANDREW	18	S2	013
7622	7622-002	N-Sculpture 2	S2	1(M-TU) 7(	Fine Arts	LUCAS, ANDREW	24	S2	013
7715	7715-001	H-Digital Photography 1	S1	1(W-F) 7(M	Fine Arts	LEE, MARY	28	S1	142
7715	7715-002	H-Digital Photography 1	S1	6B(M-F)	Fine Arts	LEE, MARY	27	S1	142
7715	7715-003	H-Digital Photography 1	S1	1(M-TU) 7(	Fine Arts	LEE, MARY	28	S1	142
7715	7715-004	H-Digital Photography 1	S1	2(M-F)	Fine Arts	SHERIDAN, KATHLEEN	28	S1	142
7715	7715-005	H-Digital Photography 1	S1	3(M-F)	Fine Arts	SHERIDAN, KATHLEEN	28	S1	142
7715	7715-006	H-Digital Photography 1	S1	5A(M-F)	Fine Arts	SHERIDAN, KATHLEEN	28	S1	142
7716	7716-001	H-Digital Photography 2	S2	1(W-F) 7(M	Fine Arts	LEE, MARY	27	S2	142
7716	7716-002	H-Digital Photography 2	S2	6B(M-F)	Fine Arts	LEE, MARY	23	S2	142
7716	7716-003	H-Digital Photography 2	S2	1(M-TU) 7(	Fine Arts	LEE, MARY	26	S2	142
7716	7716-004	H-Digital Photography 2	S2	2(M-F)	Fine Arts	SHERIDAN, KATHLEEN	28	S2	142
7716	7716-005	H-Digital Photography 2	S2	3(M-F)	Fine Arts	SHERIDAN, KATHLEEN	25	S2	142
7716	7716-006	H-Digital Photography 2	S2	5A(M-F)	Fine Arts	SHERIDAN, KATHLEEN	26	S2	142
7747	7747-001	H-Introduction to Graphic Design A	S1	3(M-F)	Fine Arts	O'LEARY, M. FAYE	25	S1	249
7747	7747-002	H-Introduction to Graphic Design A	S1	4A(M-F)	Fine Arts	O'LEARY, M. FAYE	25	S1	249
7747	7747-003	H-Introduction to Graphic Design A	S1	5A(M-F)	Fine Arts	O'LEARY, M. FAYE	25	S1	249
7747	7747-004	H-Introduction to Graphic Design A	S1	1(M-TU) 7(	Fine Arts	O'LEARY, M. FAYE	25	S1	249
7748	7748-001	H-Introduction to Graphic Design B	S2	3(M-F)	Fine Arts	O'LEARY, M. FAYE	23	S2	249
7748	7748-002	H-Introduction to Graphic Design B	S2	4A(M-F)	Fine Arts	O'LEARY, M. FAYE	23	S2	249
7748	7748-003	H-Introduction to Graphic Design B	S2	5A(M-F)	Fine Arts	O'LEARY, M. FAYE	25	S2	249
7748	7748-004	H-Introduction to Graphic Design B	S2	1(M-TU) 7(	Fine Arts	O'LEARY, M. FAYE	22	S2	249
7758	7758-001	H-Advanced Graphic Design A	S1	1(W-F) 7(M	Fine Arts	O'LEARY, M. FAYE	12	S1	249
7759	7759-001	H-Advanced Graphic Design B	S2	1(W-F) 7(M	Fine Arts	O'LEARY, M. FAYE	12	S2	249
7773	7773-001	H-Animation	S1	4A(M-F)	Fine Arts	LEE, MARY	23	S1	142
7773	7773-002	H-Animation	S2	4A(M-F)	Fine Arts	LEE, MARY	24	S2	142
7788	7788-101	H-Fine Arts Independent Study A	S1	1(W-F) 7(M	Fine Arts	O'LEARY, M. FAYE	3	S1	249
7788	7788-102	H-Fine Arts Independent Study A	S1	2(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-103	H-Fine Arts Independent Study A	S1	3(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-104A	H-Fine Arts Independent Study A	S1	4A(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-104B	H-Fine Arts Independent Study A	S1	4B(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-105A	H-Fine Arts Independent Study A	S1	5A(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-105B	H-Fine Arts Independent Study A	S1	5B(M-F)	Fine Arts	CLARK, SHARON	0	S1	029

7788	7788-106A	H-Fine Arts Independent Study A	S1	6A(M-F)	Fine Arts	CLARK, SHARON	0	S1	029
7788	7788-106B	H-Fine Arts Independent Study A	S1	6B(M-F)	Fine Arts	CLARK, SHARON	0	S1	015
7788	7788-107	H-Fine Arts Independent Study A	S1	1(M-TU) 7(	Fine Arts	CLARK, SHARON	0	S1	029
7789	7789-201	H-Fine Arts Independent Study B	S2	1(W-F) 7(M	Fine Arts	CLARK, SHARON	0	S2	029
7789	7789-202	H-Fine Arts Independent Study B	S2	2(M-F)	Fine Arts	CLARK, SHARON	0	S2	015
7789	7789-203	H-Fine Arts Independent Study B	S2	3(M-F)	Fine Arts	CLARK, SHARON	0	S2	015
7789	7789-204A	H-Fine Arts Independent Study B	S2	4A(M-F)	Fine Arts	CLARK, SHARON	0	S2	015
7789	7789-204B	H-Fine Arts Independent Study B	S2	4B(M-F)	Fine Arts	CLARK, SHARON	0	S2	015
7789	7789-205A	H-Fine Arts Independent Study B	S2	5A(M-F)	Fine Arts	CLARK, SHARON	0	S2	015
7789	7789-205B	H-Fine Arts Independent Study B	S2	5B(M-F)	Fine Arts	CLARK, SHARON	0	S2	029
7789	7789-206A	H-Fine Arts Independent Study B	S2	6A(M-F)	Fine Arts	CLARK, SHARON	0	S2	029
7789	7789-206B	H-Fine Arts Independent Study B	S2	6B(M-F)	Fine Arts	CLARK, SHARON	0	S2	029
7789	7789-207	H-Fine Arts Independent Study B	S2	1(M-TU) 7(	Fine Arts	CLARK, SHARON	0	S2	029
7825	7825-001	H-TV Production A	S1	5A(M-F)	Fine Arts	FREELEY, DEBORAH	12	S1	610A
7825	7825-002	H-TV Production A	S1	6B(M-F)	Fine Arts	FREELEY, DEBORAH	13	S1	610A
7825	7825-003	H-TV Production A	S1	4A(M-F)	Fine Arts	FREELEY, DEBORAH	14	S1	610A
7826	7826-001	H-TV Production B	S2	5A(M-F)	Fine Arts	FREELEY, DEBORAH	9	S2	610A
7826	7826-002	H-TV Production B	S2	6B(M-F)	Fine Arts	FREELEY, DEBORAH	11	S2	610A
7826	7826-003	H-TV Production B	S2	4A(M-F)	Fine Arts	FREELEY, DEBORAH	12	S2	610A
7829	7829-003	H-Advanced TV Production A	S1	3(M-F)	Fine Arts	FREELEY, DEBORAH	5	S1	610A
7830	7830-003	H-Advanced TV Production B	S2	3(M-F)	Fine Arts	FREELEY, DEBORAH	5	S2	610A
7831	7831-001	H-Independet Study in TV Production	S1	1(W-F) 7(M	Fine Arts	FREELEY, DEBORAH	0	S1	610A
7871	7871-002	A-Film, Video, and Society (DE)	S2	1(W-F) 7(M	Fine Arts	FREELEY, DEBORAH	10	S2	610A
7905	7905-001	H-Dance 1: Modern & Jazz Technique	S1	3(M-F)	Fine Arts	BUBANAS, ROSE	30	S1	135
7905	7905-005	H-Dance 1: Modern & Jazz Technique	S1	6B(M-F)	Fine Arts	MCHUGH, HEATHER	29	S1	018
7905	7905-006	H-Dance 1: Modern & Jazz Technique	S1	5A(M-F)	Fine Arts	MCHUGH, HEATHER	30	S1	018
7905	7905-007	H-Dance 1: Modern & Jazz Technique	S1	4A(M-F)	Fine Arts	CARROLL, SHEILA	30	S1	135
7906	7906-001	H-Dance 2: Modern & Jazz Technique	S2	3(M-F)	Fine Arts	BUBANAS, ROSE	28	S2	135
7906	7906-005	H-Dance 2: Modern & Jazz Technique	S2	6B(M-F)	Fine Arts	MCHUGH, HEATHER	26	S2	018
7906	7906-006	H-Dance 2: Modern & Jazz Technique	S2	5A(M-F)	Fine Arts	MCHUGH, HEATHER	29	S2	018
7906	7906-007	H-Dance 2: Modern & Jazz Technique	S2	4A(M-F)	Fine Arts	CARROLL, SHEILA	30	S2	135
7907	7907-003	H-Dance 3: Technique & Composition	S1	1(W-F) 7(M	Fine Arts	MCHUGH, HEATHER	28	S1	018
7907	7907-004	H-Dance 3: Technique & Composition	S1	1(M-TU) 7(	Fine Arts	MCHUGH, HEATHER	30	S1	018
7907	7907-005	H-Dance 3: Technique & Composition	S1	2(M-F)	Fine Arts	BUBANAS, ROSE	28	S1	135
7907	7907-009	H-Dance 3: Technique & Composition	S1	3(M-F)	Fine Arts	MCHUGH, HEATHER	29	S1	018
7908	7908-003	H-Dance 4: Technique & Composition	S2	1(W-F) 7(M	Fine Arts	MCHUGH, HEATHER	26	S2	018
7908	7908-004	H-Dance 4: Technique & Composition	S2	1(M-TU) 7(	Fine Arts	MCHUGH, HEATHER	30	S2	018
7908	7908-005	H-Dance 4: Technique & Composition	S2	2(M-F)	Fine Arts	BUBANAS, ROSE	23	S2	135
7908	7908-009	H-Dance 4: Technique & Composition	S2	3(M-F)	Fine Arts	MCHUGH, HEATHER	27	S2	018
7953	7953-001	H-Advanced Dance Studies & Choreography A	S1	1(M-TU) 7(	Fine Arts	BUBANAS, ROSE	29	S1	135
7953	7953-003	H-Advanced Dance Studies & Choreography A	S1	5A(M-F)	Fine Arts	BUBANAS, ROSE	25	S1	135
7954	7954-001	H-Advanced Dance Studies & Choreography B	S2	1(M-TU) 7(	Fine Arts	BUBANAS, ROSE	27	S2	135
7954	7954-003	H-Advanced Dance Studies & Choreography B	S2	5A(M-F)	Fine Arts	BUBANAS, ROSE	27	S2	135
7983	7983-001	H-Senior Dance Project A	S1	1(W-F) 7(M	Fine Arts	BUBANAS, ROSE	23	S1	135
7984	7984-002	H-Senior Dance Project B	S2	1(W-F) 7(M	Fine Arts	BUBANAS, ROSE	23	S2	135
8001	8001-001	C-Fundamentals of English 1A (SP)	S1	1(W-F) 7(M	Special Ed	FLORENCE, JOHN	12	S1	821
8001	8001-002	C-Fundamentals of English 1A (SP)	S1	6B(M-F)	Special Ed	FLORENCE, JOHN	12	S1	821

8002	8002-001	C-Fundamentals of English 1B (SP)	S2	1(W-F) 7(M	Special Ed	FLORENCE, JOHN	12	S2	821
8002	8002-002	C-Fundamentals of English 1B (SP)	S2	6B(M-F)	Special Ed	FLORENCE, JOHN	12	S2	821
8003	8003-001	C-Fundamentals of English 2A (SP)	S1	2(M-F)	Special Ed	SIMAS, MARIANNE	10	S1	552
8003	8003-002	C-Fundamentals of English 2A (SP)	S1	3(M-F)	Special Ed	SIMAS, MARIANNE	8	S1	320
8004	8004-001	C-Fundamentals of English 2B (SP)	S2	2(M-F)	Special Ed	SIMAS, MARIANNE	10	S2	123
8004	8004-002	C-Fundamentals of English 2B (SP)	S2	3(M-F)	Special Ed	SIMAS, MARIANNE	8	S2	320
8005	8005-001	C-Fundamentals of English 3A (SP)	S1	1(M-TU) 7(	Special Ed	FRENCH, DANA	6	S1	320
8005	8005-002	C-Fundamentals of English 3A (SP)	S1	6B(M-F)	Special Ed	FRENCH, DANA	8	S1	320
8006	8006-001	C-Fundamentals of English 3B (SP)	S2	1(M-TU) 7(	Special Ed	FRENCH, DANA	7	S2	320
8006	8006-002	C-Fundamentals of English 3B (SP)	S2	6B(M-F)	Special Ed	FRENCH, DANA	9	S2	320
8007	8007-001	C-Fundamentals of English 4A (SP)	S1	5B(M-F)	Special Ed	FRENCH, DANA	6	S1	320
8007	8007-002	C-Fundamentals of English 4A (SP)	S1	2(M-F)	Special Ed	FRENCH, DANA	8	S1	320
8008	8008-001	C-Fundamentals of English 4B (SP)	S2	5B(M-F)	Special Ed	FRENCH, DANA	6	S2	320
8008	8008-002	C-Fundamentals of English 4B (SP)	S2	2(M-F)	Special Ed	FRENCH, DANA	8	S2	320
8021	8021-001	C-English 1A (AD)	S1	3(M-F)	Special Ed	FARLEY, AMANDA	3	S1	231
8021	8021-002	C-English 1A (AD)	S1	6B(M-F)	Special Ed	FARLEY, AMANDA	6	S1	231
8022	8022-001	C-English 1B (AD)	S2	3(M-F)	Special Ed	FARLEY, AMANDA	3	S2	231
8022	8022-002	C-English 1B (AD)	S2	6B(M-F)	Special Ed	FARLEY, AMANDA	6	S2	231
8023	8023-001	C-English 2A (AD)	S1	5A(M-F)	Special Ed	BROCHU, PAUL	10	S1	214
8024	8024-001	C-English 2B (AD)	S2	5A(M-F)	Special Ed	BROCHU, PAUL	10	S2	214
8025	8025-001	C-English 3A (AD)	S1	6B(M-F)	Special Ed	BROCHU, PAUL	10	S1	214
8026	8026-001	C-English 3B (AD)	S2	6B(M-F)	Special Ed	BROCHU, PAUL	10	S2	214
8027	8027-001	C-English 4A (AD)	S1	1(W-F) 7(M	Special Ed	BROCHU, PAUL	2	S1	214
8028	8028-001	C-English 4B (AD)	S2	1(W-F) 7(M	Special Ed	BROCHU, PAUL	2	S2	214
8051	8051-001	C-Literature & Contemp Youth A (AD)	S1	2(M-F)	Special Ed	BROCHU, PAUL	10	S1	214
8052	8052-001	C-Literature & Contemp Youth B (AD)	S2	2(M-F)	Special Ed	BROCHU, PAUL	10	S2	214
8061	8061-001	N-Balanced Literacy A (AD)	S1	2(M-F)	Special Ed	FARLEY, AMANDA	1	S1	231
8062	8062-001	N-Balanced Literacy B (AD)	S2	2(M-F)	Special Ed	FARLEY, AMANDA	1	S2	231
8083	8083-001	N-CL Decoding 2A	S1	1(M-TU) 7(	Special Ed	WORDEN, LINDA	3	S1	122
8084	8084-001	N-CL Decoding 2B	S2	1(M-TU) 7(	Special Ed	WORDEN, LINDA	2	S2	122
8085	8085-001	N-CL Decoding 3A	S1	2(M-F)	Special Ed	WORDEN, LINDA	8	S1	122
8085	8085-002	N-CL Decoding 3A	S1	6B(M-F)	Special Ed	WORDEN, LINDA	8	S1	122
8086	8086-001	N-CL Decoding 3B	S2	2(M-F)	Special Ed	WORDEN, LINDA	8	S2	122
8086	8086-002	N-CL Decoding 3B	S2	6B(M-F)	Special Ed	WORDEN, LINDA	8	S2	122
8087	8087-001	N-CL Decoding 4A	S1	1(W-F) 7(M	Special Ed	WORDEN, LINDA	3	S1	122
8088	8088-001	N-CL Decoding 4B	S2	1(W-F) 7(M	Special Ed	WORDEN, LINDA	3	S2	122
8089	8089-001	N-CL Decoding 5A	S1	5B(M-F)	Special Ed	WORDEN, LINDA	10	S1	122
8090	8090-001	N-CL Decoding 5B	S2	5B(M-F)	Special Ed	WORDEN, LINDA	10	S2	122
8100	8100-001	N-Fundamentals of Math MCAS Prep (SP)	S1	6B(M-F)	Special Ed	DECKER, MARIA	7	S1	326
8100	8100-002	N-Fundamentals of Math MCAS Prep (SP)	S2	6B(M-F)	Special Ed	DECKER, MARIA	5	S2	326
8103	8103-001	C-Fundamentals of Algebra 1A (SP)	S1	2(M-F)	Special Ed	MOTTRAM, SHAWNA	10	S1	819
8103	8103-002	C-Fundamentals of Algebra 1A (SP)	S1	4A(M-F)	Special Ed	MOTTRAM, SHAWNA	10	S1	819
8103	8103-003	C-Fundamentals of Algebra 1A (SP)	S1	1(M-TU) 7(	Special Ed	STUTZ, HAN	9	S1	332
8103	8103-005	C-Fundamentals of Algebra 1A (SP)	S1	1(W-F) 7(M	Special Ed	STUTZ, HAN	3	S1	332
8104	8104-001	C-Fundamentals of Algebra 1B (SP)	S2	2(M-F)	Special Ed	MOTTRAM, SHAWNA	10	S2	819
8104	8104-002	C-Fundamentals of Algebra 1B (SP)	S2	4A(M-F)	Special Ed	MOTTRAM, SHAWNA	10	S2	819
8104	8104-003	C-Fundamentals of Algebra 1B (SP)	S2	1(M-TU) 7(	Special Ed	STUTZ, HAN	9	S2	332

8104	8104-005	C-Fundamentals of Algebra 1B (SP)	S2	1(W-F) 7(M	Special Ed	STUTZ, HAN	2	S2	332
8105	8105-001	C-Fundamentals of Geometry A (SP)	S1	1(W-F) 7(M	Special Ed	DECKER, MARIA	11	S1	326
8105	8105-002	C-Fundamentals of Geometry A (SP)	S1	6B(M-F)	Special Ed	STUTZ, HAN	8	S1	332
8106	8106-001	C-Fundamentals of Geometry B (SP)	S2	1(W-F) 7(M	Special Ed	DECKER, MARIA	11	S2	326
8106	8106-002	C-Fundamentals of Geometry B (SP)	S2	6B(M-F)	Special Ed	STUTZ, HAN	8	S2	332
8107	8107-001	C-Fundamentals of Algebra 1 (BL) (SP)	S1	3,4A(M-F)	Special Ed	STUTZ, HAN	7	S1	332
8108	8108-001	C-Fundamentals of Geometry (BL) (SP)	S2	3,4A(M-F)	Special Ed	STUTZ, HAN	7	S2	332
8123	8123-001	C-Algebra 1A (AD)	S1	1(W-F) 7(M	Special Ed	BADESSA, CHRIS	3	S1	308
8123	8123-002	C-Algebra 1A (AD)	S1	1(M-TU) 7(	Special Ed	BADESSA, CHRIS	5	S1	308
8123	8123-003	C-Algebra 1A (AD)	S1	1(M-TU) 7(	Special Ed	MCLEOD, KEVIN	4	S1	229
8124	8124-001	C-Algebra 1B (AD)	S2	1(W-F) 7(M	Special Ed	BADESSA, CHRIS	3	S2	308
8124	8124-002	C-Algebra 1B (AD)	S2	1(M-TU) 7(	Special Ed	BADESSA, CHRIS	9	S2	308
8124	8124-003	C-Algebra 1B (AD)	S2	1(M-TU) 7(	Special Ed	MCLEOD, KEVIN	2	S2	229
8125	8125-001	C-Geometry A (AD)	S1	2(M-F)	Special Ed	BADESSA, CHRIS	6	S1	308
8125	8125-002	C-Geometry A (AD)	S1	6B(M-F)	Special Ed	BADESSA, CHRIS	8	S1	308
8126	8126-001	C-Geometry B (AD)	S2	2(M-F)	Special Ed	BADESSA, CHRIS	6	S2	308
8126	8126-002	C-Geometry B (AD)	S2	6B(M-F)	Special Ed	BADESSA, CHRIS	8	S2	308
8127	8127-001	C-Algebra 2A (AD)	S1	4A(M-F)	Special Ed	BADESSA, CHRIS	7	S1	308
8128	8128-001	C-Algebra 2B (AD)	S2	4A(M-F)	Special Ed	BADESSA, CHRIS	7	S2	308
8133	8133-001	N-Functional Math A (JP)	S1	3(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S1	117
8133	8133-002	N-Functional Math A (JP)	S1	4A(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	12	S1	305
8133	8133-003	N-Functional Math A (JP)	S1	5B(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	9	S1	305
8133	8133-004	N-Functional Math A (JP)	S1	1(M-F)	Special Ed	BEATON, BARBARA	3	S1	113
8134	8134-001	N-Functional Math B (JP)	S2	3(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S2	117
8134	8134-002	N-Functional Math B (JP)	S2	4A(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	12	S2	305
8134	8134-003	N-Functional Math B (JP)	S2	5B(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	9	S2	305
8134	8134-004	N-Functional Math B (JP)	S2	1(M-F)	Special Ed	BEATON, BARBARA	3	S2	113
8151	8151-001	C-Fundamentals of Financial Mathmatics A (SP)	S1	5B(M-F)	Special Ed	DECKER, MARIA	8	S1	326
8152	8152-001	C-Fundamentals of Financial Mathmatics B (SP)	S2	5B(M-F)	Special Ed	DECKER, MARIA	8	S2	326
8153	8153-002	C-Financial Math & Application A (AD)	S1	3(M-F)	Special Ed	MCLEOD, KEVIN	7	S1	229
8154	8154-002	C-Financial Math & Application B (AD)	S2	3(M-F)	Special Ed	MCLEOD, KEVIN	6	S2	229
8301	8301-001	C-Fundamentals of Science A (SP)	S1	3(M-F)	Special Ed	MOTTRAM, SHAWNA	9	S1	819
8302	8302-001	C-Fundamentals of Science B (SP)	S2	3(M-F)	Special Ed	MOTTRAM, SHAWNA	9	S2	819
8303	8303-001	C-Fundamentals of Biology A (SP)	S1	4A(M-F)	Special Ed	LEVASSEUR, MARY	8	S1	019
8303	8303-002	C-Fundamentals of Biology A (SP)	S1	5B(M-F)	Special Ed	LEVASSEUR, MARY	5	S1	019
8304	8304-001	C-Fundamentals of Biology B (SP)	S2	4A(M-F)	Special Ed	LEVASSEUR, MARY	8	S2	019
8304	8304-002	C-Fundamentals of Biology B (SP)	S2	5B(M-F)	Special Ed	LEVASSEUR, MARY	5	S2	019
8305	8305-001	C-Fundamentals of Biology 2 A (SP)	S1	1(W-F) 7(M	Special Ed	LEVASSEUR, MARY	5	S1	019
8306	8306-001	C-Fundamentals of Biology 2 B (SP)	S2	1(W-F) 7(M	Special Ed	LEVASSEUR, MARY	5	S2	019
8311	8311-001	C-Fundamentals of Science A (AD)	S1	4A(M-F)	Special Ed	NEWCOMB, DONNA	4	S1	235
8311	8311-002	C-Fundamentals of Science A (AD)	S1	5A(M-F)	Special Ed	NEWCOMB, DONNA	3	S1	235
8312	8312-001	C-Fundamentals of Science B (AD)	S2	4A(M-F)	Special Ed	NEWCOMB, DONNA	4	S2	235
8312	8312-002	C-Fundamentals of Science B (AD)	S2	5A(M-F)	Special Ed	NEWCOMB, DONNA	3	S2	235
8313	8313-001	C-Biology A (AD)	S1	3(M-F)	Special Ed	JALBERT, SUZANNE	7	S1	207A
8313	8313-002	C-Biology A (AD)	S1	4A(M-F)	Special Ed	JALBERT, SUZANNE	10	S1	207A
8314	8314-001	C-Biology B (AD)	S2	3(M-F)	Special Ed	JALBERT, SUZANNE	5	S2	207A
8314	8314-002	C-Biology B (AD)	S2	4A(M-F)	Special Ed	JALBERT, SUZANNE	12	S2	207A

8315	8315-001	N-Science A (JP)	S1	2(M-F)	Special Ed	RAPONE, LEONARD	9	S1	516
8315	8315-002	N-Science A (JP)	S1	5B(M-F)	Special Ed	RAPONE, LEONARD	10	S1	516
8315	8315-003	N-Science A (JP)	S1	1(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S1	117
8315	8315-004	N-Science A (JP)	S1	3(M-F)	Special Ed	BEATON, BARBARA	2	S1	113
8315	8315-005	N-Science A (JP)	S1	2(M-F)	Special Ed	MENDONCA, LISA	5	S1	114
8316	8316-001	N-Science B (JP)	S2	2(M-F)	Special Ed	RAPONE, LEONARD	9	S2	516
8316	8316-002	N-Science B (JP)	S2	5B(M-F)	Special Ed	RAPONE, LEONARD	10	S2	516
8316	8316-003	N-Science B (JP)	S2	1(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S2	117
8316	8316-004	N-Science B (JP)	S2	3(M-F)	Special Ed	BEATON, BARBARA	2	S2	113
8316	8316-005	N-Science B (JP)	S2	2(M-F)	Special Ed	MENDONCA, LISA	5	S2	114
8351	8351-001	C-Geology A (AD)	S1	6B(M-F)	Special Ed	JALBERT, SUZANNE	5	S1	207A
8352	8352-001	C-Geology B (AD)	S2	6B(M-F)	Special Ed	JALBERT, SUZANNE	5	S2	207A
8401	8401-001	C-Fundamentals of Topics in World History A (SP)	S1	6B(M-F)	Special Ed	ERNST, AMANDA	10	S1	819
8402	8402-001	C-Fundamentals of Topics in World History B (SP)	S2	6B(M-F)	Special Ed	ERNST, AMANDA	10	S2	819
8403	8403-001	C-Fundamentals of Topics in US History 1 A (SP)	S1	1(W-F) 7(M	Special Ed	ERNST, AMANDA	8	S1	021
8404	8404-001	C-Fundamentals of Topics in US History 1 B (SP)	S2	1(W-F) 7(M	Special Ed	ERNST, AMANDA	8	S2	021
8405	8405-001	C-Fundamentals of US History 2A (SP)	S1	1(M-TU) 7(	Special Ed	ERNST, AMANDA	7	S1	021
8406	8406-002	C-Fundamentals of US History 2B (SP)	S2	1(M-TU) 7(	Special Ed	ERNST, AMANDA	7	S2	021
8411	8411-002	C-World History A (AD)	S1	5A(M-F)	Special Ed	MCLEOD, KEVIN	4	S1	229
8411	8411-003	C-World History A (AD)	S1	4A(M-F)	Special Ed	MCLEOD, KEVIN	3	S1	229
8412	8412-002	C-World History B (AD)	S2	5A(M-F)	Special Ed	MCLEOD, KEVIN	4	S2	229
8412	8412-003	C-World History B (AD)	S2	4A(M-F)	Special Ed	MCLEOD, KEVIN	3	S2	229
8413	8413-001	C-US History 1A (AD)	S1	3(M-F)	Special Ed	CARBONE, ALLYSON	7	S1	207B
8413	8413-002	C-US History 1A (AD)	S1	4A(M-F)	Special Ed	CARBONE, ALLYSON	9	S1	207B
8414	8414-001	C-US History 1B (AD)	S2	3(M-F)	Special Ed	CARBONE, ALLYSON	9	S2	207B
8414	8414-002	C-US History 1B (AD)	S2	4A(M-F)	Special Ed	CARBONE, ALLYSON	7	S2	207B
8415	8415-001	C-US History 2A (AD)	S1	5A(M-F)	Special Ed	CARBONE, ALLYSON	12	S1	207B
8416	8416-001	C-US History 2B (AD)	S2	5A(M-F)	Special Ed	CARBONE, ALLYSON	12	S2	207B
8513	8513-001	N-Vocational Education A (AD)	S1	1(M-TU) 7(	Special Ed	CARBONE, ALLYSON	9	S1	207B
8514	8514-001	N-Vocational Education B (AD)	S2	1(M-TU) 7(	Special Ed	CARBONE, ALLYSON	9	S2	207B
8543	8543-001	C-Leadership Through Adventure A (AD)	S1	3(M-F)	Special Ed	BROCHU, PAUL	7	S1	214
8544	8544-001	C-Leadership Through Adventure B (AD)	S2	3(M-F)	Special Ed	BROCHU, PAUL	7	S2	214
8547	8547-001	N-Social Dynamics 1 A (AD)	S1	1(W-F) 7(M	Special Ed	CARBONE, ALLYSON	11	S1	207B
8548	8548-001	N-Social Dynamics 1 B (AD)	S2	1(W-F) 7(M	Special Ed	CARBONE, ALLYSON	11	S2	207B
8549	8549-001	N-Social Dynamics 2 A (AD)	S1	2(M-F)	Special Ed	JALBERT, SUZANNE	3	S1	207A
8550	8550-001	N-Social Dynamics 2 B (AD)	S2	2(M-F)	Special Ed	JALBERT, SUZANNE	3	S2	207A
8551	8551-001	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	LAWRENSON, RICHARD	15	S1	012
8551	8551-002	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	19	S1	305
8551	8551-003	N-Social Dynamics A (JP)	S1	5B(M-F)	Special Ed	LINSTRUTH, MELISSA	11	S1	117
8551	8551-004	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	LINSTRUTH, MELISSA	8	S1	117
8551	8551-005	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	BEATON, BARBARA	6	S1	113
8551	8551-006	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	KATES, MINDY	7	S1	118
8551	8551-007	N-Social Dynamics A (JP)	S1	1(M-F)	Special Ed	FRENETTE, TONYA	12	S1	015
8551	8551-010	N-Social Dynamics A (JP)	S1	7(M-F)	Special Ed	MENDONCA, LISA	9	S1	114
8552	8552-001	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	LAWRENSON, RICHARD	15	S2	012
8552	8552-002	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	19	S2	305
8552	8552-003	N-Social Dynamics B (JP)	S2	5B(M-F)	Special Ed	LINSTRUTH, MELISSA	11	S2	117

8552	8552-004	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	LINSTRUTH, MELISSA	8	S2	117
8552	8552-005	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	BEATON, BARBARA	6	S2	113
8552	8552-006	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	KATES, MINDY	7	S2	118
8552	8552-007	N-Social Dynamics B (JP)	S2	1(M-F)	Special Ed	FRENETTE, TONYA	12	S2	015
8552	8552-010	N-Social Dynamics B (JP)	S2	7(M-F)	Special Ed	MENDONCA, LISA	9	S2	114
8701	8701-001	N-Functional Academics A (JP)	S1	3(M-F)	Special Ed	RAPONE, LEONARD	11	S1	516
8701	8701-002	N-Functional Academics A (JP)	S1	2(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S1	117
8701	8701-003	N-Functional Academics A (JP)	S1	3(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	12	S1	305
8701	8701-004	N-Functional Academics A (JP)	S1	1(M-F)	Special Ed	MENDONCA, LISA	5	S1	114
8701	8701-005	N-Functional Academics A (JP)	S1	4A(M-F)	Special Ed	MENDONCA, LISA	12	S1	114
8702	8702-001	N-Functional Academics B (JP)	S2	3(M-F)	Special Ed	RAPONE, LEONARD	11	S2	516
8702	8702-002	N-Functional Academics B (JP)	S2	2(M-F)	Special Ed	LINSTRUTH, MELISSA	7	S2	117
8702	8702-003	N-Functional Academics B (JP)	S2	3(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	12	S2	305
8702	8702-004	N-Functional Academics B (JP)	S2	1(M-F)	Special Ed	MENDONCA, LISA	4	S2	114
8702	8702-005	N-Functional Academics B (JP)	S2	4A(M-F)	Special Ed	MENDONCA, LISA	12	S2	114
8703	8703-001	N-Functional Academics 2 A (JP)	S1	2(M-F)	Special Ed	BEATON, BARBARA	3	S1	113
8703	8703-002	N-Functional Academics 2 A (JP)	S1	1(M-F)	Special Ed	KATES, MINDY	6	S1	118
8704	8704-001	N-Functional Academics 2 B (JP)	S2	2(M-F)	Special Ed	BEATON, BARBARA	3	S2	113
8704	8704-002	N-Functional Academics 2 B (JP)	S2	1(M-F)	Special Ed	KATES, MINDY	6	S2	118
8813	8813-001	N-Intro to Community & Independent Living A (JP)	S1	1(M-F)	Special Ed	SIMMONS, AMANDA	9	S1	016
8813	8813-002	N-Intro to Community & Independent Living A (JP)	S1	6B(M-F)	Special Ed	SIMMONS, AMANDA	9	S1	016
8813	8813-003	N-Intro to Community & Independent Living A (JP)	S1	6B(M-F)	Special Ed	LAWRENSON, RICHARD	11	S1	012
8813	8813-004	N-Intro to Community & Independent Living A (JP)	S1	6B(M-F)	Special Ed	MENDONCA, LISA	5	S1	114
8814	8814-001	N-Intro to Community & Independent Living B (JP)	S2	1(M-F)	Special Ed	SIMMONS, AMANDA	9	S2	016
8814	8814-002	N-Intro to Community & Independent Living B (JP)	S2	6B(M-F)	Special Ed	SIMMONS, AMANDA	9	S2	016
8814	8814-003	N-Intro to Community & Independent Living B (JP)	S2	6B(M-F)	Special Ed	LAWRENSON, RICHARD	11	S2	012
8814	8814-004	N-Intro to Community & Independent Living B (JP)	S2	6B(M-F)	Special Ed	MENDONCA, LISA	5	S2	114
8815	8815-001	N-Community & Independent Living A (JP)	S1	4A(M-F)	Special Ed	KATES, MINDY	9	S1	118
8815	8815-002	N-Community & Independent Living A (JP)	S1	2(M-F)	Special Ed	SIMMONS, AMANDA	12	S1	016
8815	8815-003	N-Community & Independent Living A (JP)	S1	3(M-F)	Special Ed	SIMMONS, AMANDA	11	S1	016
8815	8815-004	N-Community & Independent Living A (JP)	S1	4A(M-F)	Special Ed	SIMMONS, AMANDA	12	S1	016
8815	8815-005	N-Community & Independent Living A (JP)	S1	2(M-F)	Special Ed	LAWRENSON, RICHARD	12	S1	012
8815	8815-006	N-Community & Independent Living A (JP)	S1	3(M-F)	Special Ed	LAWRENSON, RICHARD	12	S1	012
8815	8815-007	N-Community & Independent Living A (JP)	S1	1(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	13	S1	305
8815	8815-008	N-Community & Independent Living A (JP)	S1	5B(M-F)	Special Ed	BEATON, BARBARA	10	S1	113
8815	8815-009	N-Community & Independent Living A (JP)	S1	4A(M-F)	Special Ed	LAWRENSON, RICHARD	12	S1	012
8815	8815-010	N-Community & Independent Living A (JP)	S1	6B(M-F)	Special Ed	KATES, MINDY	6	S1	118
8816	8816-001	N-Community & Independent Living B (JP)	S2	4A(M-F)	Special Ed	KATES, MINDY	9	S2	118
8816	8816-002	N-Community & Independent Living B (JP)	S2	2(M-F)	Special Ed	SIMMONS, AMANDA	12	S2	106
8816	8816-003	N-Community & Independent Living B (JP)	S2	3(M-F)	Special Ed	SIMMONS, AMANDA	11	S2	016
8816	8816-004	N-Community & Independent Living B (JP)	S2	4A(M-F)	Special Ed	SIMMONS, AMANDA	12	S2	016
8816	8816-005	N-Community & Independent Living B (JP)	S2	2(M-F)	Special Ed	LAWRENSON, RICHARD	12	S2	012
8816	8816-006	N-Community & Independent Living B (JP)	S2	3(M-F)	Special Ed	LAWRENSON, RICHARD	11	S2	012
8816	8816-007	N-Community & Independent Living B (JP)	S2	1(M-F)	Special Ed	MCGLAUFLIN, JENNIFER	13	S2	305
8816	8816-008	N-Community & Independent Living B (JP)	S2	5B(M-F)	Special Ed	BEATON, BARBARA	10	S2	113
8816	8816-009	N-Community & Independent Living B (JP)	S2	4A(M-F)	Special Ed	LAWRENSON, RICHARD	12	S2	012
8816	8816-010	N-Community & Independent Living B (JP)	S2	6B(M-F)	Special Ed	KATES, MINDY	6	S2	118

8817	8817-001	N-Business Practices A (JP)	S1	5B(M-F)	Special Ed	CHANDONNET, DIANNE	8	S1	016
8817	8817-002	N-Business Practices A (JP)	S1	6B(M-F)	Special Ed	CHANDONNET, DIANNE	5	S1	016
8818	8818-001	N-Business Practices B (JP)	S2	5B(M-F)	Special Ed	CHANDONNET, DIANNE	8	S2	016
8818	8818-002	N-Business Practices B (JP)	S2	6B(M-F)	Special Ed	CHANDONNET, DIANNE	5	S2	016
8851	8851-001	N-Instructional Support 1A	S1	1(M-TU) 7(	Special Ed	MOTTRAM, SHAWNA	12	S1	819
8851	8851-002	N-Instructional Support 1A	S1	5B(M-F)	Special Ed	ERNST, AMANDA	8	S1	819
8851	8851-011	N-Instructional Support 1A	S1	2(M-F)	Special Ed	FLORENCE, JOHN	10	S1	821
8851	8851-015	N-Instructional Support 1A	S1	3(M-F)	Special Ed	FLORENCE, JOHN	7	S1	821
8851	8851-020	N-Instructional Support 1A	S1	4A(M-F)	Special Ed	FRENCH, DANA	4	S1	320
8852	8852-001	N-Instructional Support 1B	S2	1(M-TU) 7(	Special Ed	MOTTRAM, SHAWNA	12	S2	819
8852	8852-002	N-Instructional Support 1B	S2	5B(M-F)	Special Ed	ERNST, AMANDA	8	S2	819
8852	8852-011	N-Instructional Support 1B	S2	2(M-F)	Special Ed	FLORENCE, JOHN	10	S2	821
8852	8852-012	N-Instructional Support 1B	S2	3(M-F)	Special Ed	FLORENCE, JOHN	7	S2	821
8852	8852-020	N-Instructional Support 1B	S2	4A(M-F)	Special Ed	FRENCH, DANA	4	S2	320
8853	8853-001	N-Instructional Support 2A	S1	3(M-F)	Special Ed	ERNST, AMANDA	9	S1	021
8853	8853-002	N-Instructional Support 2A	S1	1(M-TU) 7(	Special Ed	DECKER, MARIA	8	S1	326
8853	8853-003	N-Instructional Support 2A	S1	1(M-TU) 7(	Special Ed	LEVASSEUR, MARY	8	S1	019
8853	8853-004	N-Instructional Support 2A	S1	1(W-F) 7(M	Special Ed	SIMAS, MARIANNE	8	S1	320
8854	8854-001	N-Instructional Support 2B	S2	3(M-F)	Special Ed	ERNST, AMANDA	9	S2	021
8854	8854-002	N-Instructional Support 2B	S2	1(M-TU) 7(	Special Ed	DECKER, MARIA	8	S2	326
8854	8854-003	N-Instructional Support 2B	S2	1(M-TU) 7(	Special Ed	LEVASSEUR, MARY	9	S2	019
8854	8854-004	N-Instructional Support 2B	S2	1(W-F) 7(M	Special Ed	SIMAS, MARIANNE	8	S2	320
8855	8855-001	N-Instructional Support 3A	S1	1(W-F) 7(M	Special Ed	SNETSINGER, MICHELLE	7	S1	020
8855	8855-002	N-Instructional Support 3A	S1	2(M-F)	Special Ed	SNETSINGER, MICHELLE	7	S1	020
8855	8855-003	N-Instructional Support 3A	S1	3(M-F)	Special Ed	SNETSINGER, MICHELLE	8	S1	020
8855	8855-004	N-Instructional Support 3A	S1	4A(M-F)	Special Ed	SNETSINGER, MICHELLE	12	S1	020
8855	8855-005	N-Instructional Support 3A	S1	1(M-TU) 7(	Special Ed	SNETSINGER, MICHELLE	9	S1	020
8855	8855-006	N-Instructional Support 3A	S1	6B(M-F)	Special Ed	CIESLA, MELISSA	8	S1	020
8856	8856-001	N-Instructional Support 3B	S2	1(W-F) 7(M	Special Ed	SNETSINGER, MICHELLE	7	S2	020
8856	8856-002	N-Instructional Support 3B	S2	2(M-F)	Special Ed	SNETSINGER, MICHELLE	7	S2	020
8856	8856-003	N-Instructional Support 3B	S2	3(M-F)	Special Ed	SNETSINGER, MICHELLE	8	S2	020
8856	8856-004	N-Instructional Support 3B	S2	4A(M-F)	Special Ed	SNETSINGER, MICHELLE	12	S2	020
8856	8856-005	N-Instructional Support 3B	S2	1(M-TU) 7(	Special Ed	SNETSINGER, MICHELLE	9	S2	020
8856	8856-006	N-Instructional Support 3B	S2	6B(M-F)	Special Ed	CIESLA, MELISSA	8	S2	020
8857	8857-003	N-Instructional Support 4A	S1	1(M-TU) 7(	Special Ed	CIESLA, MELISSA	4	S1	020
8857	8857-004	N-Instructional Support 4A	S1	2(M-F)	Special Ed	CIESLA, MELISSA	7	S1	020
8857	8857-005	N-Instructional Support 4A	S1	5B(M-F)	Special Ed	CIESLA, MELISSA	7	S1	020
8858	8858-003	N-Instructional Support 4B	S2	1(M-TU) 7(	Special Ed	CIESLA, MELISSA	4	S2	020
8858	8858-004	N-Instructional Support 4B	S2	2(M-F)	Special Ed	CIESLA, MELISSA	7	S2	020
8858	8858-005	N-Instructional Support 4B	S2	5B(M-F)	Special Ed	CIESLA, MELISSA	7	S2	020
8859	8859-001	N-Instructional Support HI A	S1	2(M-F)	Special Ed	WILKES, JULIA	4	S1	859
8859	8859-002	N-Instructional Support HI A	S1	3(M-F)	Special Ed	WILKES, JULIA	0	S1	859
8860	8860-001	N-Instructional Support HI B	S2	2(M-F)	Special Ed	WILKES, JULIA	3	S2	859
8860	8860-002	N-Instructional Support HI B	S2	3(M-F)	Special Ed	WILKES, JULIA	0	S2	859
8873	8873-001	N-Instructional Support (AD) A	S1	1(M-TU) 7(	Special Ed	JALBERT, SUZANNE	7	S1	207A
8874	8874-001	N-Instructional Support (AD) B	S2	1(M-TU) 7(	Special Ed	JALBERT, SUZANNE	6	S2	207A
8901	8901-003	N-Life Skills Physical Education 1 (JP)	S1	2(M-F)	Special Ed	PLOTZKE, MARGO	13	S1	GYM5

8901	8901-004	N-Life Skills Physical Education 1 (JP)	S1	3(M-F)	Special Ed	PLOTZKE, MARGO	11	S1	GYM5
8901	8901-005	N-Life Skills Physical Education 1 (JP)	S1	4A(M-F)	Special Ed	PLOTZKE, MARGO	6	S1	GYM5
8901	8901-006	N-Life Skills Physical Education 1 (JP)	S1	5B(M-F)	Special Ed	PLOTZKE, MARGO	14	S1	GYM5
8901	8901-007	N-Life Skills Physical Education 1 (JP)	S1	6B(M-F)	Special Ed	PLOTZKE, MARGO	11	S1	GYM5
8902	8902-003	N-Life Skills Physical Education 2 (JP)	S2	2(M-F)	Special Ed	PLOTZKE, MARGO	13	S2	GYM5
8902	8902-004	N-Life Skills Physical Education 2 (JP)	S2	3(M-F)	Special Ed	PLOTZKE, MARGO	11	S2	GYM5
8902	8902-005	N-Life Skills Physical Education 2 (JP)	S2	4A(M-F)	Special Ed	PLOTZKE, MARGO	6	S2	GYM5
8902	8902-006	N-Life Skills Physical Education 2 (JP)	S2	5B(M-F)	Special Ed	PLOTZKE, MARGO	14	S2	GYM5
8902	8902-007	N-Life Skills Physical Education 2 (JP)	S2	6B(M-F)	Special Ed	PLOTZKE, MARGO	11	S2	GYM5
8903	8903-001	N-Physical Education 1 (AD)	S1	1(W-F) 7(M	Special Ed	NEWCOMB, DONNA	16	S1	235
8903	8903-002	N-Physical Education 1 (AD)	S1	1(M-TU) 7(	Special Ed	NEWCOMB, DONNA	11	S1	235
8904	8904-001	N-Physical Education 2 (AD)	S2	1(W-F) 7(M	Special Ed	NEWCOMB, DONNA	17	S2	235
8904	8904-002	N-Physical Education 2 (AD)	S2	1(M-TU) 7(	Special Ed	NEWCOMB, DONNA	10	S2	235
8911	8911-001	N-Health A (AD)	S1	2(M-F)	Special Ed	NEWCOMB, DONNA	10	S1	235
8911	8911-002	N-Health A (AD)	S1	5A(M-F)	Special Ed	FARLEY, AMANDA	3	S1	231
8912	8912-001	N-Health B (AD)	S2	2(M-F)	Special Ed	NEWCOMB, DONNA	10	S2	235
8912	8912-002	N-Health B (AD)	S2	5A(M-F)	Special Ed	FARLEY, AMANDA	4	S2	231
8921	8921-001	N-Health A (JP)	S1	2(M-F)	Special Ed	KATES, MINDY	5	S1	118
8921	8921-005	N-Health A (JP)	S1	1(M-F)	Special Ed	RAPONE, LEONARD	8	S1	516
8921	8921-006	N-Health A (JP)	S1	6B(M-F)	Special Ed	RAPONE, LEONARD	12	S1	516
8922	8922-001	N-Health B (JP)	S2	2(M-F)	Special Ed	KATES, MINDY	5	S2	118
8922	8922-005	N-Health B (JP)	S2	1(M-F)	Special Ed	RAPONE, LEONARD	8	S2	516
8922	8922-006	N-Health B (JP)	S2	6B(M-F)	Special Ed	RAPONE, LEONARD	12	S2	516
8981	8981-001	N-Freshman Seminar A	S1	6B(M-F)	Special Ed	MCLEOD, KEVIN	3	S1	229
8981	8981-002	N-Freshman Seminar A	S1	1(TH-F) 7(M	Special Ed	FARLEY, AMANDA	1	S1	231
8982	8982-001	N-Freshman Seminar B	S2	6B(M-F)	Special Ed	MCLEOD, KEVIN	3	S2	229
8982	8982-002	N-Freshman Seminar B	S2	1(W-F) 7(M	Special Ed	FARLEY, AMANDA	1	S2	231
8991	8991-016	C-Sped Intern	S1	1(M-F)	Special Ed	FRENETTE, TONYA	1	S1	015
8991	8991-017	C-Sped Intern	S2	1(M-F)	Special Ed	FRENETTE, TONYA	1	S2	015
9003	9003-001	N-Physical Education 3&4	S1	2(M-F)	Physical Ed	MCCARTY, SHAUN	26	S1	GYM8
9003	9003-002	N-Physical Education 3&4	S2	4A(M-F)	Physical Ed	MCCARTY, SHAUN	30	S2	GYM8
9003	9003-003	N-Physical Education 3&4	S1	1(M-TU) 7(	Physical Ed	MCCARTY, SHAUN	34	S1	GYM8
9003	9003-004	N-Physical Education 3&4	S2	2(M-F)	Physical Ed	MCCARTY, SHAUN	26	S2	GYM8
9003	9003-005	N-Physical Education 3&4	S1	4A(M-F)	Physical Ed	MCCARTY, SHAUN	33	S1	GYM8
9003	9003-006	N-Physical Education 3&4	S2	1(M-TU) 7(	Physical Ed	MCCARTY, SHAUN	33	S2	GYM8
9003	9003-007	N-Physical Education 3&4	S1	1(W-F) 7(M	Physical Ed	DONAHUE, WILLIAM	27	S1	GYM2
9003	9003-008	N-Physical Education 3&4	S2	5A(M-F)	Physical Ed	DONAHUE, WILLIAM	25	S2	GYM2
9003	9003-009	N-Physical Education 3&4	S1	6B(M-F)	Physical Ed	DONAHUE, WILLIAM	22	S1	GYM2
9003	9003-010	N-Physical Education 3&4	S2	1(W-F) 7(M	Physical Ed	DONAHUE, WILLIAM	32	S2	GYM2
9003	9003-011	N-Physical Education 3&4	S1	5A(M-F)	Physical Ed	DONAHUE, WILLIAM	22	S1	GYM2
9003	9003-012	N-Physical Education 3&4	S2	6B(M-F)	Physical Ed	DONAHUE, WILLIAM	32	S2	GYM2
9003	9003-013	N-Physical Education 3&4	S1	2(M-F)	Physical Ed	GRAHAM, DANIEL	24	S1	GYM4
9003	9003-014	N-Physical Education 3&4	S1	3(M-F)	Physical Ed	GRAHAM, DANIEL	30	S1	GYM4
9003	9003-015	N-Physical Education 3&4	S1	1(W-F) 7(M	Physical Ed	KEEGAN, KRISTINA	26	S1	GYM5
9003	9003-016	N-Physical Education 3&4	S1	1(M-TU) 7(	Physical Ed	KEEGAN, KRISTINA	34	S1	GYM5
9003	9003-017	N-Physical Education 3&4	S2	1(W-F) 7(M	Physical Ed	KEEGAN, KRISTINA	30	S2	GYM5
9003	9003-018	N-Physical Education 3&4	S1	2(M-F)	Physical Ed	SWETT, PATRICK	23	S1	GYM10

9003	9003-019	N-Physical Education 3&4	S2	3(M-F)	Physical Ed	KEEGAN, KRISTINA	31	S2	GYM5
9003	9003-020	N-Physical Education 3&4	S1	4A(M-F)	Physical Ed	SWETT, PATRICK	33	S1	GYM10
9003	9003-021	N-Physical Education 3&4	S2	5A(M-F)	Physical Ed	KEEGAN, KRISTINA	25	S2	GYM5
9003	9003-022	N-Physical Education 3&4	S1	6B(M-F)	Physical Ed	SWETT, PATRICK	24	S1	GYM10
9003	9003-023	N-Physical Education 3&4	S2	2(M-F)	Physical Ed	SWETT, PATRICK	26	S2	GYM10
9003	9003-024	N-Physical Education 3&4	S1	3(M-F)	Physical Ed	KEEGAN, KRISTINA	27	S1	GYM5
9003	9003-025	N-Physical Education 3&4	S2	4A(M-F)	Physical Ed	SWETT, PATRICK	23	S2	GYM10
9003	9003-026	N-Physical Education 3&4	S1	5A(M-F)	Physical Ed	KEEGAN, KRISTINA	23	S1	GYM5
9003	9003-027	N-Physical Education 3&4	S2	6B(M-F)	Physical Ed	SWETT, PATRICK	26	S2	GYM10
9003	9003-028	N-Physical Education 3&4	S1	1(W-F) 7(M	Physical Ed	MCCARTHY, PAUL	27	S1	GYM7
9003	9003-029	N-Physical Education 3&4	S2	5A(M-F)	Physical Ed	MCCARTHY, PAUL	23	S2	GYM7
9003	9003-030	N-Physical Education 3&4	S1	6B(M-F)	Physical Ed	MCCARTHY, PAUL	22	S1	GYM7
9003	9003-031	N-Physical Education 3&4	S2	1(W-F) 7(M	Physical Ed	MCCARTHY, PAUL	26	S2	GYM7
9003	9003-032	N-Physical Education 3&4	S1	5A(M-F)	Physical Ed	MCCARTHY, PAUL	23	S1	GYM7
9003	9003-033	N-Physical Education 3&4	S2	6B(M-F)	Physical Ed	MCCARTHY, PAUL	24	S2	GYM7
9003	9003-034	N-Physical Education 3&4	S1	3(M-F)	Physical Ed	HILL, NANCY	29	S1	GYM7
9003	9003-035	N-Physical Education 3&4	S2	4A(M-F)	Physical Ed	HILL, NANCY	25	S2	GYM7
9003	9003-036	N-Physical Education 3&4	S1	1(M-TU) 7(	Physical Ed	HILL, NANCY	34	S1	GYM7
9003	9003-037	N-Physical Education 3&4	S2	3(M-F)	Physical Ed	HILL, NANCY	27	S2	GYM7
9003	9003-038	N-Physical Education 3&4	S2	2(M-F)	Physical Ed	GRAHAM, DANIEL	24	S2	GYM4
9003	9003-039	N-Physical Education 3&4	S2	3(M-F)	Physical Ed	GRAHAM, DANIEL	28	S2	GYM4
9003	9003-040	N-Physical Education 3&4	S2	1(M-TU) 7(	Physical Ed	KEEGAN, KRISTINA	26	S2	GYM5
9003	9003-041	N-Physical Education 3&4	S1	4A(M-F)	Physical Ed	HILL, NANCY	30	S1	GYM7
9003	9003-042	N-Physical Education 3&4	S2	1(M-TU) 7(	Physical Ed	HILL, NANCY	27	S2	GYM7
9003	9003-043	N-Physical Education 3&4	S1	1(M-TU) 7(	Physical Ed	DONAHUE, WILLIAM	34	S1	GYM
9003	9003-044	N-Physical Education 3&4	S2	1(M-TU) 7(	Physical Ed	DONAHUE, WILLIAM	27	S2	GYM
9003	9003-045	N-Physical Education 3&4	S1	4A(M-F)	Physical Ed	DONAHUE, WILLIAM	27	S1	GYM
9003	9003-046	N-Physical Education 3&4	S2	4A(M-F)	Physical Ed	DONAHUE, WILLIAM	25	S2	GYM
9005	9005-001	N-Physical Education 1 (FA)	S1	1(W-F) 7(M	Physical Ed	BARRY, BRIAN	26	S1	GYM
9005	9005-002	N-Physical Education 1 (FA)	S2	3(M-F)	Physical Ed	BARRY, BRIAN	27	S2	GYM
9005	9005-003	N-Physical Education 1 (FA)	S1	4A(M-F)	Physical Ed	BARRY, BRIAN	34	S1	GYM
9005	9005-004	N-Physical Education 1 (FA)	S2	1(W-F) 7(M	Physical Ed	BARRY, BRIAN	28	S2	GYM
9005	9005-005	N-Physical Education 1 (FA)	S1	3(M-F)	Physical Ed	BARRY, BRIAN	27	S1	GYM
9005	9005-006	N-Physical Education 1 (FA)	S2	4A(M-F)	Physical Ed	BARRY, BRIAN	29	S2	GYM
9005	9005-007	N-Physical Education 1 (FA)	S1	2(M-F)	Physical Ed	OUELLET, SCOTT	21	S1	GYM9
9005	9005-008	N-Physical Education 1 (FA)	S1	6B(M-F)	Physical Ed	OUELLET, SCOTT	26	S1	GYM9
9005	9005-009	N-Physical Education 1 (FA)	S2	2(M-F)	Physical Ed	OUELLET, SCOTT	22	S2	GYM9
9005	9005-016	N-Physical Education 1 (FA)	S2	4A(M-F)	Physical Ed	KEEGAN, KRISTINA	28	S2	GYM9
9005	9005-017	N-Physical Education 1 (FA)	S1	1(M-TU) 7(	Physical Ed	GRAHAM, DANIEL	27	S1	GYM4
9005	9005-018	N-Physical Education 1 (FA)	S1	5A(M-F)	Physical Ed	GRAHAM, DANIEL	19	S1	GYM4
9005	9005-019	N-Physical Education 1 (FA)	S1	6B(M-F)	Physical Ed	GRAHAM, DANIEL	25	S1	GYM4
9005	9005-020	N-Physical Education 1 (FA)	S2	1(M-TU) 7(	Physical Ed	GRAHAM, DANIEL	20	S2	GYM4
9005	9005-021	N-Physical Education 1 (FA)	S2	5A(M-F)	Physical Ed	GRAHAM, DANIEL	18	S2	GYM4
9005	9005-022	N-Physical Education 1 (FA)	S2	6B(M-F)	Physical Ed	GRAHAM, DANIEL	24	S2	GYM4
9005	9005-029	N-Physical Education 1 (FA)	S1	3(M-F)	Physical Ed	SWETT, PATRICK	27	S1	GYM10
9005	9005-030	N-Physical Education 1 (FA)	S2	4A(M-F)	Physical Ed	OUELLET, SCOTT	30	S2	GYM9
9005	9005-031	N-Physical Education 1 (FA)	S1	5A(M-F)	Physical Ed	SWETT, PATRICK	17	S1	GYM10

9005	9005-032	N-Physical Education 1 (FA)	S2	3(M-F)	Physical Ed	SWETT, PATRICK	26	S2	GYM10
9005	9005-033	N-Physical Education 1 (FA)	S1	4A(M-F)	Physical Ed	OUELLET, SCOTT	34	S1	GYM9
9005	9005-034	N-Physical Education 1 (FA)	S2	5A(M-F)	Physical Ed	SWETT, PATRICK	15	S2	GYM10
9006	9006-001	N-Physical Education 2	S1	5A(M-F)	Physical Ed	BARRY, BRIAN	26	S1	GYM
9006	9006-002	N-Physical Education 2	S1	1(M-TU) 7(	Physical Ed	BARRY, BRIAN	34	S1	GYM
9006	9006-003	N-Physical Education 2	S2	5A(M-F)	Physical Ed	BARRY, BRIAN	22	S2	GYM
9006	9006-004	N-Physical Education 2	S2	1(M-TU) 7(	Physical Ed	BARRY, BRIAN	35	S2	GYM
9006	9006-005	N-Physical Education 2	S1	2(M-F)	Physical Ed	MCCARTHY, PAUL	34	S1	GYM7
9006	9006-006	N-Physical Education 2	S1	4A(M-F)	Physical Ed	MCCARTHY, PAUL	34	S1	GYM7
9006	9006-007	N-Physical Education 2	S1	1(W-F) 7(M	Physical Ed	MCCARTY, SHAUN	25	S1	GYM8
9006	9006-008	N-Physical Education 2	S1	6B(M-F)	Physical Ed	MCCARTY, SHAUN	23	S1	GYM8
9006	9006-009	N-Physical Education 2	S2	1(W-F) 7(M	Physical Ed	MCCARTY, SHAUN	31	S2	GYM8
9006	9006-010	N-Physical Education 2	S2	6B(M-F)	Physical Ed	MCCARTY, SHAUN	24	S2	GYM8
9006	9006-011	N-Physical Education 2	S1	1(W-F) 7(M	Physical Ed	HILL, NANCY	25	S1	GYM7
9006	9006-012	N-Physical Education 2	S1	6B(M-F)	Physical Ed	HILL, NANCY	22	S1	GYM7
9006	9006-013	N-Physical Education 2	S2	1(W-F) 7(M	Physical Ed	HILL, NANCY	29	S2	GYM7
9006	9006-014	N-Physical Education 2	S2	6B(M-F)	Physical Ed	HILL, NANCY	23	S2	GYM7
9006	9006-015	N-Physical Education 2	S1	3(M-F)	Physical Ed	OUELLET, SCOTT	32	S1	GYM9
9006	9006-017	N-Physical Education 2	S1	5A(M-F)	Physical Ed	OUELLET, SCOTT	23	S1	GYM9
9006	9006-018	N-Physical Education 2	S2	3(M-F)	Physical Ed	OUELLET, SCOTT	29	S2	GYM9
9006	9006-019	N-Physical Education 2	S1	4A(M-F)	Physical Ed	KEEGAN, KRISTINA	31	S1	GYM9
9006	9006-020	N-Physical Education 2	S2	5A(M-F)	Physical Ed	OUELLET, SCOTT	24	S2	GYM9
9006	9006-021	N-Physical Education 2	S2	6B(M-F)	Physical Ed	OUELLET, SCOTT	24	S2	GYM9
9006	9006-023	N-Physical Education 2	S2	2(M-F)	Physical Ed	MCCARTHY, PAUL	28	S2	GYM7
9006	9006-024	N-Physical Education 2	S2	4A(M-F)	Physical Ed	MCCARTHY, PAUL	30	S2	GYM7
9011	9011-001	N-Health Education A	S1	1(W-F) 7(M	Health	CROWLEY, KATHLEEN	30	S1	704
9011	9011-005	N-Health Education A	S1	4A(M-F)	Health	NARDONI, KATHERINE	30	S1	515
9011	9011-006	N-Health Education A	S2	4A(M-F)	Health	NARDONI, KATHERINE	31	S2	515
9011	9011-023	N-Health Education A	S1	1(M-TU) 7(	Health	CROWLEY, KATHLEEN	30	S1	704
9011	9011-024	N-Health Education A	S2	1(W-F) 7(M	Health	CROWLEY, KATHLEEN	29	S2	704
9011	9011-028	N-Health Education A	S2	1(M-TU) 7(	Health	CROWLEY, KATHLEEN	30	S2	704
9011	9011-FA1	N-Health Education A	S1	3(M-F)	Health	CROWLEY, KATHLEEN	29	S1	704
9011	9011-FA11	N-Health Education A	S1	1(W-F) 7(M	Health	O'CONNOR, DENISE	28	S1	703
9011	9011-FA12	N-Health Education A	S2	1(W-F) 7(M	Health	O'CONNOR, DENISE	29	S2	703
9011	9011-FA13	N-Health Education A	S1	2(M-F)	Health	O'CONNOR, DENISE	27	S1	703
9011	9011-FA14	N-Health Education A	S2	2(M-F)	Health	O'CONNOR, DENISE	28	S2	703
9011	9011-FA15	N-Health Education A	S1	3(M-F)	Health	O'CONNOR, DENISE	29	S1	703
9011	9011-FA16	N-Health Education A	S2	3(M-F)	Health	O'CONNOR, DENISE	31	S2	703
9011	9011-FA17	N-Health Education A	S1	5A(M-F)	Health	O'CONNOR, DENISE	22	S1	703
9011	9011-FA18	N-Health Education A	S2	5A(M-F)	Health	O'CONNOR, DENISE	22	S2	703
9011	9011-FA19	N-Health Education A	S1	6B(M-F)	Health	O'CONNOR, DENISE	29	S1	703
9011	9011-FA2	N-Health Education A	S2	3(M-F)	Health	CROWLEY, KATHLEEN	29	S2	704
9011	9011-FA20	N-Health Education A	S2	6B(M-F)	Health	O'CONNOR, DENISE	29	S2	703
9011	9011-FA3	N-Health Education A	S1	4A(M-F)	Health	CROWLEY, KATHLEEN	30	S1	704
9011	9011-FA4	N-Health Education A	S2	4A(M-F)	Health	CROWLEY, KATHLEEN	30	S2	704
9011	9011-FA5	N-Health Education A	S1	5A(M-F)	Health	CROWLEY, KATHLEEN	23	S1	704
9011	9011-FA6	N-Health Education A	S2	5A(M-F)	Health	CROWLEY, KATHLEEN	22	S2	704

9011	9011-FA7	N-Health Education A	S1	4A(M-F)	Health	MELLONAKOS, JOHN	31	S1	618
9011	9011-FA8	N-Health Education A	S2	4A(M-F)	Health	MELLONAKOS, JOHN	30	S2	618
9011	9011-FA9	N-Health Education A	S2	6B(M-F)	Health	MELLONAKOS, JOHN	30	S2	618
9012	9012-001	N-Health Education B	S1	1(W-F) 7(M	Health	MELLONAKOS, JOHN	30	S1	618
9012	9012-002	N-Health Education B	S1	2(M-F)	Health	MELLONAKOS, JOHN	28	S1	618
9012	9012-003	N-Health Education B	S1	1(M-TU) 7(	Health	MELLONAKOS, JOHN	32	S1	618
9012	9012-004	N-Health Education B	S2	1(W-F) 7(M	Health	MELLONAKOS, JOHN	30	S2	618
9012	9012-005	N-Health Education B	S2	2(M-F)	Health	MELLONAKOS, JOHN	28	S2	618
9012	9012-006	N-Health Education B	S2	1(M-TU) 7(	Health	MELLONAKOS, JOHN	32	S2	618
9012	9012-007	N-Health Education B	S1	1(W-F) 7(M	Health	HEITZMAN, TIMOTHY	31	S1	514
9012	9012-008	N-Health Education B	S1	2(M-F)	Health	HEITZMAN, TIMOTHY	30	S1	514
9012	9012-009	N-Health Education B	S1	4A(M-F)	Health	HEITZMAN, TIMOTHY	31	S1	514
9012	9012-010	N-Health Education B	S1	5A(M-F)	Health	HEITZMAN, TIMOTHY	30	S1	514
9012	9012-011	N-Health Education B	S1	6B(M-F)	Health	HEITZMAN, TIMOTHY	31	S1	514
9012	9012-012	N-Health Education B	S2	1(W-F) 7(M	Health	HEITZMAN, TIMOTHY	30	S2	514
9012	9012-013	N-Health Education B	S2	2(M-F)	Health	HEITZMAN, TIMOTHY	29	S2	514
9012	9012-014	N-Health Education B	S2	4A(M-F)	Health	HEITZMAN, TIMOTHY	32	S2	514
9012	9012-015	N-Health Education B	S2	5A(M-F)	Health	HEITZMAN, TIMOTHY	30	S2	514
9012	9012-016	N-Health Education B	S2	6B(M-F)	Health	HEITZMAN, TIMOTHY	29	S2	514
9012	9012-017	N-Health Education B	S1	3(M-F)	Health	STAMATOYANAKIS, GEORGE	30	S1	316
9012	9012-018	N-Health Education B	S1	4A(M-F)	Health	STAMATOYANAKIS, GEORGE	30	S1	316
9012	9012-019	N-Health Education B	S1	5A(M-F)	Health	STAMATOYANAKIS, GEORGE	30	S1	316
9012	9012-020	N-Health Education B	S2	3(M-F)	Health	STAMATOYANAKIS, GEORGE	30	S2	316
9012	9012-021	N-Health Education B	S2	4A(M-F)	Health	STAMATOYANAKIS, GEORGE	31	S2	316
9012	9012-022	N-Health Education B	S2	5A(M-F)	Health	STAMATOYANAKIS, GEORGE	30	S2	316
9012	9012-023	N-Health Education B	S1	1(W-F) 7(M	Health	STAMATOYANAKIS, GEORGE	30	S1	316
9012	9012-032	N-Health Education B	S1	6B(M-F)	Health	MELLONAKOS, JOHN	27	S1	618
9023	9023-001	H-Medical Terminology & Body Systems A	S1	1(M-TU) 7(	Health	NARDONI, KATHERINE	27	S1	515
9023	9023-002	H-Medical Terminology & Body Systems A	S1	1(W-F) 7(M	Health	NARDONI, KATHERINE	26	S1	515
9023	9023-003	H-Medical Terminology & Body Systems A	S1	3(M-F)	Health	NARDONI, KATHERINE	26	S1	515
9024	9024-001	H-Medical Terminology & Body Systems B	S2	1(M-TU) 7(	Health	NARDONI, KATHERINE	24	S2	515
9024	9024-002	H-Medical Terminology & Body Systems B	S2	1(W-F) 7(M	Health	NARDONI, KATHERINE	25	S2	515
9024	9024-003	H-Medical Terminology & Body Systems B	S2	3(M-F)	Health	NARDONI, KATHERINE	25	S2	515
9042	9042-001	H-Careers in Health & Bioscience	S1	6B(M-F)	Health	MONTBLEAU, EILEEN	26	S1	658
9042	9042-002	H-Careers in Health & Bioscience	S1	1(W-F) 7(M	Health	MONTBLEAU, EILEEN	12	S1	658
9042	9042-003	H-Careers in Health & Bioscience	S2	6B(M-F)	Health	MONTBLEAU, EILEEN	26	S2	658
9042	9042-004	H-Careers in Health & Bioscience	S2	1(W-F) 7(M	Health	MONTBLEAU, EILEEN	24	S2	658
9052	9052-001	H-Medical Law & Ethics	S1	1(M-TU) 7(	Health	MONTBLEAU, EILEEN	26	S1	658
9052	9052-002	H-Medical Law & Ethics	S1	4A(M-F)	Health	MONTBLEAU, EILEEN	26	S1	658
9052	9052-003	H-Medical Law & Ethics	S1	5A(M-F)	Health	MONTBLEAU, EILEEN	25	S1	658
9062	9062-001	H-Current Health Issues	S2	4A(M-F)	Health	MONTBLEAU, EILEEN	26	S2	658
9062	9062-002	H-Current Health Issues	S2	5A(M-F)	Health	MONTBLEAU, EILEEN	25	S2	658
9062	9062-003	H-Current Health Issues	S2	5A(M-F)	Health	NARDONI, KATHERINE	21	S2	313
9083	9083-001	H-Nutrition & Disease	S1	5A(M-F)	Health	NARDONI, KATHERINE	25	S1	515
9092	9092-001	H-Senior Externship	S2	1(M-TU) 7(	Health	MONTBLEAU, EILEEN	17	S2	658
9201	9201-CL711	N-Freshman Seminar A	S1	1(M-TU) 7(	English	RZEPALA, MARTHA	25	S1	711
9201	9201-CL712	N-Freshman Seminar A	S1	1(M-TU) 7(	English	GALLAGHER, GLEN	23	S1	712

9201	9201-CL713	N-Freshman Seminar A	S1	1(M-TU) 7(	English	LEAHY, AMANDA	25	S1	713
9201	9201-CL714	N-Freshman Seminar A	S1	1(M-TU) 7(	English	JARACZ, EDWARD	24	S1	714
9201	9201-CL720	N-Freshman Seminar A	S1	1(M-TU) 7(	English	URBAN, KAITLIN	24	S1	720
9201	9201-CL723	N-Freshman Seminar A	S1	1(M-TU) 7(	English	PAREDES, ALICIA	23	S1	723
9201	9201-CL724	N-Freshman Seminar A	S1	1(M-TU) 7(	English	JARVIS, STEPHEN	24	S1	724
9201	9201-CL813	N-Freshman Seminar A	S1	1(M-TU) 7(	English	SANTARPIO, KRISANNE	22	S1	813
9201	9201-CL816	N-Freshman Seminar A	S1	1(M-TU) 7(	English	KEEFE, RYAN	24	S1	816
9201	9201-CL817	N-Freshman Seminar A	S1	1(M-TU) 7(	English	HOFFMAN, JACQUELINE	25	S1	817
9201	9201-CL818	N-Freshman Seminar A	S1	1(M-TU) 7(	English	OEUR, THY	23	S1	818
9201	9201-CL820	N-Freshman Seminar A	S1	1(M-TU) 7(	English	BURNHAM, KATHLEEN	25	S1	820
9201	9201-CL851	N-Freshman Seminar A	S1	1(M-TU) 7(	English	MONTEMURRO, ALISON	24	S1	851
9201	9201-CL853	N-Freshman Seminar A	S1	1(M-TU) 7(	English	MURPHY, NANCY	23	S1	853
9201	9201-CL855	N-Freshman Seminar A	S1	1(M-TU) 7(	English	COMEAU, PHILIP	22	S1	855
9201	9201-CL856	N-Freshman Seminar A	S1	1(M-TU) 7(	English	PRENTICE, HYACINTH	24	S1	856
9201	9201-CL857	N-Freshman Seminar A	S1	1(M-TU) 7(	English	GIORDANO, ANTHONY	24	S1	857
9201	9201-CL860	N-Freshman Seminar A	S1	1(M-TU) 7(	English	PIGEON, RITA	24	S1	860
9201	9201-CL904	N-Freshman Seminar A	S1	1(M-TU) 7(	English	RASMUSSEN, ROBERT	23	S1	904
9201	9201-CL905	N-Freshman Seminar A	S1	1(M-TU) 7(	English	CARON, LYNDSAY	22	S1	905
9201	9201-CL906	N-Freshman Seminar A	S1	1(M-TU) 7(	English	CULLEN, MARK	22	S1	906
9201	9201-CL907	N-Freshman Seminar A	S1	1(M-TU) 7(	English	PHAM, ALEXANDER	22	S1	907
9201	9201-CL908	N-Freshman Seminar A	S1	1(M-TU) 7(	English	MORALES, KERRI	24	S1	908
9201	9201-CL910	N-Freshman Seminar A	S1	1(M-TU) 7(	English	SCHULTZ, KRISTEN	23	S1	910
9201	9201-CL911	N-Freshman Seminar A	S1	1(M-TU) 7(	English	WINWARD, MARA	24	S1	911
9202	9202-CL711	N-Freshman Seminar B	S2	1(M-TU) 7(	English	RZEPALA, MARTHA	25	S2	711
9202	9202-CL712	N-Freshman Seminar B	S2	1(M-TU) 7(	English	GALLAGHER, GLEN	23	S2	712
9202	9202-CL713	N-Freshman Seminar B	S2	1(M-TU) 7(	English	LEAHY, AMANDA	25	S2	713
9202	9202-CL714	N-Freshman Seminar B	S2	1(M-TU) 7(	English	JARACZ, EDWARD	24	S2	714
9202	9202-CL720	N-Freshman Seminar B	S2	1(M-TU) 7(	English	URBAN, KAITLIN	24	S2	720
9202	9202-CL723	N-Freshman Seminar B	S2	1(M-TU) 7(	English	PAREDES, ALICIA	23	S2	723
9202	9202-CL724	N-Freshman Seminar B	S2	1(M-TU) 7(	English	JARVIS, STEPHEN	24	S2	724
9202	9202-CL813	N-Freshman Seminar B	S2	1(M-TU) 7(	English	SANTARPIO, KRISANNE	22	S2	813
9202	9202-CL816	N-Freshman Seminar B	S2	1(M-TU) 7(	English	KEEFE, RYAN	24	S2	816
9202	9202-CL817	N-Freshman Seminar B	S2	1(M-TU) 7(	English	HOFFMAN, JACQUELINE	25	S2	817
9202	9202-CL818	N-Freshman Seminar B	S2	1(M-TU) 7(	English	OEUR, THY	23	S2	818
9202	9202-CL820	N-Freshman Seminar B	S2	1(M-TU) 7(	English	BURNHAM, KATHLEEN	25	S2	820
9202	9202-CL851	N-Freshman Seminar B	S2	1(M-TU) 7(	English	MONTEMURRO, ALISON	24	S2	851
9202	9202-CL853	N-Freshman Seminar B	S2	1(M-TU) 7(	English	MURPHY, NANCY	23	S2	853
9202	9202-CL855	N-Freshman Seminar B	S2	1(M-TU) 7(	English	COMEAU, PHILIP	22	S2	855
9202	9202-CL856	N-Freshman Seminar B	S2	1(M-TU) 7(	English	PRENTICE, HYACINTH	24	S2	856
9202	9202-CL857	N-Freshman Seminar B	S2	1(M-TU) 7(	English	GIORDANO, ANTHONY	24	S2	857
9202	9202-CL860	N-Freshman Seminar B	S2	1(M-TU) 7(	English	PIGEON, RITA	24	S2	860
9202	9202-CL904	N-Freshman Seminar B	S2	1(M-TU) 7(	English	RASMUSSEN, ROBERT	23	S2	904
9202	9202-CL905	N-Freshman Seminar B	S2	1(M-TU) 7(	English	CARON, LYNDSAY	22	S2	905
9202	9202-CL906	N-Freshman Seminar B	S2	1(M-TU) 7(	English	CULLEN, MARK	22	S2	906
9202	9202-CL907	N-Freshman Seminar B	S2	1(M-TU) 7(	English	PHAM, ALEXANDER	22	S2	907
9202	9202-CL908	N-Freshman Seminar B	S2	1(M-TU) 7(	English	MORALES, KERRI	24	S2	908
9202	9202-CL910	N-Freshman Seminar B	S2	1(M-TU) 7(	English	SCHULTZ, KRISTEN	23	S2	910

9202	9202-CL911	N-Freshman Seminar B	S2	1(M-TU) 7(	English	WINWARD, MARA	24	S2	911
9205	9205-LL1	N-Latin Lyceum Seminar A	S1	1(M-TU) 7(	English	SELVAGGIO, STEPHANIE	25	S1	304
9205	9205-LL2	N-Latin Lyceum Seminar A	S1	1(M-TU) 7(	English	MURPHY, DANIEL	24	S1	333
9206	9206-LL1	N-Latin Lyceum Seminar B	S2	1(M-TU) 7(	English	SELVAGGIO, STEPHANIE	25	S2	304
9206	9206-LL2	N-Latin Lyceum Seminar B	S2	1(M-TU) 7(	English	MURPHY, DANIEL	24	S2	333
9321	9321-A13	H-AFJROTC 1 A - Aviation History	S1	3(M-F)	AFROTC	ANTOLINI, SUSAN	23	S1	008
9321	9321-A14	H-AFJROTC 1 A - Aviation History	S1	4A(M-F)	AFROTC	ANTOLINI, SUSAN	30	S1	008
9321	9321-A15	H-AFJROTC 1 A - Aviation History	S1	5A(M-F)	AFROTC	ANTOLINI, SUSAN	16	S1	008
9321	9321-S14	H-AFJROTC 1 A - Aviation History	S1	4A(M-F)	AFROTC	SMITH, DAVID	26	S1	007
9321	9321-S16	H-AFJROTC 1 A - Aviation History	S1	6B(M-F)	AFROTC	SMITH, DAVID	25	S1	007
9321	9321-S22	H-AFJROTC 1 A - Aviation History	S1	2(M-F)	AFROTC	SMITH, DAVID	28	S1	007
9322	9322-A13	H-AFJROTC 1 B - Aviation History	S2	3(M-F)	AFROTC	ANTOLINI, SUSAN	23	S2	008
9322	9322-A14	H-AFJROTC 1 B - Aviation History	S2	4A(M-F)	AFROTC	ANTOLINI, SUSAN	30	S2	008
9322	9322-A15	H-AFJROTC 1 B - Aviation History	S2	5A(M-F)	AFROTC	ANTOLINI, SUSAN	16	S2	008
9322	9322-S14	H-AFJROTC 1 B - Aviation History	S2	4A(M-F)	AFROTC	SMITH, DAVID	26	S2	007
9322	9322-S16	H-AFJROTC 1 B - Aviation History	S2	6B(M-F)	AFROTC	SMITH, DAVID	25	S2	007
9322	9322-S22	H-AFJROTC 1 B - Aviation History	S2	2(M-F)	AFROTC	SMITH, DAVID	28	S2	007
9323	9323-003	H-AFJROTC 2 A - Science of Flight	S1	5A(M-F)	AFROTC	CASILLI, KEVIN	20	S1	001
9323	9323-A16	H-AFJROTC 2 A - Science of Flight	S1	6B(M-F)	AFROTC	ANTOLINI, SUSAN	14	S1	008
9323	9323-C21	H-AFJROTC 2 A - Science of Flight	S1	1(M-TU) 7(	AFROTC	CASILLI, KEVIN	26	S1	001
9323	9323-C22	H-AFJROTC 2 A - Science of Flight	S1	2(M-F)	AFROTC	CASILLI, KEVIN	18	S1	001
9323	9323-C24	H-AFJROTC 2 A - Science of Flight	S1	4A(M-F)	AFROTC	CASILLI, KEVIN	26	S1	001
9324	9324-003	H-AFJROTC 2 B - Science of Flight	S2	5A(M-F)	AFROTC	CASILLI, KEVIN	20	S2	001
9324	9324-A16	H-AFJROTC 2 B - Science of Flight	S2	6B(M-F)	AFROTC	ANTOLINI, SUSAN	14	S2	008
9324	9324-C21	H-AFJROTC 2 B - Science of Flight	S2	1(M-TU) 7(	AFROTC	CASILLI, KEVIN	26	S2	001
9324	9324-C22	H-AFJROTC 2 B - Science of Flight	S2	2(M-F)	AFROTC	CASILLI, KEVIN	18	S2	001
9324	9324-C24	H-AFJROTC 2 B - Science of Flight	S2	4A(M-F)	AFROTC	CASILLI, KEVIN	26	S2	001
9325	9325-001	H-AFJROTC 3 A - Life Skills/Careers	S1	2(M-F)	AFROTC	IRONFIELD, EILEEN	24	S1	002
9325	9325-002	H-AFJROTC 3 A - Life Skills/Careers	S1	3(M-F)	AFROTC	IRONFIELD, EILEEN	24	S1	002
9326	9326-001	H-AFJROTC 3 B - Life Skills/Careers	S2	2(M-F)	AFROTC	IRONFIELD, EILEEN	24	S2	002
9326	9326-002	H-AFJROTC 3 B - Life Skills/Careers	S2	3(M-F)	AFROTC	IRONFIELD, EILEEN	24	S2	002
9327	9327-004	H-AFJROTC 4 A - Management/Cadet Corps	S1	1(W-F) 7(M	AFROTC	IRONFIELD, EILEEN	7	S1	002
9327	9327-A47	H-AFJROTC 4 A - Management/Cadet Corps	S1	1(W-F) 7(M	AFROTC	ANTOLINI, SUSAN	8	S1	008
9327	9327-C47	H-AFJROTC 4 A - Management/Cadet Corps	S1	1(W-F) 7(M	AFROTC	CASILLI, KEVIN	7	S1	001
9327	9327-S47	H-AFJROTC 4 A - Management/Cadet Corps	S1	1(W-F) 7(M	AFROTC	SMITH, DAVID	7	S1	007
9328	9328-004	H-AFJROTC 4 B - Management/Cadet Corps	S2	1(W-F) 7(M	AFROTC	IRONFIELD, EILEEN	7	S2	002
9328	9328-A47	H-AFJROTC 4 B - Management/Cadet Corps	S2	1(W-F) 7(M	AFROTC	ANTOLINI, SUSAN	8	S2	008
9328	9328-C47	H-AFJROTC 4 B - Management/Cadet Corps	S2	1(W-F) 7(M	AFROTC	CASILLI, KEVIN	7	S2	001
9328	9328-S47	H-AFJROTC 4 B - Management/Cadet Corps	S2	1(W-F) 7(M	AFROTC	SMITH, DAVID	7	S2	007
9337	9337-S41	H-AFJROTC 4 A - Principles of Management	S1	1(M-TU) 7(	AFROTC	SMITH, DAVID	19	S1	007
9338	9338-S41	H-AFJROTC 4 B - Principles of Management	S2	1(M-TU) 7(	AFROTC	SMITH, DAVID	19	S2	007
9351	9351-A13	H-AFJROTC Flight Commander 1	S1	3(M-F)	AFROTC	ANTOLINI, SUSAN	3	S1	008
9351	9351-A14	H-AFJROTC Flight Commander 1	S1	4A(M-F)	AFROTC	ANTOLINI, SUSAN	4	S1	008
9351	9351-A15	H-AFJROTC Flight Commander 1	S1	5A(M-F)	AFROTC	ANTOLINI, SUSAN	3	S1	008
9351	9351-A16	H-AFJROTC Flight Commander 1	S1	6B(M-F)	AFROTC	ANTOLINI, SUSAN	2	S1	008
9351	9351-C21	H-AFJROTC Flight Commander 1	S1	1(M-TU) 7(	AFROTC	CASILLI, KEVIN	3	S1	001
9351	9351-C22	H-AFJROTC Flight Commander 1	S1	2(M-F)	AFROTC	CASILLI, KEVIN	2	S1	001

9351	9351-C24	H-AFJROTC Flight Commander 1	S1	4A(M-F)	AFROTC	CASILLI, KEVIN	2	S1	001
9351	9351-C25	H-AFJROTC Flight Commander 1	S1	5A(M-F)	AFROTC	CASILLI, KEVIN	2	S1	001
9351	9351-D32	H-AFJROTC Flight Commander 1	S1	2(M-F)	AFROTC	IRONFIELD, EILEEN	3	S1	002
9351	9351-D33	H-AFJROTC Flight Commander 1	S1	3(M-F)	AFROTC	IRONFIELD, EILEEN	2	S1	002
9351	9351-S14	H-AFJROTC Flight Commander 1	S1	4A(M-F)	AFROTC	SMITH, DAVID	3	S1	007
9351	9351-S16	H-AFJROTC Flight Commander 1	S1	6B(M-F)	AFROTC	SMITH, DAVID	3	S1	007
9351	9351-S22	H-AFJROTC Flight Commander 1	S1	2(M-F)	AFROTC	SMITH, DAVID	2	S1	007
9351	9351-S41	H-AFJROTC Flight Commander 1	S1	1(M-TU) 7(	AFROTC	SMITH, DAVID	1	S1	007
9352	9352-A13	H- AFJROTCFlight Commander 2	S2	3(M-F)	AFROTC	ANTOLINI, SUSAN	3	S2	008
9352	9352-A14	H- AFJROTCFlight Commander 2	S2	4A(M-F)	AFROTC	ANTOLINI, SUSAN	4	S2	008
9352	9352-A15	H- AFJROTCFlight Commander 2	S2	5A(M-F)	AFROTC	ANTOLINI, SUSAN	3	S2	008
9352	9352-A16	H- AFJROTCFlight Commander 2	S2	6B(M-F)	AFROTC	ANTOLINI, SUSAN	2	S2	008
9352	9352-C21	H- AFJROTCFlight Commander 2	S2	1(M-TU) 7(	AFROTC	CASILLI, KEVIN	3	S2	001
9352	9352-C22	H- AFJROTCFlight Commander 2	S2	2(M-F)	AFROTC	CASILLI, KEVIN	2	S2	001
9352	9352-C24	H- AFJROTCFlight Commander 2	S2	4A(M-F)	AFROTC	CASILLI, KEVIN	2	S2	001
9352	9352-C25	H- AFJROTCFlight Commander 2	S2	5A(M-F)	AFROTC	CASILLI, KEVIN	2	S2	001
9352	9352-D32	H- AFJROTCFlight Commander 2	S2	2(M-F)	AFROTC	IRONFIELD, EILEEN	3	S2	002
9352	9352-D33	H- AFJROTCFlight Commander 2	S2	3(M-F)	AFROTC	IRONFIELD, EILEEN	2	S2	002
9352	9352-S14	H- AFJROTCFlight Commander 2	S2	4A(M-F)	AFROTC	SMITH, DAVID	3	S2	007
9352	9352-S16	H- AFJROTCFlight Commander 2	S2	6B(M-F)	AFROTC	SMITH, DAVID	3	S2	007
9352	9352-S22	H- AFJROTCFlight Commander 2	S2	2(M-F)	AFROTC	SMITH, DAVID	2	S2	007
9352	9352-S41	H- AFJROTCFlight Commander 2	S2	1(M-TU) 7(	AFROTC	SMITH, DAVID	1	S2	007
9401	9401-001	N-Upward Bound A	S1	2(M-F)	Administration	LUZ, DIANNE	3	S1	125
9401	9401-002	N-Upward Bound A	S1	3(M-F)	Administration	LUZ, DIANNE	9	S1	125
9401	9401-003	N-Upward Bound A	S1	4A(M-F)	Administration	LUZ, DIANNE	9	S1	125
9401	9401-004	N-Upward Bound A	S1	5B(M-F)	Administration	LUZ, DIANNE	12	S1	125
9401	9401-005	N-Upward Bound A	S1	6B(M-F)	Administration	LUZ, DIANNE	6	S1	125
9402	9402-001	N-Upward Bound B	S2	2(M-F)	Administration	LUZ, DIANNE	5	S2	125
9402	9402-002	N-Upward Bound B	S2	3(M-F)	Administration	LUZ, DIANNE	9	S2	125
9402	9402-003	N-Upward Bound B	S2	4A(M-F)	Administration	LUZ, DIANNE	10	S2	125
9402	9402-004	N-Upward Bound B	S2	5B(M-F)	Administration	LUZ, DIANNE	12	S2	125
9402	9402-005	N-Upward Bound B	S2	6B(M-F)	Administration	LUZ, DIANNE	6	S2	125
9901	9901-101	Modified Day 1	S1	1(M-TU) 7(	Administration	LEW, MARK	6	S1	CAFE
9901	9901-101FLT	Modified Day 1	S1	1(M-TU) 7(	Administration	LEW, MARK	0	S1	CAFE2
9901	9901-107FLT	Modified Day 1	S1	1(M-TU) 7(	Administration	LEW, MARK	0	S1	CAFE2
9901	9901-201	Modified Day 1	S2	1(M-TU) 7(	Administration	LEW, MARK	4	S2	CAFE
9902	9902-102	Modified Day 2	S1	2(M-F)	Administration	LEW, MARK	2	S1	CAFE
9902	9902-201FLT	Modified Day 2	S2	2(M-F)	Administration	LEW, MARK	0	S2	CAFE
9902	9902-203	Modified Day 2	S2	2(M-F)	Administration	LEW, MARK	1	S2	CAFE
9902	9902-207FLT	Modified Day 2	S2	2(M-F)	Administration	LEW, MARK	0	S2	CAFE2
9903	9903-103	Modified Day 3	S1	3(M-F)	Administration	LEW, MARK	0	S1	CAFE
9903	9903-203	Modified Day 3	S2	3(M-F)	Administration	LEW, MARK	0	S2	CAFE2
9904	9904-104A	Modified Day 4	S1	4A(M-F)	Administration	LEW, MARK	1	S1	CAFE
9904	9904-204A	Modified Day 4	S2	4A(M-F)	Administration	LEW, MARK	1	S2	CAFE2
9905	9905-105A	Modified Day 5	S1	5A(M-F)	Administration	LEW, MARK	1	S1	CAFE2
9905	9905-205A	Modified Day 5	S2	5A(M-F)	Administration	LEW, MARK	0	S2	CAFE
9906	9906-106A	Modified Day 6	S1	6A(M-F)	Administration	LEW, MARK	0	S1	CAFE

9906	9906-106B	Modified Day 6	S1	6B(M-F)	Administration	LEW, MARK	2	S1	CAFE2
9906	9906-206A	Modified Day 6	S2	6A(M-F)	Administration	LEW, MARK	0	S2	CAFE
9906	9906-206B	Modified Day 6	S2	6B(M-F)	Administration	LEW, MARK	1	S2	CAFE
9907	9907-107	Modified Day 7	S1	1(W-F) 7(M	Administration	LEW, MARK	6	S1	CAFE
9907	9907-207	Modified Day 7	S2	1(W-F) 7(M	Administration	LEW, MARK	3	S2	CAFE2
9991	9991-FA1	N-Lunch	S1	L1(M-F)	Administration	LEW, MARK	192	S1	CAFE2
9991	9991-FA2	N-Lunch	S1	L2(M-F)	Administration	LEW, MARK	204	S1	CAFE2
9991	9991-FA3	N-Lunch	S1	L3(M-F)	Administration	LEW, MARK	96	S1	CAFE2
9991	9991-FA4	N-Lunch	S1	L4(M-F)	Administration	LEW, MARK	126	S1	CAFE2
9991	9991-L1	N-Lunch	S1	L1(M-F)	Administration	LEW, MARK	584	S1	CAFE
9991	9991-L2	N-Lunch	S1	L2(M-F)	Administration	LEW, MARK	710	S1	CAFE
9991	9991-L3	N-Lunch	S1	L3(M-F)	Administration	LEW, MARK	716	S1	CAFE
9991	9991-L4	N-Lunch	S1	L4(M-F)	Administration	LEW, MARK	468	S1	CAFE
9991	9991-SP2	N-Lunch	S1	L2(M-F)	Administration	LEW, MARK	24	S1	CAFE
9992	9992-FA1	N-Lunch	S2	L1(M-F)	Administration	LEW, MARK	192	S2	CAFE2
9992	9992-FA2	N-Lunch	S2	L2(M-F)	Administration	LEW, MARK	204	S2	CAFE2
9992	9992-FA3	N-Lunch	S2	L3(M-F)	Administration	LEW, MARK	98	S2	CAFE2
9992	9992-FA4	N-Lunch	S2	L4(M-F)	Administration	LEW, MARK	126	S2	CAFE2
9992	9992-L1	N-Lunch	S2	L1(M-F)	Administration	LEW, MARK	583	S2	CAFE
9992	9992-L2	N-Lunch	S2	L2(M-F)	Administration	LEW, MARK	702	S2	CAFE
9992	9992-L3	N-Lunch	S2	L3(M-F)	Administration	LEW, MARK	717	S2	CAFE
9992	9992-L4	N-Lunch	S2	L4(M-F)	Administration	LEW, MARK	469	S2	CAFE
9992	9992-SP2	N-Lunch	S2	L2(M-F)	Administration	LEW, MARK	24	S2	CAFE
X01S	X01S-101	Report to Guidance for Schedule Adjustment	S1	1(M-TU) 7(	Administration		15	S1	
X01S	X01S-102	Report to Guidance for Schedule Adjustment	S1	2(M-F)	Administration		10	S1	
X01S	X01S-103	Report to Guidance for Schedule Adjustment	S1	3(M-F)	Administration		5	S1	
X01S	X01S-104A	Report to Guidance for Schedule Adjustment	S1	4A(M-F)	Administration		4	S1	
X01S	X01S-104B	Report to Guidance for Schedule Adjustment	S1	4B(M-F)	Administration		2	S1	
X01S	X01S-105A	Report to Guidance for Schedule Adjustment	S1	5A(M-F)	Administration		2	S1	
X01S	X01S-105B	Report to Guidance for Schedule Adjustment	S1	5B(M-F)	Administration		2	S1	
X01S	X01S-106A	Report to Guidance for Schedule Adjustment	S1	6A(M-F)	Administration		3	S1	
X01S	X01S-106B	Report to Guidance for Schedule Adjustment	S1	6B(M-F)	Administration		2	S1	
X01S	X01S-107	Report to Guidance for Schedule Adjustment	S1	1(W-F) 7(M	Administration		10	S1	
X01S	X01S-201	Report to Guidance for Schedule Adjustment	S2	1(M-TU) 7(	Administration		31	S2	
X01S	X01S-202	Report to Guidance for Schedule Adjustment	S2	2(M-F)	Administration		26	S2	
X01S	X01S-203	Report to Guidance for Schedule Adjustment	S2	3(M-F)	Administration		17	S2	
X01S	X01S-204A	Report to Guidance for Schedule Adjustment	S2	4A(M-F)	Administration		8	S2	
X01S	X01S-204B	Report to Guidance for Schedule Adjustment	S2	4B(M-F)	Administration		6	S2	
X01S	X01S-205A	Report to Guidance for Schedule Adjustment	S2	5A(M-F)	Administration		6	S2	
X01S	X01S-205B	Report to Guidance for Schedule Adjustment	S2	5B(M-F)	Administration		6	S2	
X01S	X01S-206A	Report to Guidance for Schedule Adjustment	S2	6A(M-F)	Administration		1	S2	
X01S	X01S-206B	Report to Guidance for Schedule Adjustment	S2	6B(M-F)	Administration		3	S2	
X01S	X01S-207a	Report to Guidance for Schedule Adjustment	S2	1(W-F) 7(M	Administration		25	S2	
X01S	X01S-208	Report to Guidance for Schedule Adjustment	FY	ADV(M-F)	Administration		9	FY	
XADMIN	XADMIN-Boyd1	Admin Prep	FY	1(M-TU) 7(	Administration	OUELLET, SCOTT	0	FY	
XCMN	XCMN-1-2	Common Planning	FY	1(M-TU) 7(	Administration		0	FY	
XCMN	XCMN-1-3	Common Planning	FY	1(M-TU) 7(	Administration		0	FY	

XCMN	XCMN-1-7	Common Planning	FY	1(M-TU) 7(	Administration		0	FY
XCMN	XCMN-2-1	Common Planning	FY	2(M-F)	Administration		0	FY
XCMN	XCMN-2-2	Common Planning	FY	2(M-F)	Administration		0	FY
XCMN	XCMN-4A-1	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-2	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-3	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-4	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-5	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-6	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-4A-8	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-6B-1	Common Planning	FY	6B(M-F)	Administration		0	FY
XCMN	XCMN-6B-5	Common Planning	FY	6B(M-F)	Administration		0	FY
XCMN	XCMN-7-1	Common Planning	FY	1(W-F) 7(M	Administration		0	FY
XCMN	XCMN-CL7	Common Planning	FY	3(M-F)	Administration		0	FY
XCMN	XCMN-CL8	Common Planning	FY	4A(M-F)	Administration		0	FY
XCMN	XCMN-CL9	Common Planning	FY	6B(M-F)	Administration		0	FY
XDUTY	XDUTY-1 Dept	Duty	FY	1(M-TU) 7(	Administration		0	FY
XDUTY	XDUTY-BOYD7	Duty	FY	1(W-F) 7(M	Administration	OUELLET, SCOTT	0	FY
XDUTY	XDUTY-Boyd1	Duty	FY	1(M-TU) 7(	Administration	PATTERSON, TIMOTHY	0	FY
XDUTY	XDUTY-Boyd7	Duty	FY	1(W-F) 7(M	Administration	CASEY, DAVID	0	FY
XPool	XPool-001	Pool Coverage	FY	1(M-TU) 7(	Administration	OTERO, MEARA	0	FY
XPool	XPool-004A	Pool Coverage	FY	4A(M-F)	Administration	OTERO, MEARA	0	FY
XPool	XPool-005A	Pool Coverage	FY	5A(M-F)	Administration	OTERO, MEARA	0	FY
XPool	XPool-006B	Pool Coverage	FY	6B(M-F)	Administration	OTERO, MEARA	0	FY
XPool	XPool-007	Pool Coverage	FY	1(W-F) 7(M	Administration	OTERO, MEARA	0	FY

NEW ENGLAND ASSOCIATION OF SCHOOLS AND COLLEGES

COMMITTEE ON PUBLIC SECONDARY SCHOOLS

REPORT OF THE VISITING COMMITTEE

Lowell High School

Lowell, MA

October 18-21, 2015

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STATEMENT ON LIMITATIONS

THE DISTRIBUTION, USE, AND SCOPE OF THE VISITING COMMITTEE REPORT

The Committee on Public Secondary Schools of the New England Association of Schools and Colleges considers this visiting committee report of Lowell High School to be a privileged document submitted by the Committee on Public Secondary Schools of the New England Association of Schools and Colleges to the principal of the school and by the principal to the state department of education. Distribution of the report within the school community is the responsibility of the school principal. The final visiting committee report must be released in its entirety within sixty days (60) of its completion to the superintendent, school board, public library or town office, and the appropriate news media.

The prime concern of the visiting committee has been to assess the quality of the educational program at Lowell High School in terms of the Committee's Standards for Accreditation. Neither the total report nor any of its subsections is to be considered an evaluation of any individual staff member but rather a professional appraisal of the school as it appeared to the visiting committee.

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INTRODUCTION

The New England Association of Schools and Colleges (NEASC) is the oldest of the six regional accrediting agencies in the United States. Since its inception in 1885, the Association has awarded membership and accreditation to those educational institutions in the six-state New England region who seek voluntary affiliation.

The governing body of the Association is its Board of Trustees which supervises the work of four Commissions: the Commission on Institutions of Higher Education (CIHE); the Commission on Independent Schools (CIS); the Commission on Public Schools which is comprised of the Committee on Public Secondary Schools (CPSS), the Committee on Technical and Career Institutions (CTCI), and the Committee on Public Elementary and Middle Schools (CPEMS); and the Commission on International Education (CIE).

As the responsible agency for matters of the evaluation and accreditation of public secondary school member institutions, CPSS requires visiting committees to assess the degree to which the evaluated schools meet the qualitative Standards for Accreditation of the Committee. Those Standards are:

Teaching and Learning Standards
- Core Values, Beliefs, and Learning Expectations
- Curriculum
- Instruction
- Assessment of and for Student Learning

Support of Teaching and Learning Standards
- School Culture and Leadership
- School Resources for Learning
- Community Resources for Learning

The accreditation program for public schools involves a threefold process: the self-study conducted by the local professional staff, the on-site evaluation conducted by the Committee's visiting committee, and the follow-up program carried out by the school to implement the findings of its own self-study and the valid recommendations of the visiting committee and those identified by the Committee in the Follow-Up process. Continued accreditation requires that the school be reevaluated at least once every ten years and that it show continued progress addressing identified needs.

Preparation for the Accreditation Visit - The School Self-Study

A steering committee of the professional staff was appointed to supervise the myriad details inherent in the school's self-study. At Lowell High School, a committee of eleven members, including the headmaster, supervised all aspects of the self-study. The steering committee assigned all teachers and administrators in the school to appropriate subcommittees to determine the quality of all programs, activities, and facilities available for young people. The self-study of Lowell High School extended over a period of 13 months from June 2014 to June 2015. The visiting committee was pleased to note that the entire professional staff of over 250 participated in the self-study deliberations.

Public schools evaluated by the Committee on Public Secondary Schools must complete appropriate materials to assess their adherence to the Standards for Accreditation and the quality of their educational offerings in light of the school's mission, learning expectations, and unique student population. In addition to using the Self-Study Guides developed by a representative group of New England educators and approved by the Committee, Lowell High School also used questionnaires developed by The Research Center at Endicott College to reflect the concepts contained in the Standards for Accreditation. These materials provided discussion items for a comprehensive assessment of the school by the professional staff during the self-study.

It is important that the reader understand that every subcommittee appointed by the steering committee was required to present its report to the entire professional staff for approval. No single report developed in the self-study became part of the official self-study documents until it had been approved by the entire professional staff.

The Process Used by the Visiting Committee

A visiting committee of 23 evaluators was assigned by the Committee on Public Secondary Schools to evaluate the Lowell High School. The Committee members spent four days in Lowell, reviewed the self-study documents which had been prepared for their examination, met with administrators, teachers, other school and system personnel, students and parents, shadowed students, visited classes, and interviewed teachers to determine the degree to which the school meets the Committee's Standards for Accreditation. Since the evaluators represented public schools, central office administrators, principals, teachers and guidance and special education personnel diverse points of view were brought to bear on the evaluation of Lowell High School.

The visiting committee built its professional judgment on evidence collected from the following sources:

- review of the school's self-study materials
- sixty-nine hours shadowing twenty-three students for a half day
- a total of 18 hours of classroom observation (in addition to time shadowing students)
- numerous informal observations in and around the school
- tours of the facility
- individual meetings with thirty-one teachers about their work, instructional approaches, and the assessment of student learning
- group meetings with students, parents, school and district administrators, and teachers
- the examination of student work including a selection of work collected by the school

Each conclusion in the report was agreed to by visiting committee consensus. Sources of evidence for each conclusion drawn by the visiting committee appear in parenthesis in the Standards sections of the report. The seven Standards for Accreditation reports include commendations and recommendations that in the visiting committee's judgment will be helpful to the school as it works to improve teaching and learning and to better meet Committee Standards.

The visiting team was pleased with the frankness of the school's self-study documents. The Lowell High School community entered into the self-study with honesty and commitment. The participants were not afraid to judge themselves against the demands of the Standards for Accreditation. They identified and acknowledged areas needing attention and in turn spoke glowingly regarding those areas where the school is more than adequately adhering to the Standards for Accreditation. The self-study displayed a good and growing grasp of the major thrusts and features of the Standards for Accreditation. During the visit Lowell High School personnel were forthright as well in responding to the team members' inquiries during the teacher interviews on Sunday and in the various group meeting during the school day on Monday and Tuesday. Because of the quality of the self-study and the full participation by Lowell High School personnel at the various meetings, the visiting team was able to spend the vast

majority of its time evaluating and discussing the level of the school's adherence to the Standard and its identified strengths and needs and therefore spent a minimum of time chasing data.

Lowell High School is at a critical point in its existence. It has capable leadership at both the school and the district level; it has a dedicated faculty and support staff. It has a student body that displays pride in its community and in the school and in their accomplishments. The following evaluation will detail major accomplishments and will identify existing shortcomings. Those shortcomings are remediable. The community to its credit has embarked upon a plan to address the shortcomings and the impediments that the high school site and plant places in the way of student learning. Those issues are obvious and acknowledged by the school community. The school community does not dispute the identified needs, particularly in terms of the facility's inability to provide resources that fully support 21st century education curriculum and instructional practice. The building has been well cared for and enhanced somewhat with piecemeal but needed renovations undertaken as needs arise and as budgets allow, but so many of the infrastructure issues significantly impede the delivery of services that that fully support 21st century education curriculum and instructional practice. The visiting committee was pleased to have encountered during our visit committed, focused administrators and dedicated educators who do their best to work around these facility and resource shortcomings.

This report of the findings of the visiting committee will be forwarded to the Committee on Public Secondary Schools which will make a decision on the accreditation of Lowell High School.

School and Community Summary

The City of Lowell, Middlesex County, is located 30 miles northwest of Boston in the Merrimack Valley region of Massachusetts. Lowell is the fourth largest city in the Commonwealth of Massachusetts with a population of 108,861 contained in 14.54 square miles, making its population density 7,842 per square mile. The population is very diverse: 59.1% white, 20.1% Asian, 14.2% Hispanic, and 6.6% African American. Twenty five percent of Lowell's population was born in foreign countries, almost twice the state average.

The socioeconomic profile of the city is as diverse as its population. The per capita income is $22,278. The city's median household income is $45,271 compared to the $65,339 state average. The percentage of families living below poverty level is 19.1%. The number of residents employed is 57,976; the unemployment rate in Lowell is 7.6%. The total employed in Lowell breaks down as: educational services and healthcare 12,964; services 11,730; manufacturing 8,562; trade 6,842; government 6,552; construction 2,698; transportation, communication, and public utilities 2,406; all others 6,222. (US Census Bureau – http://factfinder2.census.gov).

The Commonwealth of Massachusetts's average expenditure per pupil is $14,021. The city of Lowell's per pupil expenditure is $13,167. Educational funding is obtained through the following sources: state 78.62%, federal 9.47%, and 8.35% local. The allocation of local property tax to the public schools is 48.05%.

The total number of students in the Lowell Public School District is 14,075 for the 2014-15 school year in 13 elementary schools, 7 middle schools, 1 comprehensive K-8 school, 4 alternative schools, and one high school.

The ethnic/racial/cultural composition of the student body in the Lowell Public Schools makes it one of the most diverse districts in the Commonwealth: African American students 7.1%, Asian students 29.4%, Hispanic students 30.1%, white students 30.1%, and all other students 3.2%. In the district, 75.1% of the student body qualifies as low-income, 15.1% are classified as Special Education (SPED), and the English language learner (ELL) population is 26.6%.

Enrollment at Lowell High School, which includes grades 9 through 12, is 3,034 students for the 2014-15 school year, comprised 1530 males and 1504 females: 889 9th graders, 792 10th graders, 687 11th graders and 645 12th graders, and 21 SPED students beyond grade 12. The two-year average dropout rate at LHS is 3.25%. The two-year average graduation rate is 74.9%.

Teachers number 215 at Lowell High School, creating a student/teacher ratio of 14.2:1. The two-year average staff attendance rate is 94.26%. Individual teachers teach 5 classes a day, facilitate an Advisory for 20 minutes a day, and have one duty and one prep period each day. They carry an average load of 140 students, as the school strives to create class sizes the fall between 26-28 students. Class sizes, however, fluctuate greatly due to the school's substantially separate programs and the range of

specialized courses throughout the building. Students at Lowell High School attend school for 180 days and for a minimum of 975 hours. There are five different levels of courses at Lowell High School: Advanced Placement (AP)/Dual Enrollment (DE), High Honors (HH), Honors (H), College (C), and non-weighted.

Incoming freshmen students are predominantly housed in one building of the high school that serves as the Freshman Academy, which has its own Director. Freshman Academy students are taught by a team of teachers in a cluster of four courses: English, social studies, math, and science. The interdisciplinary teams meet weekly to determine strategies for maximizing potential of the students in their cluster. This cluster environment is most responsive to the emerging needs and talents of students who are making the transition to a high school setting. Freshman Academy students also take a non-weighted Seminar course which focuses on a range of topics throughout the year, including establishing goals, learning solid study habits, exploring career interests and pathways, and being exposed to financial literacy. The challenges students meet and the experiences they gain in the Freshmen Academy will help ensure their continued success at Lowell High School.

Lowell also has a number of Pathway Programs directly connected to the skills and knowledge that students need for post-secondary education and careers. The Pathway Programs use an applied hands-on/minds-on approach that is connected to real-world work experiences and provide opportunities for all students and their different abilities, interests, and talents. The Pathway Programs include: Air Force Junior ROTC, Business Marketing and Finance, Communications, Culinary Arts, Engineering, Fine Arts, Health and Bioscience, and Public Service and Civic Engagement. Students in these programs also have access to some unique facilities including: a newly renovated restaurant, the Jeanne D'Arc Credit Union, the 1826 School Store, an in-house television/media center, and state-of-the-art robotics equipment.

Another significant program within the high school is the Latin Lyceum, an academically rigorous exam program that challenges students to an intellectually stimulating environment. Latin Lyceum students participate in an intensive program aimed at rigorous and integrated academic preparation in a classical education model.

Lowell High School has established effective partnerships with two of the local institutions of higher education. Juniors and seniors may enroll in Dual Enrollment courses, taught on the Lowell High campus, from Middlesex Community College and the University of Massachusetts Lowell at no cost. For the 2014-2015 school year, 156 students took a total of 401 Dual Enrollment courses, earning a total of 1237 college credits translating into savings of $217,712.

Lowell High has established strong partnerships with several community organizations. The Career Center of Lowell visits Lowell High every Wednesday in the Lowell High College and Career Center to link students to part-time job opportunities. The Career center also conducts an annual job fair in the Lowell High cafe during the spring for students interested in summer opportunities. Community Team

Work plays an important role in many of our students in greatest need by providing assistance to students and families with housing, food, and home fuel needs.

The academic awards at Lowell High School are numerous and varied. The most traditional awards are the Carney medals, first awarded in 1859 and named in honor of James C. Carney of the Lowell Institution for Savings. Carney Medals are awarded to the top three male and female graduating students for excellence in character, scholarship, and attendance. The Senator Paul E. Tsongas (LHS Class of '58) Award provides 2 full scholarships to University of Massachusetts Lowell for both undergraduate and graduate study. In addition, Lowell High School annually awards over $400,000 of in-house scholarships to graduating seniors.

Lowell High students are committed, life-long learners as demonstrated by their post-secondary educational choices: 85% attend college; 47% attend 4-year colleges; 38% attend 2-year colleges; and 12% enter directly to the workforce.

LOWELL HIGH SCHOOL MISSION STATEMENT

Commitment to excellence in <u>everything</u> we do: academics, activities and citizenship.

Lowell High School provides a secure and cooperative environment where the emphasis is on mutual respect, curiosity, the free exchange of ideas, and the appreciation of education both as a process and a means to betterment.

We are a community

- That values a curriculum incorporating the best practices of both traditional and contemporary instruction.
- That creates and supports an atmosphere promoting high expectations for student achievement.
- That believes student accomplishment is a shared responsibility of students, parents, staff, administration, school committee, and community.
- That provides all students the curriculum to meet school and state graduation requirements, and assesses learning continuously in a variety of ways including mandatory state testing.

LHS EXPECTATIONS FOR STUDENT LEARNING

Lowell High School expects all students

- To attain an understanding of the educational standards, core knowledge, skills, and concepts defined by the Massachusetts Curriculum Frameworks.
- To take increasing responsibility for educational decisions on a daily and long-term basis.
- To complete academic work both independently and cooperatively in a productive manner.
- To think critically and solve problems using inductive and deductive reasoning.
- To read effectively and communicate ideas and information using a variety of formats.
- To develop an ability to use a variety of mediums—including the creative and the technological—in the process of learning, and demonstrate their acquired learning through use of those mediums.
- To demonstrate respect for individual differences and appreciation for the diversity of a multicultural world.
- To understand and demonstrate a sense of community.

Core Values

- Responsibility
- Integrity
- Determination
- Engagement
- Respect

COMMITTEE ON PUBLIC SECONDARY SCHOOLS

TEACHING AND LEARNING STANDARDS

CORE VALUES, BELIEFS, AND LEARNING EXPECTATIONS

CURRICULUM

INSTRUCTION

ASSESSMENT OF AND FOR STUDENT LEARNING

1 Core Values, Beliefs, and Learning Expectations

Effective schools identify core values and beliefs about learning that function as explicit foundational commitments to students and the community. Decision-making remains focused on and aligned with these critical commitments. Core values and beliefs manifest themselves in research-based, school-wide 21st century learning expectations. Every component of the school is driven by the core values and beliefs and supports all students' achievement of the school's learning expectations.

1. The school community engages in a dynamic, collaborative, and inclusive process informed by current research-based best practices to identify and commit to its core values and beliefs about learning.

2. The school has challenging and measurable 21st century learning expectations for all students which address academic, social, and civic competencies, and are defined by school-wide analytic rubrics that identify targeted high levels of achievement.

3. The school's core values, beliefs, and 21st century learning expectations are actively reflected in the culture of the school, drive curriculum, instruction, and assessment in every classroom, and guide the school's policies, procedures, decisions, and resource allocations.

4. The school regularly reviews and revises its core values, beliefs, and 21st century learning expectations based on research, multiple data sources, as well as district and school community priorities.

Conclusions

The school community engaged in a dynamic, collaborative, and a partially inclusive process informed by current research-based best practices to identify and commit to its core values and beliefs about learning. While Lowell High School engaged in a collaborative process, informed by current research-based best practices to identify and commit to its core values in the Freshman Academy, the entire school community did not engage in a dynamic and inclusive process to identify and commit to their beliefs about learning. Two consultant programs, Positive Behavior Intervention & Support (PBIS) and the University of Connecticut's Center for Behavioral Education and Research, supported the Freshman Academy in its implementation of the pilot program. The participants involved in this process documented the 20+ meetings of the PBIS committee and developed the PBIS manual which was the end product of this work. In November 2012, 80 percent of the Freshman Academy faculty voted to accept the core values developed in the process. In June 2015, over 80 percent of the entire school's staff voted favorably to accept the core values that were originally accepted by the Freshman Academy. When members of the school community are asked about core values, many referenced the acronym "RIDER" (responsibility, integrity, determination, engagement, and respect) and then referenced their ID badges which display Lowell High School's core values. While there is ample evidence that core values were identified and adopted within the Freshman Academy, any momentum driven by them to align core values and beliefs within the entire school community is not so clearly evident. The faculty discussed the core values in a May 2015 assembly and then voted on and accepted them in June of 2015. The work to integrate the core values across the entire school community has been happening this current year. The school established committee a and it has spent time during early release days looking at the PBIS work in the FA and making a plan to share out with the entire faculty later this year. The greater the level of involvement in the identification of a school's core values, the greater the level of commitment will be as the potential driving force in all school endeavors. (self-study, panel presentation, Endicott survey, teacher interviews, students, parents, school leadership, teachers)

The school has some challenging and measurable 21st century learning expectations for all students which address academic, social, and civic competencies, but are not yet defined by school-wide analytic rubrics that identify targeted high levels of achievement. Lowell's levels of achievement of the school's eight 21st century learning expectations are currently not all measurable nor are they defined by school-wide analytic rubrics that identify targeted high levels of achievement. Lowell High School has identified eight challenging learning expectations for every student and some are not measurable. For example, "to attain an understanding of the educational standards" and "to read effectively" are not specific and measureable. Furthermore, common analytic rubrics that can be used on a school-wide basis and that identify high levels of achievement are necessary to measure the 21st century learning expectations; such rubrics and their use were not in evidence in classrooms. Instead, the school uses a range of rubrics within departments, for example, a history research paper rubric and World-Class Instructional Design (WiDA) rubrics, that are disparate in style and format and contain no common language with other rubrics. As the Endicott survey indicates, only 33.5 percent of teachers is in

agreement with the statement, "The school has adopted school-wide analytic rubrics that define all the 21st century learning expectations." Teachers and administrators agree that the school's 21st century learning expectations and corresponding rubrics require additional development time in order for the school to create and implement them effectively in all grade levels. Social and civic competencies are identified and located in murals, banners, and signs in high traffic areas of the school through the RIDER acronym. During the examination of student work, any reference to 21st century learning expectations was rare. When 21st century learning expectations are not assessed through analytic rubrics, students are not provided concrete and consistent feedback as to how to improve their essential skills to be successful in the 21st century. (self-study, student shadowing, panel presentation, facility tour, student work, teacher interviews, students, Endicott survey, school leadership)

The school's core values and beliefs, as summarized in the RIDER acronym, are actively reflective of the culture of the school, its curriculum, its instruction, and its assessment in every classroom, and guide the school's policies, procedures, decisions, and resource allocations, but that is much less the case for the school's 21st century learning expectations. The work done to identify the RIDER acronym clearly reflects the beliefs prevalent in the Lowell High School community at large. While the school's recently developed core values are actively reflected in the culture of the Freshman Academy and to a growing extent in the school's upper grades, the school's 21st century learning expectations are not actively reflected in the culture of the school and do not sufficiently drive curriculum, instruction, assessment, the school's policies, procedures, decisions, and resource allocations. The RIDER values are beginning to be embraced by the school at-large. Some of the expectations for student learning appear in curriculum maps; however, the school has not established who/which department is responsible for teaching each of the expectations for student learning, nor are the expectations explicitly defined in curriculum, instruction, and assessments. For example, the 21st century expectation "to read effectively and communicate ideas and information using a variety of formats" can be aligned to "active, close reading of literature" which can be found in Unit 2 of the English II college curriculum. This is also an example of the lack of common language in defining the meanings of the school's expectations. Also, virtually all of the expectations for student learning are not embedded into all of the curriculum maps. Teachers generally do not acknowledge individual responsibility of identifying the 21st century skills for which they are responsible. Of the teachers formally interviewed by the visiting committee, only about one quarter identified the expectation(s) for which they feel a responsibility. Most were not able to explain how their sample lesson outline they presented was related to any of the school's 21st century learning expectations. While teachers in the Freshman Academy teach the core values in the Seminar class (a support class to help students acclimate to the academic expectations of high school) in the 9th grade, most members of the upper grade levels do not reference the core values, beliefs, and 21st century learning expectations in their classrooms or advisories. Currently, a school-wide grading policy committee has been established and has met with the goal of having a working policy in place to present to the school by the end of the year and to be finalized for implementation for the 2016-2017 school year. Administrators have stated that their expectation is that analytic rubrics will be discussed in this committee as well. According to meeting notes from June 2014, the expectation was to allow the accreditation process to take place and then revisit core values and beliefs after recommendations from the committee. Only when comprehensive core values, beliefs, and the 21st century learning expectations

are actively reflected in the culture of the school and when they drive curriculum, instruction, and assessment in every classroom, will policies, procedures, decisions, and resource allocations be more likely to improve mastery of the school's academic expectations. (self-study, student work, teacher interviews, student shadowing, school leadership, teachers)

Although the school has a number of targets for analyzing data and reviewing programs in the Two- and Five-Year Follow-Up Plans, the school does not have a codified plan for the regular review and revision as may be necessary of its core values, beliefs, and 21st century learning expectations based on research, multiple data sources, as well as on district and school community priorities. Understandably, given the very recent adoption, the school has not conducted any review and/or revision of its core values, beliefs, and 21st century learning expectations based on research, multiple data sources, as well as on district and school community priorities. Additionally, the school has yet to develop a framework and a formal systematic review of the core values, beliefs, and 21st century learning expectations. Without a process for review based on input from all stakeholders and research and multiple data sources, the school has no way of assessing the validity and soundness of its core values, beliefs, and expectations. (self-study, teacher interviews, community members, panel presentation, central office personnel, school leadership)

Commendations:

1. The orderly, comprehensive process of adopting the PBIS model in the Freshman Academy
2. The identification of and the growth of the use of the RIDER acronym for succinctly encompassing major features of the Lowell High School Core Values, Beliefs, and Learning Expectations
3. The commitment to the school's social and civic competencies as demonstrated by being highlighted and in murals, banners, and signs in high traffic areas of the school

Recommendations:

1. Ensure that a sufficiently wide range of stakeholders are involved throughout any processes for the development and future review of the school's core values, beliefs, and learning expectations
2. Ensure that the Lowell High School 21st century academic, civic, and social learning expectations for student learning are stated in measurable terms
3. Create school-wide analytic rubrics for each of the LHS student expectations that identify targeted high levels of achievements
4. Develop a procedure to ensure that the LHS core values, beliefs, and student expectations are actively reflected in the culture of the school, drive curriculum, instruction, assessment in every classroom, and guide the school's policies, procedures, decisions, and resource allocations
5. Develop a dynamic, collaborative, and inclusive process for regular review and revision, as needed, of the LHS expectations for student learning, based on research, multiple data sources, as well as on district and school community priorities

2 Curriculum

The written and taught curriculum is designed to result in all students achieving the school's 21st century expectations for student learning. The written curriculum is the framework within which a school aligns and personalizes the school's 21st century learning expectations. The curriculum includes a purposefully designed set of course offerings, co-curricular programs, and other learning opportunities. The curriculum reflects the school's core values, beliefs, and learning expectations. The curriculum is collaboratively developed, implemented, reviewed, and revised based on analysis of student performance and current research.

1. The curriculum is purposefully designed to ensure that all students practice and achieve each of the school's 21st century learning expectations.

2. The curriculum is written in a common format that includes:
   - units of study with essential questions, concepts, content, and skills
   - the school's 21st century learning expectations
   - instructional strategies
   - assessment practices that include the use of school-wide analytic and course-specific rubrics.

3. The curriculum emphasizes depth of understanding and application of knowledge through:
   - inquiry and problem-solving
   - higher order thinking
   - cross-disciplinary learning
   - authentic learning opportunities both in and out of school
   - informed and ethical use of technology.

4. There is clear alignment between the written and taught curriculum.

5. Effective curricular coordination and vertical articulation exist between and among all academic areas within the school as well as with sending schools in the district.

6. Staffing levels, instructional materials, technology, equipment, supplies, facilities, and the resources of the library/media center are sufficient to fully implement the curriculum, including the co-curricular programs and other learning opportunities.

7. The district provides the school's professional staff with sufficient personnel, time, and financial resources for ongoing and collaborative development, evaluation, and revision of the curriculum using assessment results and current research.

Conclusions

The curriculum at Lowell High School is currently not designed to ensure that all students practice and achieve 21st century learning expectations. The core curriculum for all students is not explicitly aligned with the Lowell High School expectations for student learning. Most of the current curriculum maps are not designed to ensure each student has multiple learning experiences that will by design address each of those learning expectations. They also contain no other appropriate, alternative paths, programs, and time options for additional student support. The school has types of tiered interventions that address instructional practices but they are not built directly into curriculum maps. Lowell High School has identified specific student learning expectations that reflect 21st century skills as noted in the Lowell High School Core Values, Beliefs, and Learning Expectations. The learning expectations are embedded, yet not necessarily delineated, in some curriculum documents. The curriculum maps and syllabi are completely in alignment with Common Core State Standards (CCSS), the newly updated Next Generation Science Standards, the WIDA standards, the CVTE standards, and the Massachusetts frameworks, yet not all are consistent in referencing the school's or any other version of 21st century learning expectations. The subject areas which use CCSS as the touchstone for curriculum development do include a version of 21st century learning expectations in their curriculum maps.

In order to graduate, LHS students must complete 90 credits, 50 of which are in core curriculum subject areas. Core subject areas, such as English, science, social studies, and math routinely provide students with opportunities to practice spoken and written communication, creative and critical thinking, collaboration, and responsible use of technology. Additionally, all incoming freshmen are required to take a freshman seminar course that reinforces these skills and emphasizes citizenship, general high school coping strategies, study skills, and responsible academic behavior. So, much of what drives the NEASC Curriculum Standard is present, but not necessarily by comprehensive design, but the teachers do it, as good teachers intuitively know what should be done. Lowell High School's wide range of academic programming is designed to serve all students, including special education and ELL populations. Elective courses ensure students have multiple opportunities for diverse learning experiences, but they are not always tied to a diversity of 21st century learning skills. Elective courses include the fine arts, business, culinary arts, social sciences, world languages, technology, and U.S. Air Force Junior ROTC Aerospace Science. The school has also established strong working relationships with Middlesex Community College and UMASS Lowell which serve to expand the available curriculum well beyond the school campus. There are strong examples present of courses that most clearly are responsive to and driven by the school's expectations for student learning. For instance, Advanced Quantitative Reasoning, a course specifically focused on problem solving, collaboration, and presentation skills, is based on the theory of discovery learning, an example of one of the few courses specifically focusing on 21st century learning skills. Another course, Engineering the Future, targets real-life application of critical and creative thinking. The school is rejuvenating its Pathways program which is designed to provide hands-on experiences that connect high school work to the skills and knowledge students need to be successful in post-secondary education and in their careers. LHS also

developed programs like the Latin Lyceum and offers a range of Advanced Placement and dual enrollment courses designed to mirror college level experiences. In addition to courses in the school's course catalog, Lowell High School provides students an eclectic mix of opportunities to expand their high school experience beyond the school campus and the confines of the classroom. In addition to the school's standard academic and sports offerings, teachers and staff advisors support approximately 32 diverse activities and clubs. Most, but not all, courses show evidence that each curriculum area assumes some responsibility for teaching at least one or more of the 21st century learning expectations, but most courses appear to address only one of the 21st century learning expectations as defined by Lowell High School which calls into question if every student is being exposed and assessed frequently enough regarding that expectation to ensure that the students have sufficient opportunity to practice and achieve it. When the curriculum manages to provide to each student numerous and broad experiences focused on each of the school's expectations, students will have a higher likelihood of achieving all of the school's expectations. (self-study, curriculum maps, syllabi freshman seminar course, pathways program, culinary arts lesson plan, teacher interviews)

Most curriculum documents are written in a format that includes units of study with essential questions, concepts, content and resources; only some curriculum documents also include instructional strategies and assessment practices including the use of school-wide analytic and course-specific rubrics. The school used Race to the Top funds, which allowed teachers to be compensated for developing the curriculum maps during after-school hours. After the completion of this initiative, the school has made little additional progress toward the goal of writing the curriculum maps in a common format. The school's 21st century learning expectations and instructional strategies are identified in some curriculum documents. Some teachers have incorporated instructional strategies and activities into their own curricula/syllabi, although there is no formal place on the common template for entering this information. A limited number of curriculum maps also include some course-specific rubrics and/or 21st century learning expectations. Since the College Board, CVTE, and the Perkins-funded elective Pathways prescribe stringent syllabus requirements, AP and dual enrollment courses are understandably excluded from the school's efforts to develop a common curriculum map.

Mention of assessment practices that include the use of school-wide analytic and course-specific rubrics is also not consistent. Curriculum maps are arranged by units of study with identification of essential questions, concepts, content, resources, and skills. Some of curriculum maps also include course-specific common assessment practices. For example, curriculum documents for English II, Advanced ESL, Google this, and Physical Education 1 and 2 are all organized similarly to include standards, essential skills/concepts to be targeted, and assessment evidence. Developing and using curriculum documents that comprise units of study including essential questions, content, and skills; the school's learning expectations; instructional strategies; and assessment practices that include the use of school-wide analytic and course-specific rubrics sufficiently exposes all students to a range of experiences which provides them numerous opportunities to practice and achieve the school's learning expectations. **(**self-study, Endicott survey, student work, teacher interviews, curriculum documents, teachers)

The Lowell High School curriculum emphasizes depth of understanding and to a lesser degree the application of learning. In that curriculum documents do include essential questions, they do provide for inquiry, problem solving, and higher order thinking. According to the Endicott survey, 75 percent of students agrees that the courses they take challenge them to think critically and to solve problems. Roughly 72 percent of parents agrees that the Lowell High School curriculum encourages their children to question things that they are curious about, and roughly 80 percent feels that the existing curriculum supports the development of higher order thinking and problem-solving skills. This is echoed by 72 percent of staff members agreeing that, "the curriculum in [their] department/content area emphasizes depth of understanding and application of knowledge." Academic departments at LHS have worked to emphasize these skills during recent curriculum refinement and alignment efforts. The Lowell High School Pathways program is an example of an approach that provides hands-on experiences connecting high school course work to the skills students need for post-secondary education and careers.

The LHS curriculum does not currently emphasize cross-disciplinary learning, although classroom observations did provide evidence that teachers do, on their own, make cross-disciplinary connections. Bearing this out, according to the Endicott survey, 62.3 percent of students agrees that "[their] teachers include topics from other subject areas in [their] classes," and 72.9 percent agrees that, "information [they] learn in one class can be used in other classes." Despite this high rating by students, only 36.2 percent of staff agrees. Cross-disciplinary learning does not occur and is not evident in any curriculum documents. The school is lacking sufficient formal curriculum documents that are jointly developed and supported by more than one department. Curriculum documents also lack consistent inclusion of connections or enhancements that encourage or formally guide teachers and students to stretch their learning acquisition across departmental boundaries.

Despite the presence of examples such as culinary arts, fine and performing arts, and business, across the entire span of the curriculum authentic learning opportunities both in and out of school could be more prevalent. On the positive side, in the last school year (2014-15), excluding the 30 days of testing when field trips not allowed, the school approved 134 field trips which means that the school on average had field trips go out on 90% of the eligible days last year. Additionally, including the students who are interning in the school restaurant, the school store (at in-school and downtown sites), and the bank located within LHS, the school had just over 200 students out on internships this year.

The school has developed a policy for the in and out of school informed and ethical use of technology as well as an online acceptable use policy for students. While students and parents believe the ethical use of technology is emphasized in the LHS curriculum (79.1 percent and 63.4 percent, respectively), a smaller number of teachers agrees (56.9 percent). The freshman seminar curriculum, which was recently rewritten, includes lessons on technology resources available to students, and refers to the core values (responsibility, integrity, determination, engagement, and respect) and in doing so, is a good example of using core values to drive school policies and programs. The ethical use of technology is also emphasized in some of the taught English curricula, although it is not included in the curriculum documents. For example, the English I curriculum includes a lesson on "Digital Citizenship and Acceptable Use Policies," and a quarterly assessment in English II clearly establishes the requirements

for citing sources, the methods for doing so, and the consequences for plagiarism on a research paper. Lab science teachers provide similar directions on lab report assignments. Technology skills and informed use are also a consideration. The *Pride and Prejudice* project requires the use of iMovie, which is one example of a 21st century technology skill. While the ethical and regular use of technology is present, the curriculum does not consistently reference the understanding of that concept as a goal. A truly comprehensive curriculum will include a consistent focus on depth of understanding, inquiry and problem solving, higher order thinking, opportunities for cross-disciplinary learning, authentic learning, and the integration of technology as a tool for learning and teaching thereby allowing students "to complete academic work both independently and cooperatively in a productive manner." (self-study, Endicott survey, curriculum documents, student work, shadowing students, teachers, freshman seminar curriculum)

There is clear alignment between the written and taught curriculum at LHS. Common assessments, common writing prompts, emphasis on instructional pacing, and common questions on midterms and finals help to maintain that alignment. Common assessments seem to be the most prevalent and effective tool to regulate the teaching of the written curriculum. The common assessments also serve as a source of data to inform and modify future instruction not just for a teacher but for the department. In support of the achievement of this goal, staff members meet to create the common assessments, and then are responsible for delivering curriculum content, the mastery of which will then be assessed. Also, Lowell High School is in the process of clearly strengthening the alignment of the written and taught curricula by incrementally increasing common planning time among staff members. Currently, not all staff members have common planning time, with some staff sacrificing prep periods or before or after school time to collaborate. As a partial remedy to this, the school embeds opportunities for collaboration are in the monthly professional development/early release time, which is devoted to departmental work around curriculum, instruction, and assessment and to teacher-led workshops focused on sharing and collaborating around best practices. Additionally, the math department's recent institution of a highly collaborative professional learning network (PLN) for groups of geometry, algebra, and pre-calculus teachers can serve to advance the goal of alignment between the written and the taught curriculum. According to the Endicott survey, 64.9 percent of the staff believes the written and taught curricula are aligned. Also, administrators and department heads conduct frequent, informal walk-through observations one of the goals of which is to assess whether the written curriculum is being delivered. Continued attention to ensuring the clear alignment between the written and the taught curriculum ensures equity of opportunity for all students to achieve the school's academic expectations. (self-study, Endicott survey, classroom observations, curriculum documents, student work, student shadowing, teachers)

Vertical curricular coordination and articulation does not effectively exist with sending schools in the district with there being no coordination among departments or between sending schools. No formal opportunities exist, however, that allow departments to collaborate formally with the teachers in the sending schools. The school/district lack(s) a formal, codified process for curriculum collaboration and information sharing between sending schools and LHS, potentially impeding student academic success when transitioning to the high school by duplicating taught curriculum and/or not recognizing gaps in

curriculum coverage. Similarly, the curriculum is not aligned across disciplines which would provide opportunities for developing cross-disciplinary curricula. Teachers voice suggestions and concerns to the department head, who in turn shares the suggestions and concerns with the curriculum coordinator. The curriculum coordinator then shares the information with sending schools. Increased communication and collaboration between among sending schools and the high school will increase student academic support and provide additional data to track progress or challenges. The process of providing direct and timely feedback related to curriculum alignment should be more direct. The weakness is between the sending schools and the high school, not from 9-12. At LHS the department structure, with a lead teacher and a department head overseeing curriculum, ensures that there is clear articulation between grades 9-12 in every department. The school/district, however, does not have an established curriculum review cycle which would by its very nature provide formal opportunity for teachers to collaborate along both vertical and horizontal lines within departments as part of the process for the development, review, and evaluation of the curriculum.

Although some teachers claim that the curriculum maps have not been updated since 2012, central administration, department chairs, and the curriculum coordinators report the maps as being living documents and under constant review and revision. The current curriculum maps were created in 2012 through the use of the Race to the Top grant funds with a particular focus on aligning them with the Common Core and with a substantial amount of work being completed through departmental initiatives and compensated professional development. The current maps, updated on a continuing basis as they are revised, are easily accessible on each department's shared Google drive in an electronic format.

Department heads hold regular meetings with teachers to address instruction and curriculum to the degree that time allows. On occasion (e.g., discussion about safety issues), some of the meeting time is set aside for district priorities. During the past two-years, as is typically the case for schools planning an accreditation visit, significant meeting time, the early release time, normally devoted to that activity has been devoted to the preparations for the NEASC visit. Under the normal format, i.e., in years not involving significant allocations of time to accreditation, two hours out of the three-hour time block is spent with the departments focusing on curriculum, instruction, and assessment. Also, every year core departments receive PD hours allowing teachers to revisit curriculum maps in the courses that need updating. This represents an annual expenditure of approximately $10,000 of local funding.

The cluster system implemented in the Freshman Academy fosters communication across the academic areas at that level providing frequent opportunities for consultation between the core area teachers. A fully integrated curriculum covering the years leading up to the high school and the high school years ensures smooth learning transitions and a full opportunity for all students to succeed. (self-study, Endicott survey, curriculum documents, student work, student shadowing, teacher interviews, department heads, teachers, central office personnel, students, curriculum coordinator)

Staffing levels, instructional materials, technology, equipment, supplies, facilities, and the resources of the library/media center are not consistently sufficient to fully implement the curriculum including the co-curricular programs and other learning opportunities. School expenditures for instructional materials,

supplies and technology to properly implement the curriculum have varied over recent years. Staff members do not all have equitable and dependable access to technology and materials for curriculum instruction, including limited access to updated textbooks, access to computers, and access to technology within the classroom. Put more broadly, not all areas of the curriculum are fully supported to implement the actual delivery of the school's curriculum. At LHS, class sizes vary widely among departments, course sections, and classes. Decisions about class size reflect an effort to balance the needs of students with available resources. Classes that serve challenging, high-risk populations are intentionally kept under 23 whenever possible. A number of noteworthy trends are evident. For instance, the enrollment demand in world languages and the desire to maintain a rich catalog appear to be factors in course size discrepancies. Honors Latin 3 and 4 have average class sizes of 33 students, while there are only five students enrolled in AP Latin 4. Spanish classes at honors level I and II exceed 30 students, while there are 20-25 at the college level; French classes at beginning levels have average enrollments of 25-30 students; Khmer courses average in the high 20s (26-29). The school clearly is making decisions on faculty allocations to best meet needs but with limited resources. In the science department, similar enrollment discrepancies exist. For example, there are currently 11 students enrolled in the off-site University of Massachusetts Lowell (UML) M2D2 course, while AP, Honors, Lyceum, and other UML partner courses have average class sizes in the low to mid-20s. High demand and specialization are reasons for large class sizes in business courses. More than half the classes in the business department have 25-30 students. In general, social studies, English, and math appear to have the most even distribution of larger class sizes among required courses at all levels. In social studies, 11 of 26 total courses have average student enrollments of 25 or greater, with the highest being 30. Eight of the total classes offered have average enrollments of 20 to 24 students. Similarly, 20 of 24 total English courses have average class enrollments of 20 students or greater, with 7 having average class sizes between 25 and 28 students. Math, which offers 30 different courses, has 19 courses with average class sizes of 20 students or greater, with most (12) falling in the 25 to 29 average class size range.

Overall funding has been fairly consistent with some variance year due to enrolment variations and the identification of student needs, e.g., increases/decreases in the ELL population. Over the past three years, the budget has provided about $330,000 in categories such as technology, textbooks, instructional supplies, and library/media. Currently, 10 computers labs are shared by over 200 staff members and over 3,000 students. Most computer labs have at least 30 computers. While the current facility includes 33 classrooms equipped with Apple TVs and mobile iPad carts, and ten classrooms recently outfitted with SMARTBoards, the use of such technology is generally limited to those classrooms and the trained teachers using them. While the current budget does not contain specific earmarks for the expansion of new technology to other classrooms, the library media center, or to the computer labs, the school does purchase document cameras and projectors when the budget allows. Twenty of these were added to classrooms across all academic departments in 2014-2015. A few classrooms have older model PCs dedicated to student use, but LHS does not provide classroom sets of mobile laptop computers or other digital devices for general use by teachers or students except in the Apple TV/iPad equipped rooms. The school is making headway to the extent that the budget currently allows. One recent technological improvement this past summer was the installation of Wi-Fi hotspots in most classrooms, which has improved connection to the Internet throughout the school via personal mobile devices. Technology

access is not equitable among all staff. Most staff members have at least a document projector; a few teachers have access to an interactive white board, while others in the EdGE classes have three Apple monitors in their classrooms. Some teachers have to share a document projector. Other teachers have iPad carts, but the electronic devices are designated for that teacher's classroom use alone. The school has 5 iPad carts with one tied specifically to one classroom and 3 Macbook Pro carts for teachers to share.

Library facility and resources are critically lacking. The LHS Comprehensive Facilities Assessment completed as part of the preparations for the proposal for a new/refurbished Lowell High School makes that clear. Library technology resources are a key area of need for LHS, a school with a potentially significant student population that needs access to technology while present in school. Space and technology to meet those student needs is at a critical stage. At present, the library also assumes responsibility for the general management of the nine computer labs and a new language lab. The Comprehensive Facilities Assessment also makes note of the general inadequacy of available academic spaces which include general purpose classrooms, seminar areas, science labs and classrooms, and teacher work areas. LHS student activities have been consistently funded by a budget of $35,000 per year since 2010-2011. Level funding over time, however, does not necessarily translate into level services. The school's sports program is extensive, partially due to the school's ability to offer athletic programs at no cost. When all of the components of a strong school curriculum are not only existent, but are fully supported, students have the highest likelihood of achieving the school's expectations for learning. (self-study, teacher interviews, Endicott survey, curriculum maps, examination of student work, student shadowing, LHS Comprehensive Facilities Assessment, Curriculum Standard Subcommittee)

The district does not provide the school's professional staff with sufficient personnel, time, and financial resources for ongoing and collaborative development, evaluation, and revision of the curriculum using assessment results and current research. If there is time, teachers review the data from common assessments, target gaps in the curriculum, and make changes to course components and assessments. Since the completion of the NEASC preparatory activities the early release days have been devoted to a two-hour department meeting (focused on curriculum, instruction, and assessment) and a one-hour, teacher-led workshop focused on sharing best practices. Not all faculty members and student support service personnel are involved in the development, evaluation, and revision of curriculum. On this topic, the resounding request from staff members is for common planning time. The last full scale revision of the curriculum occurred with the planning of the curriculum maps four years ago. There is no evidence of a full scale comprehensive curriculum revision since. Curriculum revision does occur, however, in response to an identified need, for example, work on curricular changes based on MCAS data; that usually happens during regular above mentioned department meetings/early release days. Common planning time is provided to the Freshman Academy, among teachers of co-taught classes. Math teacher PLNs and teachers of courses selected by also have common planning time for curriculum and assessment work. This data conflicts with the teacher response to the Endicott survey where only 14.9 percent of staff members believes that they "have sufficient time to be engaged in formal curriculum evaluation, and to review and revise work." The district provides leadership for curriculum

coordination and articulation via a stipend position. Teachers work on curriculum development after hours or during the summer. Through the use of professional development funds during the past two years, the school leadership team has enabled departments to pay teachers to focus on curriculum development and revision for courses in need of review and revision. In addition the school has also used professional development funds to secure ten days of subs for a group of teachers to work on curriculum writing and revision. This is done as a stipend after-work opportunity for teachers who choose to take it. As noted in the above example, MCAS-linked courses are subject to more frequent evaluation and revision of the curriculum. Other courses are not as frequently evaluated and revised. As evident in the curriculum maps, even within departments, staff members are not in synch with curriculum expectations. Providing sufficient personnel, time, and financial resources to curriculum revision and full scale involvement of the entire professional staff ensure the maintenance and full support for a vibrant, ever-evolving, organic curriculum. (self-study, teacher interviews, Endicott survey, curriculum maps, student work, student shadowing)

Commendations:

1. The Lowell High School's Pathways program that provides hands-on, minds-on experiences connecting high school course work to the skills and knowledge students need for post-secondary education and careers
2. The development of courses that provide experiences that mirror offerings at the college level, including Latin Lyceum, Advanced Placement, and dual enrollment
3. The use of essential questions in designing curriculum which strongly focuses on inquiry, problem, and higher order and big picture thinking
4. The emphasis on the ethical use of technology in some sections of the English curriculum
5. The use of the monthly department meetings which provide teachers with the opportunity to create, implement, and review common assessments, to target gaps in the curriculum, and to make changes to course components and assessments ultimately benefiting teaching and learning
6. The math department's recent institution of a highly collaborative professional learning network (PLN) for groups of geometry, algebra and pre-calculus teachers
7. The core academic departments annual use of some professional development funds to run highly effective data summits for grade-level teams

Recommendations:

1. Undertake an audit of the degree to which the current curriculum and its practitioners provide sufficient opportunities in multiple settings across the school day for students to practice and achieve each of the school's learning expectations and act on the results
2. Develop a curriculum template whose form will allow for the identification in all courses or units of study essential questions, concepts, content, and skills; the school's 21st century skills that will serve as the focus of each course; instructional strategies; and assessment practices that include the use of school-wide analytic and course-specific rubrics

3. Develop a plan to ensure that the curriculum engages students in cross-disciplinary learning, provides authentic learning opportunities, and engages student in the informed and ethical use of technology in all courses
4. In consultation with the district design a plan that will ensure sufficient vertical communication about curriculum with all sending schools to directly share and/or discuss data, trends in instruction, and curriculum, and that will ensure sufficient horizontal and vertical communication about curriculum for all curriculum areas
5. Ensure that all curricula (CCSS, NGSS, MA frameworks, etc.) identify the 21st century skills upon which they will focus
6. Conduct a needs assessment to determine the optimum levels of support for staffing, instructional materials, equitable and effective access to technology, equipment, supplies, facilities, and the resources of the library/media center
7. Develop a plan for the regular review of the curriculum that engages and supports all professional staff in the collaborative development, evaluation, and revision of the curriculum using assessment results and current research

3 Instruction

The quality of instruction is the single most important factor in students' achievement of the school's 21st century learning expectations. Instruction is responsive to student needs, deliberate in its design and delivery, and grounded in the school's core values, beliefs, and learning expectations. Instruction is supported by research in best practices. Teachers are reflective and collaborative about their instructional strategies and collaborative with their colleagues to improve student learning.

1. Teachers' instructional practices are continuously examined to ensure consistency with the school's core values, beliefs, and 21st century learning expectations.

2. Teachers' instructional practices support the achievement of the school's 21st century learning expectations by:
   - personalizing instruction
   - engaging students in cross-disciplinary learning
   - engaging students as active and self-directed learners
   - emphasizing inquiry, problem-solving, and higher order thinking
   - applying knowledge and skills to authentic tasks
   - engaging students in self-assessment and reflection
   - integrating technology.

3. Teachers adjust their instructional practices to meet the needs of each student by:
   - using formative assessment, especially during instructional time
   - strategically differentiating
   - purposefully organizing group learning activities
   - providing additional support and alternative strategies within the regular classroom.

4. Teachers, individually and collaboratively, improve their instructional practices by:
   - using student achievement data from a variety of formative and summative assessments
   - examining student work
   - using feedback from a variety of sources, including students, other teachers, supervisors, and parents
   - examining current research
   - engaging in professional discourse focused on instructional practice.

5. Teachers, as adult learners and reflective practitioners, maintain expertise in their content area and in content-specific instructional practices.

Conclusions

Teachers' instructional practices are not continuously examined to ensure consistency with the school's core values, beliefs, and 21st century learning expectations. The Freshman Academy has created and embraced the core values derived from the Positive Behavioral Intervention System (PBIS) and are consistently incorporating them into daily lessons. In the upperclassman buildings, however, the core values are less evident in guiding practice and the PBIS system has only recently been endorsed on a broad basis and is only in process of being adopted. The school's core values are displayed prevalently within the school, but they are not being integrated as a driving forced into daily lessons or goals or instructional practice. Lowell High School teachers believe that students should strive toward each facet of the Responsibility, Integrity, Determination, Engagement, and Respect (RIDER) acronym summing up the core values, but they do not necessarily use them explicitly in instructional practice nor do they consistently make reference to the school's expectations. Although the facets of RIDER are prevalently displayed in hallways and on ID tags, they are not commonly or uniformly connected to instruction in a deliberate way. In and of itself the simple existence and recognition of RIDER and the identification of the school's expectations are not sufficient to inform instruction. While teachers individually believe that students should be competent in the 21st century learning expectations and refer to them within their classes, they do not systematically align their instructional practices with them, and no formal program is currently in place to make this a reality. When teachers collectively embraced the school's core values and then identify and develop instruction practices that are driven by and serve those core values, the school will develop a strong instructional culture. (self-study, facility tour, teachers, student work, students, Endicott survey, school leadership, teacher interviews, student shadowing)

(The percentages cited below are based on the identified frequency of the appearance of the various instructional strategies spelled out in the second indicator of this Standard during classroom observations by the visiting committee. It is highly unlikely that all seven of the identified instructional practices would be employed in a single given lesson. The percentage figure, however, provides a picture of the frequency of their use in classes on a comparative basis.)

Instructional practices show varying levels of support for the achievement of the school's 21st century learning expectations, core values, and beliefs. Instructional practices do not yet show consistent support of the achievement of the school's 21st century learning expectations by personalizing instruction. According to the Endicott survey, 69 percent of parents feels that their son's/daughter's teachers personalize instruction to support his/her achievement of the school's learning expectations, but only 43 percent of students feels that teachers personalize their instruction. Options are provided to students for course selection and book choices used in several assignments, but avenues to show conceptual competency are less flexible. Only 38 percent of the visiting team's classroom observations showed evidence of personalized instruction that targets each student's learning style.

The school acknowledges that instructional practices do not uniformly support the achievement of the school's 21st century learning expectations by engaging students in cross-disciplinary learning. Instructionally driven cross-disciplinary learning was evident in only 25 percent of classroom observations. The school is able to cite some good examples of cross-disciplinary instruction (e.g., connections between social studies and English Language arts and between math and anatomy). Some programs such as special education, Latin Lyceum, and Freshman Academy are better able to engage students in cross-disciplinary learning because they are clustered and teachers have common planning time within the schedule. In other classes, some teachers work closely with other departments to create courses, but cross-disciplinary lessons occurred more informally or by happenstance rather than by purposeful planning. The school does not have a school-wide process or training to facilitate the identification, planning, and execution of cross-disciplinary lessons.

Teachers' instructional practices do not consistently support the achievement of the school's 21st century learning expectations of engaging students as active and self-directed learners. LHS is in the process, however, of shifting from a teacher-driven pedagogy to a more student-centered and outcome-driven approach. Teachers are utilizing the benefits of this educational methodology which creates more active and authentic learning by shifting the onus of responsibility to the student and developing more student-centered and project-based lessons and assessments. In 63 percent of classroom observations, students were engaged as active learners. This level of engagement was most common in the honors and AP levels, but it is unclear if this type of learning is equally common at the college prep level.

The school can cite several examples of instructional practice that emphasizes inquiry, problem solving, and higher order thinking. What is lacking is consistent evidence of those instructional traits across all disciplines and levels. Even granting the need to deal with mastery of basic concepts in foundation level classes, the need exists to make these traits evident in all classes to the extent possible considering the needs and abilities of students.

Teachers' instructional practices provide support for the achievement of the school's 21st century learning expectations by applying knowledge and skills to authentic tasks within specific subject areas. Sixty percent of classroom observations saw evidence of authentic learning taking place. The school has been working on increasing the frequency of authentic learning experiences as the school moves toward a more student-centered approach to teaching/learning. Although some classes provide these opportunities, they are not pervasive throughout the entire school. In some elective classes such as culinary, business, fine and performing arts, and broadcasting, students are able to learn real-life skills in an authentic setting such as a working restaurant, TV studio, or music performance. Students in these classes enjoy the knowledge that what they are learning is directly applicable to life post LHS. Dual enrollment classes also offer students an authentic experience with college syllabi and lectures and prepare them for what to expect at the university level.

Teachers' instructional practices do not fully support the achievement of the school's 21st century learning expectations by engaging students in self-assessment and reflection. According to the Endicott survey, over 71 percent of the students surveyed feel that their teachers provide them with opportunities

to assess their own work, but these opportunities were only witnessed in 30 percent of the visited classrooms. Graded assignments, with some exceptions, also do not allow for students to respond, reflect, or improve upon their original understanding.

While the school's instructional practices regularly integrate technology at present, the school's expectation for student learning in that regard, "To develop an ability to use a variety of mediums – including the creative and technological – in the process of learning, and demonstrate their acquired learning through the use of those mediums," as written does not provide a clear definition of what that should look like. The absence of such a clear definition creates difficulty in determining what level/type and degree of application of integration is desirable and acceptable. Technology is used in most classes in some capacity including in-class use of iPads, computer research, specialized software, EDGE classrooms, interactive whiteboards, and document cameras. Although not required, most teachers use Google classroom, Aspen pages, EdLine, or a similar class website program to make instructional materials, expectations, homework, plans, grades, and resources available for students and families to view. Students in dual enrollment classes attend college lectures from UML or MCC via a digital lecture room with a two-way microphone to allow for real-time question and answer sessions. LHS recently added a position for an instructional technology specialist to assist teachers in the incorporation of effective technology use within their classrooms. Technology is playing a greater role in classroom instruction at LHS, but resources are not distributed equitably and not all teachers have equal access to all technological tools. Although the school has 1.5 tech support personnel and 1.0 ITS person at the high school, unreliable Internet connections, a district-level issue, make it difficult to plan and deliver technology-rich lessons hinder teachers. When schools identify and expand the use of instructional practices that highly support the school's 21st century learning expectations, student are better situated to achieve at the highest levels. (self-study, facility tour, teachers, students, Instruction Standard Subcommittee, student shadowing, Endicott survey, teacher interviews, classroom observations, department heads, school leadership)

Teachers adjust their instructional practices to meet the needs of each student to varying degrees. Teachers often adjust their instructional practices to meet the needs of each student by using formative assessment, especially during instructional time. Formative assessments are mostly embedded in lessons through activities such as exit tickets, Socratic discussions, and teacher observations during activities. Teachers mainly use these formative assessments within the specific classes to provide feedback on the level of student comprehension to guide the teacher. Based on formative feedback teachers on occasion may reteach the same material to allow student to reach mastery of the material. Teachers employ activities such as journaling, K-W-L charts, dip-sticking, and exit tickets. Use of these and similar strategies varies greatly from teacher to teacher.

Teachers at Lowell High School do not consistently adjust their instructional practices to meet the needs of each student by scaffolding and strategically differentiating instruction for the success of the students. According to the Endicott survey, teachers used differentiated instructional practices to meet the learning needs of all students over 77 percent of the time. Only 47 percent of classes were observed using these strategies and there was no further evidence to invalidate the inconsistency of the data. Teachers are

generally aware of individual student needs and do target personal benchmarks and take time to work with students who need additional help. In response to the need to differentiate, teachers use sentence starters, jigsaw readings, tiered vocabulary, and graphic organizers to meet the needs and learning styles of all students. Teachers also selectively provide students opportunities to work at their own pace with teacher guidance, allowing more time to students who need more guidance and direction.

Teachers consistently adjust their instructional practices to meet the needs of each student by purposefully organizing group learning activities. Many teachers use group learning by establishing groups during instructional time for labs and problem solving as well as for out-of-class activities. Lessons involving groups are designed to be collaborative and provide opportunities for real-life experiences of working with others to create a final product.

Teachers adjust their instructional practices to meet the needs of each student by providing additional support but do not often offer alternative strategies within the regular classroom. The Endicott survey shows that over 76 percent of parents reports that teachers provide additional support to their sons/daughters when needed. Most teachers make a concerted effort to be available and responsive to student needs. Extra-help sessions are scheduled and well communicated. Alternative strategies that are employed include providing abridged texts and books on tape, and access to tutors and student teachers. Teachers care about students and often choose to give up free time both during and outside of contractual hours, to meet academic, instructional, and outside needs of students. Teachers are more concerned with the skills that the students are attaining rather than how much of the material they are able to get through in accordance with a school-wide push for more student-centered learning. Most teachers at LHS are attuned to the fact that each student is an individual with distinct needs who will progress at his/her own pace. Teacher efforts help students to find success in their own time, but not necessarily to demonstrate it in their own way. When teachers use a broad range of instructional strategies that engage students in a wide range of learning modalities, student mastery of learning increases. (self-study, student shadowing, classroom observations, teacher interviews, Instruction Standard Subcommittee, Endicott survey, facility tour, student work, teachers, students)

Teachers, individually and collaboratively, have limited time to work to improve their instructional practices by using student achievement data from a variety of formative and summative assessments; however, individually, they do attempt to find time to review current research, and to solicit feedback from colleagues. Teachers and chairs across all departments use student achievement data from standardized tests, common assessments, a variety of formative and summative assessments, and District Determined Measure (DDM) scores to identify the weaker areas upon which to focus in order to improve instruction. The schedule and locally negotiated agreements provide~~s~~ limited time during monthly early release days to analyze this data. District-wide and departmental groups meet vertically to look at student data, i.e., Massachusetts Comprehensive Assessment System (MCAS), SRI, writing folders. Teachers use prep time to collaborate with peers and express a desire for common planning time to facilitate a systematic approach to using data to inform instructional practices in that presently no formal system provides a framework for all teachers to use formative assessments to help expand the range of

instructional strategies. Department heads do create meeting times and provide coverages for teachers for those purposes.

Given the state of the current schedule teachers do not currently have the opportunity to improve their instructional practices by examining student work. With no time formally allotted in the current schedule, most teachers are unable to meet in departmental and common grade teams to examine student work. The adoption of DDMs gives teachers an avenue to analyze the completed assessments, but the degree to which they are currently used varies within the departments. In specific programs such as the Freshman Academy and special education, teachers work in clusters and are able to do this work within their assigned schedules. Teachers in the upper grades do not work in clusters and do not have the benefit of flexible scheduling. Common planning time is widely requested but extremely difficult to provide given the current schedule for the upper grades. In some instances, departments create their own time by covering classes for colleagues during their prep times or duties. In other cases, teachers independently schedule times to meet when they happen to have common prep time or during lunch times and after-school hours. The ELL department is in the midst of an initiative to meet regularly to assess the accuracy of student placement based on their skill level.

Teachers, individually and collaboratively, work to improve their instructional practices by using feedback from a variety of sources, including students, other teachers, supervisors, and parents. Department heads and lead teachers serve as instructional leaders and frequently engage in formal and informal discourse centered on instructional strategies. Teachers receive formal feedback from administrators through the evaluation system. In addition, the recent instructional rounds allow for a non-evaluative look into classes so that instructional trends can be identified within the building. A culture embedded in LHS of teacher-to-teacher observation is extant and coverage will be found for an individual teacher to observe a colleague. Parents are able to give feedback to teachers through scheduled events such as open house and conferences as well as through emails and informal conversations, but the school has not developed formal outreach processes that solicit feedback from parents and students.

Teachers improve their instructional practice by keeping abreast of current research through journals articles, book-shares, and district-based professional development. Teachers improve their instructional practice by keeping abreast of current research through journals articles, book-shares, and district-based professional development. Departments provide some of this to teachers in their departments with the goal of keeping their department on the cutting edge of best practices in teaching and learning. The school's teacher center has been recently updated and provides teacher toolkits, and the departments each have their own spaces with resources for the department. The LHS support specialists have offered specific training on using Google Aps/Classroom, iPad integration, and content-based enhancement through technology.

Most teachers, individually and collaboratively, improve their instructional practices by engaging in professional discourse focused on instructional practice. Most LHS teachers are unable to collaborate and examine instructional practices as much as they would like due to a lack of common planning time.

New teachers to LHS are assigned a mentor with whom they can discuss instructional strategies. The mentor/mentee teams attend the Lowell Teacher Academy (LTA) together. The LTA entails a three-year commitment with built-in cycles of inquiry/observation with the mentor and coursework required through the auspices of Fitchburg State. The teachers' participation is mandated as part of their employment. Teachers are also involved in consistent discourse with lead teachers and department heads both informally and through the education evaluation process. Their dedication and willingness to give their own time and to maintain their accessibility leads to students and families to feel cared for and to understand that their success is important. When teachers engage in a wide of activities focused on improving instructional strategies, they substantially improve the ability of students to more fully achieve the school's expectations for learning. (self-study**,** teachers, students, Endicott survey, student shadowing)

LHS teachers, as adult learners and reflective practitioners, maintain their expertise in their content areas and in content-specific instructional practices in a variety of ways, including in-house professional development conducted by department heads and instructional specialists, university courses, and out-of-district professional development such as Primary Source. Teachers are encouraged to attend professional learning opportunities both given by Lowell High School as well as outside sources. Teachers improve their instructional practice by keeping abreast of current research through journals articles, book-shares, and district-based professional development. All teachers within the first three years of employment are required to enroll in the Lowell Teacher Academy, an innovative mentoring program which involves enrolling in three courses devoted to developing instructional practices for graduate credit in conjunction with Fitchburg State University. According to the Endicott survey, over 80 percent of students reports that their teachers are knowledgeable about the subjects that they teach and 87 percent of teachers feels that they maintain expertise in their content area and in content-specific instructional practices. LHS hosts a variety of workshops and trainings and provides course tuition reimbursement for university-level instruction that is successfully completed. Professional development opportunities have traditionally been offered outside of the school day; however, monthly professional development is not sufficient to meet the needs of teachers to support their instruction of 21st century learning expectations. In the rapidly changing world of education, the need to keep current in pedagogical techniques and in the use of emerging technologies plays a prominent role in professional development. (self-study, teachers, Endicott survey, students, school leadership)

Commendations:

1. The full embrace by the Freshman Academy of the core values derived from the PBIS and its use of those core values to guide and shape instructional practice
2. The purposeful move from a teacher-centered to a student-centered approach to pedagogy that more fully engages students as active and engaged learners
3. The presence in a number of courses such as culinary, business, fine and applied arts, and broadcasting that are fully centered on applying knowledge and skills to authentic tasks
4. The burgeoning use of technology to support the vibrant delivery of class content and to make college courses accessible to all students

5. The strong school culture that supports non-evaluative teacher observations and an openness that creates the opportunity for peer observation and the sharing of successful instructional practices
6. The strong partnerships with local colleges that enable students to earn college credits
7. The general willingness across the faculty to give freely of their time to assist students, to examine student work, and to engage with colleagues in focused discussions about assessment results all with an eye toward improving instruction
8. The adoption of the use of the District Determined Measure (DDM) scores to identify the weaker areas upon which to focus in order to improve instruction.
9. The strength of the Lowell Teacher Academy in supporting the new teacher-mentor program and in providing professional development opportunities focused on expanding the range of effective instructional strategies

Recommendation:

1. Conduct a school-wide audit of instructional strategies and identify and advance the use of those strategies that improve the students' achievement of the Lowell High School 21st century learning expectations
2. Develop and execute a plan, with sufficient financial support and dedication of professional development time, to increase the level of use in all classes instructional strategies that personalize instruction, engage students in cross-disciplinary learning, engage students as active and self-directed learners, emphasize inquiry, problem solving, and higher order thinking, engage students in self-assessment and reflection, and further integrate technology
3. Ensure that all teachers have adequate and equitable access to resources that support the full-scale integration of technology as a tool for instructional practices and a support to student learning
4. Develop and execute a plan to increase the use of all manner of formative assessment within each classroom as a means of providing a basis for improving outcomes in instructional practice
5. Provide as feature of instructional practice more frequent opportunity for students to be able to demonstrate comprehension in a manner in keeping with their learning style
6. Increase opportunities for common planning time to improve instructional practice and to provide opportunities for relevant professional development within contractual hours
7. Develop a formal process for successfully soliciting input from students and parents focused on instructional practice

4 Assessment of and for Student Learning

Assessment informs students and stakeholders of progress and growth toward meeting the school's 21st century learning expectations. Assessment results are shared and discussed on a regular basis to improve student learning. Assessment results inform teachers about student achievement in order to adjust curriculum and instruction.

1. The professional staff continuously employs a formal process, based on school-wide rubrics, to assess whole-school and individual student progress in achieving the school's 21st century learning expectations.

2. The school's professional staff communicates:
   - individual student progress in achieving the school's 21st century learning expectations to students and their families
   - the school's progress in achieving the school's 21st century learning expectations to the school community.

3. Professional staff collects, disaggregates, and analyzes data to identify and respond to inequities in student achievement.

4. Prior to each unit of study, teachers communicate to students the school's applicable 21st century learning expectations and related unit-specific learning goals to be assessed.

5. Prior to summative assessments, teachers provide students with the corresponding rubrics.

6. In each unit of study, teachers employ a range of assessment strategies, including formative and summative assessments.

7. Teachers collaborate regularly in formal ways on the creation, analysis, and revision of formative and summative assessments, including common assessments.

8. Teachers provide specific, timely, and corrective feedback to ensure students revise and improve their work.

9. Teachers regularly use formative assessment to inform and adapt their instruction for the purpose of improving student learning.

10. Teachers and administrators, individually and collaboratively, examine a range of evidence of student learning for the purpose of revising curriculum and improving instructional practice, including all of the following:
    - student work
    - common course and common grade-level assessments
    - individual and school-wide progress in achieving the school's 21st century learning expectations
    - standardized assessments
    - data from sending schools, receiving schools, and post-secondary institutions
    - survey data from current students and alumni.

11. Grading and reporting practices are regularly reviewed and revised to ensure alignment with the school's core values and beliefs about learning.

Conclusions

Lowell High School does not employ a formal process, based on school-wide rubrics, to assess whole-school and individual student progress in achieving the school's 21st century learning expectations. As a first step, the school has not developed school-wide rubrics to assess the school's 21st century learning expectations. Then, in turn, the school's 21st century learning expectations are not embedded in curriculum maps in any organized or systematic fashion and therefore are not as well known as they should be by teachers and students. Many teachers, however, do use rubrics to assess learning expectations in the classroom and some departments use common rubrics to assess student progress in achieving course-specific learning expectations. According to the Endicott survey, 76.2 percent of students reports that their teachers use rubrics to assess their work. Some departments use common planning time and data summits to assess common assessment results, such as Massachusetts Comprehensive Assessment System (MCAS), Assessing Comprehension and Communication in English State-to-State (ACCESS), and other data; however, this is not widely undertaken across the school. Without a formal process to assess whole-school and individual student progress in achieving 21st century learning expectations, Lowell High School does not have sufficient data to continuously evaluate the level of achievement by the school of its learning expectations, to adjust instruction, or to revise curriculum. (self-study, teacher interviews, panel presentation, teachers, Assessment Standard Subcommittee, department chairs, school leadership)

The school does not communicate individual student progress specifically in terms of the achievement of the school's 21st century learning expectations to students and their families. The school does employ traditional processes to report elements of student progress to students and their families, including student report cards, MCAS results mailed to parents, and by way of the Aspen parent and student portal. Most individual teachers communicate student progress with students and families using email, EdLine, and teacher websites. The school also does not communicate its progress in terms of the achievement of identified 21st century learning expectations to the school community at large. The school sends home a copy of the school NCLB Report Card with each student. Because there is no formal process for evaluating the school's progress in terms of meeting its 21st century learning expectations, the school is unable to communicate that progress to the community in that manner. Given the lack a formal process for evaluating individual and student progress in terms of the student's achievement of the school's 21st century learning expectations, data is not available to effectively assess and report student and school progress in meeting the school's learning expectations. (self-study, panel presentation, Assessment Standard Subcommittee, school leadership)

Professional staff members inconsistently collect, disaggregate, and analyze data to identify and respond to inequity in student achievement. For example, student scheduling is informed by numerous student assessments. ACCUPLACER qualifies students for dual-enrollment courses; MCAS results inform math course selection; and ACCESS testing identifies and guides placement of English language learners (ELL). On a school-wide basis, all instructional leaders and their departments have examined

MCAS performance and student growth measures, focusing on improving the numbers of students scoring at advanced levels, increasing attendance rates, and in raising graduation rates. The lack of broadly applied common planning time (school-wide departmental planning time occurs once per month on early release days), however, impedes the undertaking of frequent and course-specific data analysis across the school. The school does examine Pass/Fail data across all core departments with teachers looking at their own P/F rates and comparing them with those of colleagues in the same course and department. Data summits, (now called common assessment meetings, formerly referred to as "quarterly data summits"), do occur, during which professional staff members collect and analyze data on common assessments each semester for every course at LHS and does 1 DDM (District Determined Measure) each semester for every course at LHS. This analysis enables the school to identify areas of strength, areas of growth, and next steps, which include pedagogical decisions, minor curricular/assessment modifications, and paths for remediation. The school cannot demonstrate consistently that the implemented next steps have been evaluated for effectiveness or that the cycle of data collection, analysis, reflection, and action has been consistently maintained. Frequently, individual teachers and small teams of teachers collect and informally analyze their own student work data and occasionally analyze other student work from within the same content area. This data is tracked on a traditional grade-book model, so it is difficult to examine progress and mastery of specific standards in order to identify and respond to an individual student's performance. Consistent collection, disaggregation, and analysis of student data are essential processes to identify those students in the most need of support. (self-study, district administration, teachers, Assessment Standard Subcommittee, teacher interviews)

Prior to each unit of study, teachers do not communicate to students the school's applicable 21st century learning expectations; however, they do identify course-specific expectations. Thirty-four of 69 observed classrooms have posted goals and objectives in their classrooms, but these are not based on the school-wide learning expectations. Curriculum maps and course syllabi provide students with essential questions and enduring understandings, and while all teachers have these documents, the communication of these expectations to students is inconsistent. The vast majority of teachers, however, do identify the course-specific expectations in all types of assignments using classroom and electronic postings, oral assignments, and in the outlines of major projects. Teachers use a variety of methods to post course-specific expectations, including EdLine, Google Docs/Classroom, Aspen/X2, and assignment sheets. When teachers provide students with clear expectation prior to each unit of study, students are better able to connect daily learning objectives to enduring understandings and essential questions of the unit of study. (self-study, student shadowing, Assessment Standard Subcommittee, lesson plans, parents, students, Endicott survey)

Prior to summative assessments, most teachers provide students with corresponding rubrics. While the school has not developed any school-wide analytic rubrics in order to identify for students the relevant expectation(s), teachers do provide students with assessment-specific expectation sheets and/or rubrics. For example, the science and English departments utilize common rubrics to target various skilled learned within their curricula. According to the Endicott survey, 80 percent of students agrees that they understand in advance what work they need to accomplish in order to meet teachers' expectations. These expectations and rubrics, however, vary in their formatting and nomenclature, and do not always

provide students with examples of learning outcomes or exemplars to guide students in the successful demonstration of learning. When the school creates and systematically adopts the use of school-wide rubrics, students will have a consistent set of learning expectations based on school-wide goals, enabling teachers to identify gaps in achievement. (self-study, artifacts, student shadowing, Endicott survey, teacher interviews)

Teachers inconsistently employ a range of assessment strategies, including formative and summative assessments. Many teachers frequently and consistently employ traditional summative assessments, including multiple choice or short response exams, formal writing assignments, and problem sets. Many teachers, however, inconsistently use formative assessments in class and prior to summative assessments other than teacher-directed questioning and entrance/exit tickets. Because teachers' pedagogical beliefs about assessments differ, formative assessments do not often scaffold to summative assessments, and higher order thinking skills are not widely present in either form of assessment. Additionally, teachers provide inconsistent opportunity for student choice in assessment type. Summative assessments at times allow for alternative measures of student progress and mastery, such as portfolios, options for multimedia projects like digital storybooks, class presentations, and varying prompts in lieu of the original summative assessment. Implementing a range of formative and summative assessments and assessment strategies allows for the variation in student learning styles, while also monitoring progress and mastery of learning expectations. (self-study, student work, Assessment Standard Subcommittee, teacher interviews, student shadowing, classroom observations, students, teachers)

The school does not provide the majority of teachers the time to collaborate regularly on the creation, analysis, and revision of formative and summative assessments, including common assessments. Although only some teachers are scheduled common planning time, many other teachers willingly use their free periods or lunches to collaborate. Any additional collaborative time for teachers is only available during the school day and awarded by department heads, subject to logistical issues, to purposefully create opportunities for collaborative time based on the needs of given course teams. Given the lack of dedicated time, most discussion of assessments among teachers is conducted sporadically and informally. Regular collaboration on the creation, analysis, and revision of assessment practices will ensure that all students across teachers, content areas, and grades are more effectively meeting learning expectations. (self-study, department heads, Assessment Standard Subcommittee, teachers, students, Endicott survey, teacher interviews)

Most teachers assess schoolwork in a reasonable amount of time and many teachers provide specific, corrective feedback. Major assessments are typically returned in a timely manner. Many teachers provide useful feedback, comments, and suggestions to help students improve their work. Some teachers, however, continue to use a plus-minus grading system for assessments with little or no feedback or simply grade for participation and not accuracy. Revision of work is also an area in need of stronger focus. In most cases, students have no opportunity to revise work on formative and summative assessments. Timely feedback and opportunities for revision are essential for student growth and skill development. (self-study, teachers, classroom observations, teacher interviews, students, Endicott survey, student work)

Teachers do not regularly use formative assessment to inform and adapt their instruction for the purpose of improving student learning. Teachers have a variety of ideas about what constitutes formative assessment and what grades mean. Understanding of formative assessment ranges from behavioral expectations, participation and attendance, to summative indications of knowledge acquisition. Data summits have begun to create common nomenclature and a consistent vocabulary around grading and assessment, but that work is neither frequent nor formally focused.

Currently, Lowell High School uses standardized test scores such as MCAS, district determined measures (DDM), common assessments, the pass/fail rate, and other summative assessments to drive changes to the curriculum. Data from summative assessments influence building-level and district-level decisions. While this work is in its infancy, a disconnection between standardized assessment data and classroom grades has demonstrated a need for horizontal consistency across departments and a closer focus on the school's 21st century expectations. When the school implements a formal process for defining effective formative assessment used across the content areas, then teachers can efficiently alter their instructional practices prior to the end of a learning unit and address student misunderstandings and misconceptions immediately. (self-study, departmental administrators, testing data, central office personnel, teacher interviews, school leadership, Assessment Standard Subcommittee)

Teachers and administrators, individually and collaboratively, regularly examine a range of evidence of student learning for the purpose of revising curriculum and improving instructional practice. Many teachers individually examine student work, standardized testing data, and common assessment results to adjust instruction and to inform their work in revising curriculum. In some cases, there is a formal process for teachers and administrators to examine student work. For example, teachers in the Freshman Academy use dedicated department meeting time to examine student assessments and make adjustments to curriculum and instruction. Department meetings held during early release days provide some opportunity for teachers and administrators to examine data. Data summits, held during the September and October early release days as a district mandate, provide opportunities for teachers in all departments to analyze student performance on DDMs. Department chairs regularly examine a variety of student data, including student work, results of common assessments, and standardized testing data, which inform their work in developing curriculum and supporting instructional practice. Some teachers collaborate with other teachers informally during prep time, lunchtime, and before or after school. The guidance department meets with personnel from the Lowell middle schools to review individual student data, MCAS scores, and grades for students entering ninth grade. The school has developed partnerships with receiving schools such as Middlesex Community College and the University of Massachusetts at Lowell. The school's dual-enrollment program with Middlesex Community College (MCC) and the University of Massachusetts at Lowell (UMass Lowell) provides the school with the opportunity to define college readiness. For example, Middlesex Community College provides feedback on the readiness of Lowell High School graduates to complete college work. This opportunity does not currently inform curriculum or instruction at Lowell High School. The English department and the university partners, however, have been focusing on curriculum that better prepares students for college. This outreach also includes inter-visitation between university professors and LHS English teachers. Currently, the school does not use any student or alumni survey data to revise curriculum or improve

instructional practice; however, the school did convene an alumni/ae panel last August. When the professional staff regularly reviews a variety of student data, the school is able to make adjustments in curriculum and instructional practices to meet the needs of its students. (self-study, teacher interviews, panel presentation, teachers, department heads, Assessment Standard Subcommittee)

Grading and reporting practices are not regularly reviewed or revised by design to ensure alignment with the school's core values and beliefs about learning. While Lowell High School regularly reports student progress using an established formal process, including student progress reports, report cards, MCAS results, and the Aspen parent and student portals, the evidence does not make a strong connection to the school's core values or beliefs about learning. The professional staff attempts to balance its use of formative and common summative assessments. The evidence most specifically supports the formal, school-wide use of common quarterly assessments across many departments. Teachers consider homework, quizzes, laboratory reports, short writing assignments, exits slips, reading note checks, and question and answer discussions as some of the formative assessments used. Because school-wide rubrics do not exist, the professional staff is unable to review any data from teachers' use of school-wide analytic rubrics for determining individual student progress in achieving the school's learning expectations. Many teachers, however, do use individual assignment rubrics and those rubrics at times are shared amongst teachers who may teach the same course, but this is an informal practice. The school has no formal system allowing professional staff to ensure that grading practices are consistent within all subject areas and by all teachers. Data summits have been a practice that is helping to shape teacher goals; however, inconsistencies in grading practices from one teacher to another are evident which is why the school has established a grading policy committee to create and implement a more uniform school-wide grading policy. The professional staff is limited in its focus on standards-based grading practices that both measure student proficiency and promote mixed-ability grouping. The implementation of a formal process to regularly review and revise grading and reporting practices in order to align them with the school's core values will allow assessments to drive the future values of the school and to ensure the values are present within the instructional practices being used in the classroom. (self-study, teacher interviews, student work, parents, panel presentation, district personnel, school leadership)

Commendations:

1. The broad use by a majority of teachers of classroom and departmental rubrics to provide students with clear direction and connection to learning goals
2. The regular scheduling of data summits for analyzing student performance common assessments in all core areas to create goals to improve student achievement and to shape district and building level goals to better accommodate student needs
3. The focused analysis of specific assessment data sources such as ACCUPLACER, MCAS results, ACCESS testing, to inform math course selection and student placement for English language learners (ELL)
4. The dedication of time at Freshman Academy weekly department meetings and dedicated department meeting time during early release to analyze student work and student achievement data, to examine student assessments, and to make adjustments to curriculum and instruction

5. The practice by a majority of teachers of identifying the course-specific expectations in all types of assignments
6. The provision by most teachers prior to summative assessments of the corresponding rubrics
7. The establishment of partnerships with Middlesex Community College and UMass Lowell that provide data on the readiness of Lowell High School graduates to complete college work
8. The establishment of a grading policy committee to create and implement a uniform school-wide grading policy

Recommendations:

1. Develop a formal process, based on the use of school-wide rubrics, for assessing whole-school and individual student progress in achieving the school's 21st century expectations
2. Develop a process for communicating to students, families, and the school community at large the individual and whole-school progress in terms of the success of students in meeting the school's 21st century learning expectations
3. Maintain data summits for all content areas based on common assessments in order to provide the school with meaningful data to inform the development of curricula and instruction
4. Develop a process to ensure that all teachers identify prior to each unit of study the school's applicable 21st century learning expectation
5. Create a process by which teachers establish a common understanding of formative assessment in order to master and employ formative assessments among a wide range of assessment strategies and use their accumulated data to inform and adapt their instructional practices to improve student learning
6. Ensure that all teachers provide students with timely, substantive feedback and also provide opportunities for revision on both formative and summative assessments so as to demonstrate mastery of a given lesson
7. Provide dedicated time for all teachers to regularly examine student work and to have full access to other assessment data for the purposes of revising curriculum, instruction, and assessment
8. Further develop partnerships with post-secondary schools, using data gathered therefrom to inform the revision of curriculum and instruction through data analysis
9. Collect data from current students and alumni and use them to inform the revision of curriculum and instruction
10. Develop and implement a formal assessment plan that includes the regular use of both formative and summative assessments in all subject areas

SUPPORT STANDARDS

SCHOOL CULTURE AND LEADERSHIP

SCHOOL RESOURCES FOR LEARNING

COMMUNITY RESOURCES FOR LEARNING

5 School Culture and Leadership

The school culture is equitable and inclusive, and it embodies the school's foundational core values and beliefs about student learning. It is characterized by reflective, collaborative, and constructive dialogue about research-based practices that support high expectations for the learning of all students. The leadership of the school fosters a safe, positive culture by promoting learning, cultivating shared leadership, and engaging all members of the school community in efforts to improve teaching and learning.

1. The school community consciously and continuously builds a safe, positive, respectful, and supportive culture that fosters student responsibility for learning and results in shared ownership, pride, and high expectations for all.

2. The school is equitable, inclusive, and fosters heterogeneity where every student over the course of the high school experience is enrolled in a minimum of one heterogeneously grouped core course (English/language arts, social studies, math, science, or world languages).

3. There is a formal, ongoing program through which each student has an adult in the school, in addition to the school counselor, who knows the student well and assists the student in achieving the school's 21st century learning expectations.

4. In order to improve student learning through professional development, the principal and professional staff:
   - engage in professional discourse for reflection, inquiry, and analysis of teaching and learning
   - use resources outside of the school to maintain currency with best practices
   - dedicate formal time to implement professional development
   - apply the skills, practices, and ideas gained in order to improve curriculum, instruction, and assessment.

5. School leaders regularly use research-based evaluation and supervision processes that focus on improved student learning.

6. The organization of time supports research-based instruction, professional collaboration among teachers, and the learning needs of all students.

7. Student load and class size enable teachers to meet the learning needs of individual students.

8. The principal, working with other building leaders, provides instructional leadership that is rooted in the school's core values, beliefs, and learning expectations.

9. Teachers, students, and parents are involved in meaningful and defined roles in decision-making that promote responsibility and ownership.

10. Teachers exercise initiative and leadership essential to the improvement of the school and to increase students' engagement in learning.

11. The school board, superintendent, and principal are collaborative, reflective, and constructive in achieving the school's 21st century learning expectations.

12. The school board and superintendent provide the principal with sufficient decision-making authority to lead the school.

Conclusions

The school community consciously and continuously builds a safe, positive, respectful, and supportive culture that fosters student responsibility for learning and results in shared ownership, pride, and high expectations for all in most areas. The Lowell High School community consciously works to create a safe school culture. LHS emergency protocols are current and include detailed staff responsibilities during various potential safety issues including fire, lockdown, and evacuation drills. Each of the three buildings has a safety plan and drills are conducted regularly in accordance with state requirements. Security personnel, four school resource officers (SROs) and six security guards are present in the hallways and outside school entrances. The SROs responsibilities are demanding due to the need to cover the three main LHS buildings as well as the alternative school campus. The school uses closed circuit cameras for monitoring school activity but some of the 91 cameras are damaged. During the school day, students move freely in the corridors without overt supervision. Although, according the LHS handbook, the school scheduled students for all periods, ostensibly leaving little opportunity for students to be in the hallways during class time. All students are required to wear ID badges for easy identification. When students are found not to be wearing their badges, they are approached by an adult in the building and are subject to disciplinary consequences. The Endicott survey results indicate that 62 percent of students feels safe at school while at the same time, 33 percent of the student population feels bullying is a concern at LHS. Seventy-one percent of parents reports that the school provides a safe school culture. The LHS school community consciously works to create a positive school culture. The school publically recognizes student achievements in a variety of ways: on bulletin boards, with high five cards, on the school's website and social media outlets, with gift cards, lunches in the school restaurant, and paper bucks at the school store. School administrators and teachers regularly attend school plays, sporting events, and other school functions. The Endicott survey results indicate that 60 percent of students says they are proud of their school and school hallways are visibly free of trash and graffiti. LHS gear is worn proudly during the school day at school events and graduates continue to wear their LHS attire. Although the school has exercised initiative to display the core values and vision statement in hallways and classrooms, LHS has yet to embed them fully into the school culture. The LHS school community consciously works to create a respectful school culture in many ways. Recognizing that diversity is a strength and a challenge, the LHS school community promotes tolerance and awareness through school social activities and academic coursework. The International Language Club, with over 500 members, programs a series of monthly cultural awareness events and celebrations involving food, music, dance, and other traditions of the many ethnicities in the LHS community. Events include a Day of the Dead festival, Cambodian New Year, and Three Kings Day. In addition to the many celebrations, LHS offers an English elective for all students called Race, Ethnicity and the Written Word and a social studies elective called Seminar on American Diversity. The LHS school community consciously works to create a supportive school culture in many ways. House improvement plans detail action steps for high-risk students that include calls to parents, home visits, and a weekly review of high-risk student progress. Endicott survey results show that 64 percent of students believes teachers care about their learning, and 60 percent of students feels teachers respect them, but responses

also indicate that only 42 percent of students respects teachers and 42 percent of students respects students. Some classrooms have signage in multiple languages indicating room subjects to assist ELL learners in finding the right classroom. School organizations like the National Honor Society, JROTC, and other student organizations contribute tens of thousands of volunteer hours to their school and the wider community. A continuous emphasis on safety, positivity, respect, and support ensures positive core values upon which to base all teaching and learning. (self-study, emergency protocol plans, students, teachers, School Culture and Leadership Standard Subcommittee, facility tour, student shadowing, classroom observations, Endicott survey, PBIS data, parents, LHS course catalog)

The school is not equitable and inclusive because it does not provide equitable access to challenging experiences for all students in that it fails to ensure that courses throughout the curriculum are populated with students reflecting the diversity of the student body with the goal of fostering heterogeneity in support of the achievement by all students of the school's 21st century expectations. The course catalog indicates a total of 50 non-weighted classes; however, only thirteen of them are in core class areas: 7 in English: (3 for MCAS or SAT prep); 4 in mathematics (3 for ACCUPLACER, SAT, or MCAS); 1 in science (MCAS prep); and none in social studies or world languages. The rest of the non-weighted classes are electives or English language learner (ELL) classes. Broad data about the level of student enrollment numbers in non-weighted classes is lacking; however, a review of student (22) and teacher (17) schedules (including 9 core class and 8 SPED/ELL classes) indicates no evidence of student enrollment in a core class that was heterogeneously grouped. Additionally, no core class teacher taught any non-weighted classes. Special education students are included in classrooms across all academic levels; however, ELL students tend to be grouped within class/grade levels. Only 25 percent of parents believes their children can enroll in heterogeneous classes. LHS, however, was awarded the Gaston Caperton Award from the College Board which recognizes districts for creating opportunities for traditionally underrepresented students; expanding access to higher education by providing students with rigorous academic offerings and innovative college-preparation programs; and demonstrating significant and consistent growth in the number of traditionally underrepresented students and low-income students taking college-level courses, and applying to four or more colleges. LHS is not yet ready to fully tackle the complex issue of heterogeneous grouping. Emphasis on equity is paramount to ensure that all students are in positions to achieve at their highest levels. (self-study, classroom observations, student schedules, teacher schedules, school leadership team, School Culture and Leadership Standard Subcommittee, teachers, Endicott survey, classroom observations, student shadowing)

The school does have formal, ongoing programs in addition to the guidance counselors which connect students to adults in the school and have the potential to assist students in achieving the school's 21st century learning expectations. In the Freshman Academy, the school uses PBIS (Positive Behavior Intervention System) to connect students to adults and to reduce discipline problems. Freshman seminar is a requirement for all students to ease their transition to the high school and to pair them with an adult mentor in the school. All students at LHS have a daily advisory period which provides the opportunity for staff members and students to form connections over a three-year loop. Endicott survey results show that 62 percent of students says they feel connected with an adult in the school. Forty-four percent of the staff members, including administrators, serves as a mentor or advisor for students and/or student

activities. Sixty-eight percent of parents reports that their children have multiple adults at the school who function as a mentor/advisor. When individual students know that a trusted adult is present to assist them in achieving success, the likelihood of them achieving that success increases. (self-study, panel presentation, students, teachers, classroom observations, Endicott survey, student shadowing)

Collectively, the headmaster and professional staff members have not been able to fully and effectively use professional development to improve student learning. The headmaster and the teachers have had limited opportunities to avail themselves to engage in professional discourse for reflection, inquiry, and analysis of teaching and learning. Since there are limited resources available, the school cannot consistently engage outside agencies/consultants to expand the range of professional development options. Although the school has dedicated some formal time to implement professional development, its current schedule, in which teachers meet once a month, is not sufficient to advance their skills and practices or to improve curriculum, instruction, and assessment in support of student learning. Additionally, the time is often devoted to worthwhile school-wide and district initiatives, but not the extent needed is it responsive to departmental and focused curricular and instructional needs. As a result of these limited opportunities for professional development, the faculty has been unable to nurture a collaborative ethos of reflection and inquiry. Teachers do not have the time, both within and across departments, to routinely and effectively engage in conversations about learning expectations, consistent grading standards, quality of student work, instructional practices, curriculum revision, current research, and best practices. Providing sufficient time for professional development will allow teachers to sharpen and advance their skills, practices, curriculum, instruction, and assessment in support of student learning. (self-study, panel presentation, teacher interviews, administrative leadership team, School Culture and Leadership Standard Subcommittee, Endicott survey, headmaster)

School leaders regularly use two forms of research-based evaluation and supervision processes that focus on improved student learning. LHS is currently piloting the Massachusetts Department of Elementary and Secondary Education's recommended model evaluation process for teacher evaluation. The process focuses on using data to document whether or not teachers are meeting SMART goals for student learning and achieving overall expectations for effective teaching. The LHS department heads are responsible for implementing the Massachusetts teacher evaluations. Additionally, the director of curriculum and instruction initiated Instructional Rounds, based on the text *Instructional Rounds in Education*. The Instructional Rounds are carried out by teams of lead teachers and administrators who make short 10-15 minute observations of a variety of classes and then report back to the leadership team. The Instructional Rounds data is not used for evaluation purposes, and direct feedback is not given to the teachers observed. Instead, the Instructional Rounds data is used to improve student learning at scale, and to anonymously address trends and patterns observed with the whole staff. The state evaluation tool has already provided the department heads with the opening to have focused conversations with teachers, to give constructive feedback, and to refer teachers to observe other teachers. For example, a teacher who is struggling with or is new to leading a Socratic seminar would be referred to observe a teacher who has great experience and success with Socratic seminars. At the district level, administrators completed training in the use of the new state evaluation tool; those administrators in turn trained the headmaster and department heads. As a direct result of the new state evaluation tool, the department heads have

shifted their focus (and worked with teachers to help shift their focus) from delivery of instruction to student outcomes. This difficult shift was greatly facilitated by the format of and conversations around the new state evaluation tool. Because the state evaluation tool has been in place for only two years, administrators do not yet have a data set for more than that same time period. On the other hand, Instructional Rounds provide data that administrators share out in a debriefing, and the administrators have been keeping track of trends both within departments and across the entire faculty. As a result of these observations and conversations, the number of teachers who post their clear objectives visibly for each class has increased from approximately 33 percent to approximately 75 percent. Department heads have also implemented the "launch, explore, and summarize" model as a direct outcome of the Instructional Rounds. Many teachers would like to see the Instructional Rounds teams expanded to include additional classroom teachers, beyond simply lead teachers. Administrators have said they, too, hope to expand the teams as the program grows. In addition, LHS has dedicated instructional specialists who review testing data regularly and offer instructional support to teachers. Teachers recognize the value of data-driven instruction, but express a hope for timely and increased access to student data, as well as for additional training on how to analyze available data and apply it to practice. When school leaders regularly use research-based evaluation and supervision processes that focus on improved student learning and include the teachers as active participants and observers, the process, the quality of delivery of content, and student learning improves. (self-study, panel presentation, teacher interviews, department leaders, school leadership, teachers)

The organization of time does not comprehensively support research-based instruction, professional collaboration among teachers, and the learning needs of all students. The master schedule, although reviewed annually to ensure that all students are able to be enrolled in courses that support the school's core values and beliefs about learning, does not allow for formal time on a regular basis for teachers to collaborate which is not conducive to supporting implementation of effective instructional practices (e.g., collaborative learning, inquiry-based instruction). More basically, many teachers do not have time to formally collaborate across content areas, and few teachers can collaborate regularly with teachers within their content areas. The school leadership estimates that up to 50% do have some formal opportunity to collaborate (all Freshmen Academy teachers, those provided collaborative time by department heads, and other groups such as the PLN groups for geometry, algebra, and pre-calculus teachers). During past reviews of the master schedule, the school has considered and explored variations in said schedule (e.g., flipped schedule). The school has already divided into houses as an organizational strategy, in order to meet the needs of its students and teachers; however, the school has been unable to adequately meet identified faculty needs and desires. A master schedule that collectively supports research-based instruction, professional collaboration among teachers, and the learning needs of all students, advances the interests of all stakeholders. (self-study, panel presentation, teacher interviews, School Culture and Leadership Standard Subcommittee, Endicott survey, headmaster, guidance counselors, master schedule)

Current student load and average class sizes enable teachers to meet the learning needs of individual students. The average class size for core courses is fewer than 30 students per class and between 20-25

students per class for non-core courses. The ratios have been maintained despite financing/budgetary issues. LHS currently offers over 1,000 courses. Given the large number of courses offered, there are only eight with 30-plus students enrolled. Additionally, the Endicott survey supports the reasonability of class sizes. Seventy-seven percent of students agrees that class sizes are reasonable and meet their learning needs; 64 percent of parents agrees that the current class sizes are reasonable and meet their children's needs. Only 11 percent disagrees. The survey results from faculty were mixed: 43 percent of LHS staff agrees and 42 percent disagrees. Maintaining workable class sizes enables teachers to effectively meet the learning needs of individual students. (self-study, master schedule, Endicott survey, guidance counselors)

The headmaster, working with other building leaders, consistently provides instructional leadership that is rooted in the school's core values, beliefs, and learning expectations to the degree that they currently understand them. It is not entirely clear that teachers and students truly understand how in practical application the school's core values, beliefs, and learning expectations should be driving all endeavors in the school. The Endicott survey results mirror the fact that the headmaster has made championing students as his central focus, while delegating faculty leadership and support to the director of curriculum and instruction. Sixty-seven percent of the students agrees and only 10.1 percent disagrees that the headmaster is clear about what he wants the school to accomplish for all of the students, while only 55.3 percent of the faculty agrees and 22.3 percent disagrees that the headmaster and other school-based administrators provide instructional leadership that is consistent with the school's core values, beliefs, and learning expectations. The headmaster very publicly models the core values of the school by the breadth of his direct interactions with and positive support of the students and the many programs he has established to benefit them. The headmaster usually starts his day standing outside the school in the morning greeting students; he is seen regularly walking through the halls of the school interacting with students; and he can be seen at virtually every school event, talking with students, encouraging them, praising them, and shaking their hands. The headmaster visits classes regularly, sits down in the cafeteria to dine and converse with students, and implemented the policy that mandates that most administrators assume responsibility for an advisory group in order to stay in touch with the students. The headmaster ensures that the teachers are focused on the school's beliefs about learning and instructional practices by providing them with a clearly delineated organizational chart, which has been newly revised for greater clarity and efficiency. The director of curriculum and instruction has immediate responsibility for providing instructional leadership in keeping with the school's core values and beliefs. Under the leadership of the current director of curriculum and instruction, the school has launched Instructional Rounds in an effort to improve student learning and mastery of the school's 21st century expectations. Additionally, the school has started an LHS Educator Workshop Series that allows current school leaders to share their knowledge and experience on various best practices in classroom management, differentiated instruction, working collaboratively, and using technology, all based around the main focus of strategies to improve instruction in secondary classroom. The school has also adopted the Positive Behavior Intervention and Support (PBIS) program for the Freshman Academy, which ties in directly with the school's core values as encapsulated in the school's RIDER acronym: Responsibility, Integrity, Determination, Engagement and Respect. Maintaining a clear focus on instructional practice to advance the level of achievement of the school's learning expectations provides the best circumstances for

maximum achievement by students. (self-study, teachers, school board, central office personnel, school leadership, Endicott survey, teacher interviews)

When it comes to making decisions, the headmaster consults with a variety of groups of administrators for input and discussion; however, teachers, students, and parents are not as involved in formal, meaningful, and defined roles in decision-making that promote responsibility and ownership. The headmaster uses information to inform his decision-making process, but not necessarily as the final word on what the decision will be. An example that the headmaster's decisions support the learning of every student and are generally consistent and fair is that in the past, certain groups would go on field trips during the school day on an ability-to-pay basis. The headmaster decided that if the field trip organizer could not make the trip accessible to all students, it could only happen after school, rather than during the school day. As a result of this decision, some teachers do not pursue field trips unless they are free, but others have gotten creative and sought out grant funding so that all students can partake in the trip; for example, a group going to see a production at the Mass Repertory Theatre was funded entirely by a grant. Faculty meeting time is only scheduled once a month on an early release day. The school has increased effort to utilize meeting time to promote discussion about teaching and learning through collaborative planning, curriculum design and alignment, and the examination of student work. The headmaster has made the students his primary focus: he believes strongly in helping students and aims to find ways to support students achieve success. Beyond his focus on students, the headmaster has made his primary focus establishing community partnerships, such as the dual enrollment programs with UMass Lowell and Middlesex Community College. He meets with housemasters regularly to strategize on how to increase attendance rates and decrease dropout rates, both of which have already improved in his tenure at LHS. The headmaster attends department meetings and department head meetings. There are LHS graduates who are currently in college only because the headmaster made calls to the get the students the financial and academic support they needed get into and stay in college. The headmaster has established many vehicles, which demonstrate to students that their learning is paramount. The headmaster has initiated both an alumni interview program to find out what LHS did well to prepare them for life beyond the school and in what areas LHS needs to improve in order to better prepare their students. He also has established various panels of successful alumni and local successful business people of color speak to speak inspirationally to the students. Historically, the Headmaster's Award was given for the highest GPA; the current headmaster changed the criteria: now the award is given on the basis of greatest amount of student perseverance. The headmaster has used his broad network of community connections for the greatest benefits of learning by building up an extremely large scholarship base. Specifically, last year over 220 graduating students received scholarships spread out over different areas of success. The headmaster has redecorated the school main entryway from an athletic trophy and sports photo display area with a banner that proclaims that LHS is a teaching and learning community. He also volunteered to use a DESE survey, which gives students the opportunity to voice direct feedback about teachers and the administration. When the headmaster, working with other building leaders, consistently provides instructional leadership that is rooted in the school's core values, beliefs, and learning expectations, the resulting broad range of learning opportunities presented to students greatly increases the likelihood of student success. (self-study, panel presentation, facility tour,

teacher interviews, students, school board, department leaders, school leadership, teachers, Endicott survey)

The headmaster religiously maintains office hours attends all "friends" meetings, Lyceum parents meetings, maintains an open door policy at open house nights, seeks teacher input from the Cultural Competence Task Force, and volunteers for the grading policy committee and the PBIS committee. What is less in evidence is any clearly defined structure for securing input on a broad basis from parents, students, and teachers and for providing a formal role in decision-making for those key stakeholders. Accessibility and openness to feedback from parents, students, and teachers is not modeled and does not allow stakeholder voices to be sufficiently heard. There are currently no formal mechanisms for staff, students, or parents to provide input into school initiatives. Endicott survey data indicates that only 28 percent of teachers feels their input is important, and there are indicators that staff feels their input is sought only after the decision has already been made. Rapid changes in leaders and leadership styles at the headmaster level coupled with the adoption of a new evaluation system have left the teachers feeling disengaged. Parent data reflects that 53 percent respondents feels they have input into decisions despite no formal method for doing so. Only 48 percent of students feels they have input into decision-making, and there is no formal method to provide input and/or effect change. Staff, student, and parent involvement in initiatives and decision-making is limited and inconsistent. Involving teachers, students and parents in meaningful and defined roles in decision-making promotes responsibility and ownership in the school community. (self-study, student, parents, Endicott survey, School Culture and Leadership Standard Subcommittee, teachers, department leaders)

Teachers exercise initiative and leadership essential to the improvement of the school and to increase students' engagement in learning on a limited basis. Although teachers do not serve broadly on committees that review and revise curriculum and instructional practices, they do actively engage in leading or participating in other initiatives in the school, including after-school clubs and activities such as the LHS physics and engineering clubs. Lowell High School teachers serve as lead teachers and represent the high school on vertical teams. Additional teachers serve as members of the district STEM committee and as liaisons with the DESE. Successfully applying for grants, LHS teachers have designed focused STEM after-school projects and have facilitated curriculum development. Some teachers train and coach their colleagues. Significantly, teachers played an important role in creating the Welcome Wall near the main entrance that promotes the value of diversity. Although most teachers are limited to the once a month professional development offered by the school, they collaborate with some fellow colleagues when time permits on a limited basis. When teachers exercise initiative and leadership essential to the improvement of the school, students' engagement in learning increases. (self-study, teacher interviews, School Culture and Leadership Standard Subcommittee, administrative leadership team, teachers)

The school committee, superintendent, and headmaster are collaborative, reflective, and constructive but not specifically focused toward achieving the school's identified 21st century learning expectations. The current superintendent has been in the position since July 2015. The superintendent holds two meetings a month with two different groups of school principals; because there is only one high school, the LHS

headmaster attends both meetings. In these meetings with the superintendent, principals and the headmaster are able to bring both long- and short-term visions, goals, and issues to the table and receive feedback. The superintendent also meets on a weekly basis with the LHS headmaster. The school board uses a subcommittee model for dealing with the wide range of areas affecting the management of the city's school. Ten different subcommittees support handle topics as they arise. When the curriculum and instruction and the LHS subcommittees meet, the superintendent (or one of his designees) and the LHS headmaster also attend the meeting. Agenda items from past meetings, for instance, comprised the following: assessment, PARCC, MCAS, DDMs, Teachpoint, technology updates, Naviance, Race to the Top planning, instructional leadership, Virtual High School, Youthbuild, Career Academy, Latin Lyceum update, UTeach Partnership, and summer school. Although the above listed agenda items are relevant to the school's learning goals, they do not always represent an intentional focus on or a full encompassing of the goal of achieving the school's 21st century learning expectations. The lack of a directed focus on achieving the school's 21st century learning expectations can hinder at the district level the ability of students to achieve those learning expectations. (self-study, school board, central office personnel, school leadership)

The school board and superintendent definitely provide the headmaster with sufficient decision-making authority to lead the school. The duties and responsibilities of the headmaster, as documented in the job description, focus on administrative, instructional, and student leadership skills, as well as on requirements for community relationships. The job requirements, however, do not include specific reference to upholding the schools' core values and beliefs about learning. Nonetheless, the district policy and procedure manual and the superintendent and the school board do show the sufficiency of the headmaster's decision-making authority. At the request of the principals and the headmaster in their first meeting with the new superintendent, the superintendent granted them more autonomy in their budgets. The headmaster has received autonomy to create the professional development that is relevant to the high school. The district and headmaster/school leaders collaborate regularly. For example, the district leaders and principals/headmaster collaborated to develop and implement both a tutoring policy and an allergy policy. Another example is that there is an annual budget meeting day during which all principals and headmasters collaborate to establish the budget. The granting of sufficient autonomy to the headmaster ensures that decisions will be closer and in concert with those stakeholders who will be most affected by the outcome of the various decisions. (self-study, teachers, school board, central office personnel, superintendent, headmaster, school leadership)

Commendations:

1. The numerous strategies adopted to ensure a safe school culture, including the development of emergency protocols for lockdowns and evacuation drills, the use of closed circuit cameras to remotely supervise areas throughout the building, and the employment of security personnel and school resource officers (SROs)
2. The wide range of strategies employed to maintain a positive school culture such as celebrating student achievement on bulletin boards, with "high five" cards, on the school's website and

social media outlets, and the redesign of the of the main entryway with an emphasis on LHS as a teaching and learning community

3. The numerous school social and academic practices that support a respectful school culture such as The International Club; monthly cultural awareness events and celebrations such as the Day of the Dead Festival, Cambodian New Year, and Three Kings Day; and the establishment of an English elective course for all students called Race and Ethnicity
4. The highly effective adoption of the advisory period (for grades 10-12) and the freshman seminar (for grade 9) to encourage connections between students and an adult who knows them well who can assist them in achieving the school's 21st century expectations
5. The adoption and the ongoing expansion of the Positive Behavior Intervention System as a mode for developing and maintaining a positive, unified culture on a school-wide basis
6. The strong commitment to improve student learning as demonstrated by the willingness of the school to piloting the new Massachusetts DESE model for teacher supervision and evaluation
7. The director of curriculum and instruction's adoption of positive initiatives aimed at improving teaching and learning such as the introduction of the Instructional Rounds protocol for gathering data on instructional practice across the faculty
8. The commitment to maintain/reducing class sizes as evidenced by maintaining staffing levels even in the light of declining enrollment to enable teacher to better met individual student needs
9. The headmaster's consistently strong individualized support and broad-ranging advocacy for student success, including the establishment of community partnerships, the emphasis on increasing attendance rates and decreasing the dropout rate, the initiation of an alumni interview program, the development of a large scholarship base, and strongly emphasizing community partnerships, such as the dual enrollments with UMass Lowell and Middlesex Community College
10. The establishment of the LHS Educator Workshop Series allowing current school leaders to share their knowledge and experience on various best practices in classroom management, differentiated instruction, working collaboratively, and using technology with the main focus of improving instruction
11. The positive presence of collaborative and supportive structures and open lines of communication in place between and among the school committee, superintendent, and headmaster

Recommendations:

1. Assess the reasons behind the relatively large number (33 percent) of students who identified bullying as concern and pursue remedies to address this perception
2. Complete a needs assessment and develop a plan, with both short- and long-term components, to continue to increase the level of equitable access to challenging students for all students
3. Develop, with sufficient input from faculty members and LHS administrators, fund and implement a comprehensive professional development schedule that will avail teachers and allow sufficient time to meet for a broad range of professional development opportunities

4. Develop a plan to expand Instructional Rounds groups as a method of expanding the school's range of instructional strategies to include more classroom teachers, not simply lead teachers
5. Develop and implement a comprehensive master schedule that will, not only, meet the learning needs of the LHS students but also, create flexibility for teachers to collaborate with other teachers both horizontally and vertically to ensure smooth curricular transitions and the spread of best practices
6. With input from all appropriate stakeholders, develop a comprehensive plan to guide the use of faculty meeting time (more collaborative time and less administrative housekeeping), department meeting time (more opportunity for collaboration among teachers), and non-instructional teacher time (more designated common planning time) to focus more clearly on the achievement of the school's 21st century expectations
7. Identify and develop various structures and procedures which will provide parents, students, and teachers the opportunity for input into the school's decision-making process and will establish formal roles for them as key stakeholders in the advancement of the school and the achievement of its expectations

6 School Resources for Learning

Student learning and well-being are dependent upon adequate and appropriate support. The school is responsible for providing an effective range of coordinated programs and services. These resources enhance and improve student learning and well-being and support the school's core values and beliefs. Student support services enable each student to achieve the school's 21st century learning expectations.

1. The school has timely, coordinated, and directive intervention strategies for all students, including identified and at-risk students, that support each student's achievement of the school's 21st century learning expectations.

2. The school provides information to families, especially to those most in need, about available student support services.

3. Support services staff use technology to deliver an effective range of coordinated services for each student.

4. School counseling services have an adequate number of certified/licensed personnel and support staff who:
   - deliver a written, developmental program
   - meet regularly with students to provide personal, academic, career, and college counseling
   - engage in individual and group meetings with all students
   - deliver collaborative outreach and referral to community and area mental health agencies and social service providers
   - use ongoing, relevant assessment data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations.

5. The school's health services have an adequate number of certified/licensed personnel and support staff who:
   - provide preventative health services and direct intervention services
   - use an appropriate referral process
   - conduct ongoing student health assessments
   - use ongoing, relevant assessment data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations.

6. Library/media services are integrated into curriculum and instructional practices and have an adequate number of certified/licensed personnel and support staff who:
   - are actively engaged in the implementation of the school's curriculum
   - provide a wide range of materials, technologies, and other information services in support of the school's curriculum
   - ensure that the facility is available and staffed for students and teachers before, during, and after school
   - are responsive to students' interests and needs in order to support independent learning
   - conduct ongoing assessment using relevant data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations.

7. Support services for identified students, including special education, Section 504 of the ADA, and English language learners, have an adequate number of certified/licensed personnel and support staff who:

   - collaborate with all teachers, counselors, targeted services, and other support staff in order to achieve the school's 21st century learning expectations
   - provide inclusive learning opportunities for all students
   - perform ongoing assessment using relevant data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations.

Conclusions

The school has an effective system for implementing timely, coordinated, and directive intervention strategies for all students, including identified and at-risk students, which support each student's achievement of the school's 21st century learning expectations. Teachers and administrators are very responsive to parent communications about struggling students, and students feel teachers are approachable and available for extra help, as needed. Teachers refer students who are not meeting with success to a teacher assistance team (TAT) which reviews data, suggests classroom interventions, contacts parents, and alerts necessary student support services. The school formulates a plan, if necessary, with specific interventions, and the plan is reviewed four weeks later. Further actions also can include more intensive interventions, referrals to outside agencies, and referrals for special education testing. Appropriately licensed personnel schedule identified special education students into classes that honor the least restrictive environment and connect them with services, accommodations, and modifications that allow the students access to the curriculum in a manner that is appropriate for them. All students are expected to access and achieve the same expectations as their general education peers, to the extent that is appropriate for them. Systems are in place to address the needs of homeless students and students who are hospitalized for extended periods. Alternative placements are available for students who require them, including the LeBlanc Day School and Lowell High School Career Academy. LHS has pursued several grant-funded programs to provide comprehensive educational opportunities to various at-risk populations within the student body. These programs include a therapeutic day school (LeBlanc Day School), the student leadership and mentoring program for upperclassmen, compensatory services for students who have been suspended for long periods of time or who are not meeting with success in a traditional high school, and a before and after school tutoring program in the library. Because the school has a system, involving teachers, parents, students, and staff, to identify students in need of support, researching and communicating those needs to all stakeholders, and providing adequate resources for intervention, students have the opportunity to make academic progress in a fashion that is appropriate for them. These processes adequately meet the needs of the student population, with the exception of a growing population of students who present with the possibility of being both English language learners (ELL) and in need of special education involvement. Resources are scant for providing valid, reliable, and authentic assessments for special education consideration in students who are involved with ELL services. Standardized assessment materials and services (intelligence, achievement, behavioral/emotional, speech/language testing) in a student's native language are rarely, or not at all available. Maintaining access to intervention and special services for all students ensures that each student has equitable access to the services needed for achieving the mastery of the school's 21st century expectations. (self-study, teacher interviews, classroom observations, student shadowing, student work, parents, teachers, school leadership, school support staff)

The school provides a wealth of information to families about available student support services. This information in written form, however, is almost exclusively available in English, denying access to those most in need, a significant shortcoming particularly given that 45 percent of students reports a primary

home language other than English. The school provides a wide range of information about educational opportunities outside of LHS for struggling students (e.g., JobCorps, YouthBuild, UTEC), for health services (e.g., suicide hotlines, birth control and pregnancy support, drug and alcohol prevention, eating disorder support), for partner programs (e.g., Catie's Closet, SCORE, Upward Bound), and for after-school programs. The LHS Parent and Student Handbook is online on the school's website, as is helpful information about programs such as free and reduced price lunch. Attached forms, however, are posted only in English. The school communicates reminders to families via *Connect-Ed* on a consistent basis, although these calls are primarily in English. Families also communicate with other families at sporting events, helping spread the word about available services. The school informs students of opportunities by way of visits to their advisory by guidance counselors; students can then pass that information on to their families. Teachers are responsive to emails from families about student progress and regularly keep online records updated. LHS teachers, however, use a variety of different programs to report student progress (X2, EdLine, and Google Classroom), which can be confusing for families. The ELL department supports family access to these programs by holding an annual event for families of ELL students to learn how to use X2 for checking attendance and grades for their students. While the school's website can be translated automatically by Google, there is no availability of materials in other languages, with a few exceptions (parent handbooks from 2013-2014 in Spanish, Portuguese, and Khmer). A significant portion of ELL students are refugees and their families may not be literate in their native language or proficient in using the Internet. Part-time liaisons in the student support office speak Spanish, Burmese, French, and Khmer. Tutors on staff sometimes serve as translators. A consistent or reliable system for translation is lacking, nor are there always translators available for different specialized situations. The Endicott survey shows 76.7 percent of families is in agreement that student support service information is provided; however, all 1,150 families responding were surveyed in English only. Given the large diverse population at LHS, it is likely that families who are not proficient in English are in need of support services but have no reliable way to communicate with LHS staff. These families will not benefit from the wealth of options available for student support due to the lack of appropriate translation services undermining the ability of the school to meet all student needs. Access to critical information is the key to bringing services to bear on student needs. (self-study, parents, department leaders, School Resources Standard Subcommittee, Endicott survey, cafeteria manager)

Across all special service areas, support services staff use technology to oversee and enhance the delivery of an effective range of coordinated services for each student. Technology resources are readily available to staff members for the purpose of recording, developing, and maintaining grade reports, transcripts, special education and 504 plans, and student health records. The special education staff members use Easy IEP for plan development, and accommodations are uploaded to X2 for teacher access. Guidance counselors use Naviance, X2, Parchment, the DESE data warehouse, the College Board's website, EdLine, and Google Docs. Nurses manage student health documentation with Healthmaster software and upload medical alerts into X2. The library/media services program uses an automated student management system for checking books in and out and for writing resource reports. Additional examples of technologies used are a Brightlinks interactive screen for teaching research skills, the 30 computers in the main library class use area, and an additional lab adjacent to that room. Google Docs is the save mode of choice. The library media specialist uses virtual resources such as

databases and electronic books as well as audiobooks to supplement classroom materials for teaching and research. When the student support services staff members can and do leverage their efforts through the use of technology, they more effectively provide a wide range of coordinated and efficient services to a student body with diverse needs. (self-study, teacher interviews, classroom observations, teachers, student shadowing, student work, parents, school leadership, school support staff)

Student counseling services have an adequate number of certified/licensed personnel and support staff members who deliver a wide array of services but without formal coordination. Student counseling services at LHS are plentiful and high quality and are coordinated through the director of student support services through weekly meetings and delivered by house offices to meet the needs of students. Guidance counselors have begun to deliver a written, developmental program through the advisory period. They meet regularly with individual students to provide personal, academic, career, and college counseling. They engage in individual and group meetings with all students, although much more frequently with 12th grade than with younger grades. With the newly developed comprehensive guidance curriculum, students in grades 9-11 are receiving significantly more services and information than in years past. House social workers and housemasters partner with guidance counselors to deliver collaborative outreach and to make referrals to community and area mental health agencies and social service providers. House teams use ongoing, relevant assessment data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations, through the teacher assistance team (TAT) process. The house team is an effective structure for ensuring school counseling services are implemented well for all students. Students receive myriad supports through their house team. Each of the four houses serving grades 10-12 has a housemaster, two guidance counselors, a social worker, and two clerks, a team that works collaboratively to deliver services to the students under its care. The Freshman Academy has a similar structure with one extra guidance counselor. A crisis coordinator works across houses to investigate bullying, self-harm issues, and staff/student conflicts. Eight additional staff (four from TRIO/Upward Bound and four from Talent Search/Gear Up) support college and career access. Three guidance counselors staff a college and career center. A mediation coordinator trains students annually and maintains an active roster of trained peer mediators. The coordinator of student support services supervises these individuals. Guidance counselors attend advisories regularly to deliver announcements, share information, and connect with students. Each guidance counselor works with about 13-15 advisories from grades 10-12 (including 9th grade repeaters). Guidance counselors have created a month-by-month schedule with key goals for these meetings and have also designed lesson plans for advisory sessions.

Guidance counselors meet all students individually at least once a year for scheduling. They meet with seniors at the start of the school year, and then have numerous follow-up sessions as they complete post-secondary planning. Students are very comfortable going to their guidance counselors and find them to be supportive. Guidance counselors have an overall caseload of 260-300 students. Guidance and career counselors expose non-college bound students to a variety of post-secondary planning options, including community-based job training and placement opportunities, adult education services, resources for ELL students, and military career centers. House social workers work with the rest of the house team to make external referrals for students when necessary. A quarterly newsletter called "Connections" helps inform

staff and families of services provided by the social workers, and includes their contact information. Students can also be referred to one of LHS's alternative programs through the house team. Each house team conducts a quarterly review of student performance.

As noted above, services are coordinated through the house office and the director of student support services. All outreach and support is logged through Aspen, creating a record so to enable the school to track any interventions and supports that each student receives. Weekly house team meetings run by housemasters and weekly guidance meetings run by the director student support services allow for collaboration and open communication to ensure the coordination of services provided. The school provides a wide variety of available student support service programs; however, there is no one single source where all student support services are listed and can be easily accessed by all LHS community members. For example, the Boys and Girls Club serves about 80 LHS students, but not all student support service staff are familiar with what kinds of services the Club provides. Different students could receive different student support service options, depending on which staff member they work with. The newly created guidance curriculum was designed to improve the consistency in services provided throughout the school. Weekly guidance meetings are used to review the curriculum/calendar and to inform counselors of all student support services and options available. A student who needs a particular program may not be connected to it because of a lack of consistent access to knowledge about the range of available options. House teams use the teacher assistance team (TAT) process to support students who are struggling. Students can be identified by any stakeholder, but most frequently by classroom teachers; upon referral, the guidance counselor then oversees the creation and implementation of an intervention plan. The team follows students for a four-week cycle focused on improvement. The connection between the TAT process and 21st century learning expectations is unclear. The school lacks any codified process for conducting ongoing assessment using relevant data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations. Being able to effectively track student support service delivery enables the school to assess whether all students are given equitable access across all subgroups. (self-study, student shadowing, panel presentation, students, parents, department leaders, school support staff, School Resources Standard Subcommittee, Endicott survey)

The school's health services have an adequate number of certified/licensed personnel and support staff who provide preventative health services and direct intervention services; use an appropriate referral process; conduct ongoing student health assessments; and use ongoing, relevant assessment data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations. The health services at LHS are comprehensive, accessible, integrated, and responsive to the needs of the student body. LHS uses a traditional school nurse office model with an office in both the Freshman Academy and the 1980 building. The Freshman Academy nurse office houses one full-time nurse and one support staff. The nurse's office in the 1980 building houses three full-time nurses and one full-time Spanish/Portuguese translator. These offices provide traditional school nurse health management services that include records management, triage, attention to minor injuries, parent contact, and referral services. The nurse office maintains a supply of emergency medication including EpiPens and Narcan. Students must have their student ID and a pass

from a teacher to access services at the nurse offices. No walk-in services are available without a pass. The nurse refers students with further needs to the school-based health center (SBHC) or outside agencies on an as-needed basis. Translation services available to the school nurse office, however, are inadequate, and sometimes health professionals must ask another student to translate for them, which is potentially a violation of HIPPA.

School nurse office spaces are adequate for confidential service delivery and for meeting the needs of the student body. The school is seeking to conserve office space by, instead of keeping paper copies, increasing the usage of paperless systems, including entering medical records into the Healthmaster system. The school is equipped with several automatic defibrillators stationed throughout the building and the school has identified and trained health emergency response personnel in their use. Two full-time nurses staff the special education department and tend to the needs of students with disabilities, including tube feeding and instruction in hygiene and personal care.

LHS also houses a school-based health center (SBHC), a satellite of the Lowell Community Health Center, funded by a state grant, and thereby is able to bill out to private health insurance. SBHC services are available by referral or walk-in and include sick visits, physical and sports exams, mental health and nutrition counseling, preventive education and immunization clinics, reproductive health, and referrals to outside agencies. SBHC staff comprises a nurse family practitioner, licensed clinical social worker, and medical assistant. This center is a vital resource that improves and encourages a positive relationship between the students and the community. SBHC falls under the jurisdiction of Massachusetts Department of Public Health and the US Health resources and Services Administration. SBHC has access to a phone line which offers reliable, professional, and immediate translation services in any language; this service is only used by the SBHC. The SBHC also refers out to other agencies on an as-needed basis, and is often able to connect a student with health-related services within the Lowell Community Health Center. All health care services housed within LHS follow appropriate guidelines which govern confidentiality and privacy. Student health assessments are ongoing and comprehensive. School nurses review student health data annually for compliance with immunization requirements and can refer students to SBHC for immunization clinics. School nurses also perform hearing, vision, posture, and BMI screenings and follow-ups with related services as needed. SBHC staff review data and adjust practice in accordance with their own governing body's procedures. The school nurse office reviews dismissal data annually and look for patterns and areas of concern. Clinical practice is reviewed and altered in response to this data, including increased collaborative management of chronic health issues, parent permission, and doctor's orders for over-the-counter medication for individual students. Students at LHS have access to a responsive, well-staffed array of health service options, which allows them to quickly manage their health-related needs and remain focused on academics. The school lacks any codified process for conducting ongoing assessment using relevant data, including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations. When comprehensive services, including those provided by the SBHC, are responsive to student needs and are provided on-site promptly, the amount of time students must spend off-campus addressing their healthcare needs is minimized. (self-study, teacher interviews, classroom

observations, student shadowing, student work, parents, teachers, school leadership, school support staff)

Library/media services are partially integrated into curriculum and instructional practices; have an adequate number of certified/licensed personnel and support staff but who are not fully engaged in the implementation of the school's curriculum; provide a wide range of materials, technologies, and other information services in support of the school's curriculum; ensure that the facility is available and staffed for students and teachers before, during, and after school; are responsive to students' interests and needs in order to support independent learning; but do not conduct ongoing assessment using relevant data including feedback from the school community, to improve services and ensure each student achieves the school's 21st century learning expectations.

The Lowell High School library is sufficiently staffed with a licensed library media specialist supported by two assistants, a level of staffing adequate to support the school's curriculum and the curriculum frameworks. According to the Endicott survey, 51.1 percent of staff members states that library/media services has sufficient certified/licensed personnel and support staff; 28.2 percent disagrees. The library media services are integrated into the curriculum but not fully integrated in the implementation of the school's instructional practices. To that end, the library media specialist regularly meets with the director of curriculum and instruction, department heads, and teachers. She provides a two-day orientation program for all thirty-two 9th grade classes that targets 21st century skills: research, higher order thinking, and decision-making. The librarian focuses on the search processes for both print and non-print materials, the independent use of resources, the use of databases and Google Docs, the proper citation of sources, and the evaluation of websites. The library media specialist offers some professional development using 21st century resources such as databases and eBooks for teachers to use as part of their assignments; however, attendance has been limited at those professional development sessions. Teachers attend the technology professional development presented twice per week by the technology integration staff member who trains teachers how to use Google Docs and other technology functions with their classes when doing assignments.

The library/media specialist provides a wide range of 21st century materials, technologies, and other information services in support of the school's curriculum and student expectations. The center contains over 25,528 books but, based on copyright dates, some are outdated. Books are accessible through a computerized checkout system before, during, and after school. The library media center has periodicals, newspapers, classroom video services, and tapes for teacher use. According to the Endicott survey, 75.9 percent of students strongly agrees/agrees that the library provides them with a wide range of materials, technology, and other information services. The library media specialist, who orders the materials teachers need as well as books requested by students, has secured digital eBooks free from the state library to increase the number of titles and currency of the dated book collection and has acquired access to the state's new eBooks contract which offers over 100,000 electronic books for a few hundred dollars.

The district provides instructional technology support and funding for building-wide equipment; however, the library media specialist also purchases equipment from her own budget. She also has the

responsibility for booking reservations for the library computer labs around the building. Thirty computers are available in the main library room, with a computer lab adjacent to the library. Computers are available through the computer labs in the building, and the 21st century resources are made available through the library's website as a solution to outdated books in the library. Students who do not have computers at home come to the library to access information and work on assignments.

Library media services, coordinated by the librarian and supported by a Shannon Grant, ensure that the facility is available and staffed for students and teachers before, during, and after school to the best degree possible for the population of the school. Teachers report that they do not have the opportunity to use the library because the size limits its availability and use. Significantly, the Freshman Academy building has no library facility. The library is open after school for additional uses. For example, grant-funded tutoring services are available at that time and a library paraprofessional is available to help students who come in. According to the Endicott survey, 86.2 percent of students agrees that the school library is available to them before, during, and after-school hours. The library serves 600-1,000 students on a typical day and the library media specialist schedules teachers into the library via an online calendar. Some teachers and library staff report, however, that the facility and its resources are inadequate to meet the needs of the student population as well as the curricular and instructional programs. The physical size and configuration of the facility limit opportunities for staff members to schedule whole classroom use of the library media center. They do use the computer labs.

Library/media services are responsive to students' interests and needs in support of independent learning. Eighty percent of students agrees that the library staff is willing to help them find information they need or want. The library media specialist rearranged the library to create small seating areas, including soft comfortable seating for students to gather in groups. The library hosts 50-60 students or more a day during any given period. During advisory students have the opportunity to come to the library to complete work, work on projects together, or sit and read. The library media specialist orders book titles suggested by students. Students work on projects, use the Internet, or search for items of interest during and before and after school. The librarian orders multiple fiction copies per title to promote reading inside and outside of the center and has reorganized the library's print book layout to organize her fiction collection by genre in an attempt to increase reading. Due to limited budgets, materials to support bilingual studies are developing slowly. Recently however, the library media specialist added 202 English language learner books with some of the materials are at various reading levels according to the library's database statistics. Library/media services do not conduct ongoing assessment using relevant data, including feedback from the school's community, to improve services and ensure each student achieves the school's 21st century learning expectations; however the library media specialist does use several informal methods to gain feedback about the programs and services. An adequately staffed, sufficiently sized, appropriately equipped with an adequate collection and supportive technology, and responsive to the demands of the school's expectations for learning will enhance the ability of students to achieve the school's expectations for learning at the highest possible level. (self-study, library media specialist, library observations, panel presentation, facility tour, teacher interviews, department leaders, student shadowing, Endicott survey)

Support services for identified students, including special education students, students receiving services Section 504 of the ADA, and English language learners, have an adequate number of certified/licensed personnel and support staff who provide an adequate range of service for LHS, with the specific exception of the life skills program. Staff members generally collaborate with all teachers, counselors, targeted services, and other support staff in order to achieve the school's 21st century learning expectations, formally when possible, and informally when schedules do not align. Staff members regularly perform ongoing assessments using relevant data, including feedback from the school community, to improve services. Staff members, however, do not specifically measure student achievement in terms of the mastery of the school's 21st century learning expectations. LHS special education staff comprises a department chair, over 20 certified special education teachers, several paraprofessionals, in-house OT, PT, speech/language pathology professionals, school psychologists, and an adaptive PE teacher. The ELL staff includes a department chair, 17 certified ELL teachers, several ELL tutors, as well as a school-wide instructional specialist and an integrated technology specialist who also support teachers. Some co-teachers are intentionally scheduled with common planning time. Additionally, the school has created two teacher positions that are responsible for all the achievement testing for the special education process. This allows other special education staff members to spend their working hours delivering instruction and addressing student needs consistently and without interruption. Special education teachers without common planning time with general education teachers collaborate via email, telephone, or on an as-needed basis, but the school does not employ a consistent model for collaboration. LHS provides several different levels of inclusion opportunities for students with special needs: inclusion with consultation, inclusion with co-teaching, pull-out services for study skills, instructional support, reading, targeted math interventions, and social dynamics instruction. The special education department also provides instruction in core subjects by way of a special education teacher in a small size class. The school has established substantially separate classrooms for students with autism, severe or multiple disabilities, and behavioral/emotional disorders. These substantially separate classrooms have one or two certified teachers and paraprofessionals. The level of staffing at these levels is not adequate. Specifically the school lacks adequate, competent, and well-trained 1:1 staffing for students with severe disabilities during transition times, emergencies, and when covering for staff breaks and lunches. Considerable concern exists regarding the quality of materials available in the sensory room, and regarding the hygienic nature of cleaning for medical feeding tubing in the small sink designated for general classroom use in the intensive life skills classroom. Job coaching is part of the life skills transitional services, but there is no existing job coach position at LHS. Transition services are critical for students between the ages of 18-22, and without a job coach there is a significant gap in skills and necessary time spent training students to be successful employees. Classroom teachers have attempted to provide these essential services to their students but are not able to do so because of other classroom responsibilities. The school has little to no adaptive technology assessment for students with special needs. Adaptive technology services are currently provided through ancillary services — occupational, physical and speech/language therapists, and only to those students with the most severe needs. No adaptive technology assessments or services are provided for inclusion students, or students with a 504 plan. No students were observed using technology, and staff were unaware of the potential for students to use adaptive technology in a general education setting. Students who require services under Section 504 bring plan documentation outlining accommodations and strategies to their house

office where house administrative personnel then create the required documents and arrange for parent signatures. The information is then distributed to staff as soon as it is signed.

Students receive ELL instruction in a sheltered setting, with English classes leveled by basic, intermediate, advanced, and transitioning courses. English classes may have students with a mix of grade levels. Content courses may have students with a mix of grade levels and English language development (ELD) levels. The ELL team has the flexibility to move students up or down levels depending on their progress in acquiring English. Some teachers are able to collaborate through common planning time, while others must rely on email, before-school meetings, or after-school meetings. ELL teachers have also created an emergent literacy lab to address the needs of students with limited or interrupted formal education (SLIFE). This flexibility allows the team to adequately instruct students who are below the basic proficiency level. Expanded mental health and counseling services are needed for students who exhibit post-traumatic stress, often affecting students who arrived as refugees, in order for students to achieve the school's 21st century learning expectations. ELL students are included in many LHS programs. While 9th grade ELL students do not attend courses in the Freshman Academy building, they are served by a Freshman Academy guidance counselor. ELL students in the 10th, 11th, and 12th grades are integrated into houses and the advisory program. The school includes ELL students in school-wide programs such as COMPASS, student activities, clubs, and sports. ELL teachers employ regular formative assessments in classes and assess students via the annual ACCESS test. Incoming ELL students are assessed with the W-APT with placements then verified by classroom teachers. The support for teachers of ELLs in general education classrooms is limited to a school-wide instructional support specialist. While most general education teachers are trained in Rethinking Equity and Teaching for English language learners (RETELL), this training is not sufficient to adequately meet the diverse needs of the higher level ELL students at LHS. Additional support, and widely available ACCESS data, especially reported by domain (reading, writing, listening, speaking) is needed. Overall, when LHS identified students are well supported in special education and ELL programs by a large number of well-trained staff, students make comparable academic progress to their general education peers. The provision of sufficient services to address a broad spectrum of student needs especially for supporting former refugee students further enhances the ability for students to make progress toward the maximum achievement of the school's 21st century learning expectations. (self-study, teacher interviews, classroom observations, student shadowing, student work, teachers, parents, School Resources Standard Subcommittee, school leadership, school support staff)

Commendations:

1. The successful pursuit of grant-funded programs to provide comprehensive educational opportunities to various at-risk populations within the student body, including a therapeutic day school (LeBlanc Day School), the student leadership and mentoring program for upperclassmen, compensatory services for students who have been suspended for long periods of time or who are not meeting with success in a traditional high school, and a before- and after-school tutoring program in the library
2. The wealth of strong options for student support, both in and out of school, for almost any need that may arise, including services for struggling students (e.g., JobCorps, YouthBuild, UTEC),

for health services (e.g., suicide hotlines, birth control and pregnancy support, drug and alcohol prevention, eating disorder support), for partner programs (e.g., Catie's Closet, SCORE, Upward Bound), and after-school programs

3. The effective use of a wide array of technology to support the delivery of services to all students
4. The design and highly effective functioning of equitably staffed house-based teams in both grades 10-12 and in the Freshman Academy to ensure that counseling and support services are available for all students
5. The provision of a comprehensive range of varied health service options within the school including preventive health services, health assessments, referrals to outside providers, and the added resource of the school-based health center (SBHC)
6. The high level of engagement of the library media specialist in the integration of library/media services in the school's curriculum by way of regular meetings with the curriculum and instruction supervisor, department heads, and teachers; the orientation to program provided to all grade nine students focused on 21st century skills such as research strategies, higher order thinking, and decision-making; and increasing the range of electronic resources such as eBooks and data bases
7. The library media specialist's redesign of the library through the creation of many small seating areas to make it more welcoming to students and to make it a center for learning for all disciplines
8. The Compass Program pilot program (21st century program grant funded) designed to transition approximately 40 students from 8th to 9th grade during the summer of 2015
9. The maintenance of effective systems for implementing timely, coordinated, and directive intervention strategies for all students, including the focused use of the teacher assistance team (TAT) to support struggling students by reviewing assessment data, suggesting classroom interventions, and bringing to bear necessary support services
10. The provision of training in Rethinking Equity and Teaching for English Language Learners (RETELL) to most general education teachers

Recommendations:

1. Continue to ensure full access to all families to available support services for identified students by providing consistently reliable translation services by translators who are appropriately trained for a given situation (i.e., registration, discipline, initial assessment, crisis, medical needs) in student/parent home languages for both printed materials and in-person meetings
2. Create a coordinated method across all curriculum areas by which students continue to build upon the library media specialist's pre-existing 9th grade 21st century training in independent research strategies, the use of information resources to enhance the achievement of the school's student expectations through higher order thinking, inductive, deductive reasoning, and independent work
3. Develop a codified process for fully engaging the library/media personnel in discussions about curriculum and instruction to ensure appropriate communication about library/media purchases that support teaching and learning

4. Undertake an inventory of available resources in the library media center focusing on the overall age of the collection, its level of integration with the school's 21st century learning expectations, and the suitability of range of resources for English language learners
5. Ensure that the physical size of the library media facility is capable of presenting a fully integrated library/information services program and that funding is sufficient to build and maintain a collection of library materials that fully support ELL students the achievement of the school's identified 21st century expectations for learning
6. Establish a resource for job coaching to help life skills students engage in meaningful employment in a real-world setting
7. Establish a system including special education testing in low-incidence languages to ensure the accurate assessments, distinguishing between student needs in ELL, special education, and/or mental health counseling
8. Ensure that all support service area (counseling, health, library/media services, support services for identified students) regularly conduct ongoing assessments using relevant data including feedback from the school community to improve student services and to ensure that each student achieves the school's s 21st century learning expectations

7 Community Resources for Learning

The achievement of the school's 21st century learning expectations requires active community, governing board, and parent advocacy. Through dependable and adequate funding, the community provides the personnel, resources, and facilities to support the delivery of curriculum, instruction, programs, and services.

1. The community and the district's governing body provide dependable funding for:
   - a wide range of school programs and services
   - sufficient professional and support staff
   - ongoing professional development and curriculum revision
   - a full range of technology support
   - sufficient equipment
   - sufficient instructional materials and supplies.

2. The school develops, plans, and funds programs:
   - to ensure the maintenance and repair of the building and school plant
   - to properly maintain, catalogue, and replace equipment
   - to keep the school clean on a daily basis.

3. The community funds and the school implements a long-range plan that addresses:
   - programs and services
   - enrollment changes and staffing needs
   - facility needs
   - technology
   - capital improvements.

4. Faculty and building administrators are actively involved in the development and implementation of the budget.

5. The school site and plant support the delivery of high quality school programs and services.

6. The school maintains documentation that the physical plant and facilities meet all applicable federal and state laws and are in compliance with local fire, health, and safety regulations.

7. All professional staff actively engage parents and families as partners in each student's education and reach out specifically to those families who have been less connected with the school.

8. The school develops productive parent, community, business, and higher education partnerships that support student learning.

Conclusions

The community and the district's governing body provide funding for a wide range of school programs and services, sufficient professional and support staff, some professional development and curriculum revision, technology support, equipment and instructional materials and supplies, but the funding is not dependable. Lowell High School has numerous and varied course offerings and programs for students. The school catalog describes dozens of different courses and electives in most of the ten departments. The school offers several Pathways in various disciplines (e.g., engineering, culinary, business). The school offers most classes at the honors and college level and also provides numerous AP and dual enrollment offerings as well as a range of targeted ELL and special education courses. Teachers may propose new classes, and classes will run if there is enough student interest. In addition to these academic classes, the school provides curricular enrichment through many student clubs and student support programs such as Trio/Upward Bound. The school maintained appropriate staffing levels for the 2014-2015 school; however, staff assignments are not always equitable, as the size of classes assigned to individual teachers can vary widely due to the constraints of the master schedule. A class size report from May 2015, shows average class sizes range from 17-23 students in most departments with smaller averages in special education and larger in some electives like band. It should be noted that as a strategy of assigning staffing to meet the greatest needs of students, remedial classes have a smaller average size than honors and AP. In 2014-2015 teachers carries a caseload of around 120 students. In the area of professional support personnel, along with the guidance counselors assigned to each house, the support staff includes three additional counselors without specific caseloads who work to support various programs across the school. Some programs rely on grant funding which jeopardizes their long-term existence which becomes dependent on the vagaries of the funding process/sources. For instance, the summer school grant was eliminated recently thus making the recovery of credits needed for graduation more difficult. The tutoring program funded by the Shannon Grant is based on the calendar year and not the academic year which delays the disbursement of funds for several weeks in January. Other grants, such as the Commonwealth Corp initiative for job training and work opportunities and the Perkins grants for career, vocational, and technical education also expand the range of school programs. The school also uses grant funds, which can be uncertain in nature, to underwrite the cost of additional personnel who supplement the teaching and support staff (e.g., Youth Harbors and ELL tutors). The school has provided limited outside professional development in recent years due to lack of funding which has led to a shift in mindset about using existing staff to share their expertise and good practices. The commitment to somewhat of an in-house training model has benefits. Through this model, identified lead teachers in each department provide opportunities for faculty observation of innovative practices, and they also contribute to curriculum revision in some departments. The district supports their additional work through stipends.

Technology personnel complete needed repairs through a ticket request process but repairs are not consistently completed in a timely manner. Technology staffing includes a network manager and 1.5 technicians in the school. In addition, district-wide technicians complete special projects or high volume

ticket requests, a system that works sufficiently well. The tracking of the tickets shows the submission of over 8,500 in a two-year period. The school employs a technology integrations specialist (ITS) who works with the 32 Educating for Growth and Excellence (EdGE) classroom teachers. The ITS serves the needs of the entire school, 200+ teachers, not just EdGE classrooms, for instance helping to roll out and train the staff on the use of new Macbook airs (for every teacher) and to provide workshops and in-class training for all staff at LHS. The EdGE classrooms are equipped with a wide range of technology that supports instructional practice. Students have the instructional materials and supplies that they need, often including a textbook that they can leave at home with another copy in their classroom. Chapter 70 of the Massachusetts General laws requires the city of Lowell to meet net school spending requirements, but this rarely occurs. Once the district finalizes all of the staffing needs and non-personnel numbers (for transportation, special education, equipment, and technology) in the spring, the school department determines what the gap is between spending and revenue and determines how much funding is needed from the city. In 2013, the city fell short of the requirement set by the state by $3.8 million. The 2014-15 school year was the first time that the city met the school spending requirement. The failure to provide consistent funding aligned with the Massachusetts guidelines for net school spending will undermine the ability of the district to provide personnel, resources, and facilities to support the delivery of curriculum, instruction, programs, and services. (self-study, online course selection guide, school leadership, parents, student shadowing, Community Resources Standard Subcommittee, panel presentation, central office personnel)

The school does not adequately develop, plan, and fund programs to ensure the maintenance and repair of the building and school plant or to properly maintain, catalogue, and replace equipment, but does ensure that the school is clean on a daily basis. The city of Lowell rather than the school department handles much of the maintenance and repair at Lowell High School. According to the Endicott survey, only 19 percent of teachers reports that needed repairs are completed in a timely manner. Building custodians have responsibility for some maintenance and repair in the building. For example, they annually refinish floors and clean classrooms and furniture. The school has an in-house HVAC technician who is the first to respond to relevant concerns. If he is unable to respond, the school department brings the issue to the attention of the appropriate city department. Repairs in other areas are also the responsibility of the city of Lowell rather than the school includes plumbing and electrical systems. The multiple layers that exist in the spending process can also interfere with effective and timely maintenance and repair. Maintenance issues contribute to safety concerns in all of the LHS buildings. Handrails in stairwells are not connected to walls, the HVAC system is inconsistent and creates temperature fluctuation, safety equipment (fire hoses) have damaged glass casings which can impair their function, sections of the roof leak and as a result, create puddles which have caused injury. At the same time, the city and school department have made significant investment in the high school buildings over the past three years, including replacement of some exterior doors, roofing, and floors and the repair or renovation of the special education suite, the cafeteria service area, the little theater, and the auditorium in the Freshman Academy. Additionally, the school renovated the Kane Courtyard, repaired/replaced water bubblers, upgraded lighting and controls in all buildings, and added signage both inside and outside the school building.

The school properly maintains accurate lists of equipment on site, but the ongoing maintenance and the replacement of equipment is not consistent. The district puts out to bid a preventative maintenance and repair contract every three years which requires two preventative maintenance visits per year. Needed repairs, however, for items like windows, doors, and lights are handled by a ticketing system through which school custodians submit requests to the city's land and building department. With these repairs dependent on the city staff and not school personnel, the availability of city workers can often delay the needed repairs. The school's custodial staff is responsible for the day-to-day cleaning of the school. The school uses a custodial duties checklist that night custodians are expected to complete daily. Three custodians are available during the school day and fourteen work at night (from 3:00 p.m. to 11 p.m.). Although only 42 percent of teachers reported that the school is clean and well-maintained on a daily basis, the facility tour and general movement of the visiting team around the building revealed few concerns around cleanliness and very little graffiti. Areas where daily maintenance is challenging are in snow removal and in cleaning the pool. The school lacks proper equipment for the removal of snow and ice. The development and full funding of plans for maintaining and repairing the school plant will positively impact teaching and learning. (self-study, Endicott survey, facility tour, student shadowing, school support staff, superintendent)

The community does not fully fund a long-range plan that addresses programs and services, enrollment changes and staffing needs, facility needs, technology, capital improvements, and sufficient instructional materials and supplies. The central office is open to new program proposals when possible, such as the Freshman Academy or the grant-funded Career Academy, but the school district does not have a clear process for evaluating the effectiveness of various programs or for prioritizing where to spend money. At the high school, while there is no formal oversight committee, a few years ago building administrators began to review current programs and took steps to make changes. For example, the career pathways programs (culinary arts, business) were found to be in need of reorganization. As a result the Perkins Grant was rewritten to better meet student needs. The headmaster plans to use the recommendations in the upcoming NEASC report to guide planning for moving forward. Enrollment increases and decreases have not led to an increase or decrease in staffing. High school enrollment has decreased over the past several years according to the New England School Development Council report, but the school administration has sought to maintain consistent staffing levels. Positively, this has resulted in reasonable average class sizes and caseloads in 2015 that allow teachers to more fully meet student needs. The school is in the process of implementing a long-term plan for technology through the year 2017. This has resulted, for example, in the addition of a dedicated technology specialist, but technology funding remains a concern. As a result, although efforts have been made to strengthen the technology at LHS, problems with networks, equity, and access still exist.

The school district submits a list of facility needs to the city and the individual requests are prioritized and then approved or denied by the city officials. This process does not lead to concerns about the building being addressed in a timely and efficient manner. The city and the school district have invested in several large-scale renovations, such as in the theater in the Freshman Academy, but many capital improvement needs remain unfunded. In the 2013-2014 school year, a comprehensive facilities assessment by OMR Architects determined that the building's needs, based on enrollment trends for the

next ten years and the fluctuations in enrollment, provide justification for a renovation or for the construction of a new high school. A request has been submitted to the Massachusetts School Building Authority (MSBA) and has been accepted and is being looked upon favorably. The city of Lowell and the Lowell School Department are unified in their support for this petition to the MSBA. The adoption and funding of a comprehensive, long-range plan for programs and services, facility needs, technology, and capital improvement will ensure the ability of Lowell High School students to achieve the school's expectations for learning. (self-study, panel presentation, central office personnel, school support staff, school board, OMR Architects Study)

Building administrators are involved in the development and implementation of the budget for the school, but faculty members are only indirectly and inconsistently involved in the process. In a facility with over 300 faculty and staff, the budgeting is not a collaborative process. The leadership team of 15 people (the headmaster; the director of curriculum, instruction, and assessment; the student support services coordinator; and the department heads) has input into the budget and represents the faculty from their departments in these decisions. The Massachusetts Chapter 70 state aid formula mainly determines the amount of funding available in the district each year. Once the school's funding level is finalized using a formula based on October 1 enrollment numbers, at the school level the headmaster and the director of curriculum determine the further allocation of funds (e.g., amounts for office supplies, textbooks, technology, library/media, and professional development). They can make changes between line items as the year progresses. Building administrators work with the department chairs to develop budgets for each department. Teachers do not have a clear understanding of how much money is available for course-related materials or how the department money is distributed. According to the Endicott survey, 82 percent of teachers disagrees with the statement, "I have input into the development of the school budget." In some cases, teachers request specific materials in the spring needed at the beginning of the year, while others may be encouraged to make requests at the end of the year if money should still be available. With regard to supplies, the accounts payable clerk at the high school sends a list of requested supplies to the city in July. Some of these supplies are ordered, some are changed to less expensive items, and some are not ordered at all. Throughout the school year, teachers can request basic supplies through their department chair. As the end of the year comes, however, teachers cannot predict if needed supplies (e.g., scantron sheets, white board markers) will be available. The dependence on grant funding for some programs also contributes to a sense of distance from the process for some teachers. The lack of real input into budget development leads to a sense of fruitlessness about the budget process and raises questions about equity. (self-study, teachers, Community Resources Standard Subcommittee, teacher interviews, school board)

The school site and plant support to a limited extent the delivery of high quality school programs and services. Dedicated spaces support a wide variety of programs. The school's large auditorium, a smaller theater in the main building, and a newly renovated auditorium in the Freshman Academy allow for concurrent performing arts classes and multiple after school activities and events. The school also has a student-run restaurant, a store, and a television studio all of which are connected to one of the Pathways. The field house complex has sufficient space for physical education classes and athletics, including a pool, weight room, and gym space. The Junior ROTC program has a cluster of classrooms available,

and other community partners, such as Youth Harbors and Trio, also have space within the school. The school has recently invested, through a grant, in 32 EdGE classrooms, which are state-of-the-art classrooms that allow teachers to share content in various modalities over multiple displays or share differentiated content on various displays using iPads or iPhones that connect to three large screen Apple TVs. The teachers who volunteered or were selected for participation in the five-year implementation of the program received training around how to adapt their curricula to take full advantage of the technology. The school is currently in the third year of the EdGE implementation.

At the same time, physical plant issues many of them related to the age or design of the buildings interfere with the school's ability to support programming and preserve a fully supportive learning environment. These issues include leaks both in the roof, the tunnel, and from sinks; temperature fluctuations where one room is considerably warm while another is considerably colder; and the presence of pests in the building. The leaks in the bridges have created a slip/fall hazard. Many rooms in all three building have windows in need of repair. The nurse's office in the 1980 building is small and not easily navigated by wheelchair-bound students. Additionally, the 1922 building in particular is not fully accessible to individuals with physical handicaps. The dining area in the main cafeteria is at or near capacity, so that during the more crowded lunch period, tables are set up in the foyer outside the student support office. The resulting need to run four lunch periods has significant impact on the flexibility of scheduling students, classes, and common planning time. The OMR Comprehensive Facilities Assessment identified concerns about the lack of capacity of the electrical system resulting in the inability to support upgrades in technology. Physical plant issues also interfere with the ability to fully implement the school's curricula. For example, the art department, with its location in the center rooms of the old building, does not have natural light or adequate ventilation in its classrooms. One frequently cited issue was the ability of the science labs in both the 1922 and the 1980 buildings to support modern science curriculum and pedagogy. Specifically, the labs in the 1922 building are outdated and in need of repairs to drainage systems and teachers in the 1980 building share access to labs only through a sign-up system. Due to the inadequacies of these lab spaces, teachers sometimes use computer-based simulations instead of actual labs. Even within a given department, the facility supports the curriculum at different levels of effectiveness and equity. Thus, while there is newly renovated space for older life skills students to engage in their curriculum, the parallel facilities for other life skills students do not allow for full service delivery. In terms of technology, while some classrooms are outfitted with cutting edge technological support, others are not, severely limiting the school's ability to provide equitable access to up to date technology for all students. The lack of strong facility features that support the delivery of the school's curriculum and the use of best instructional practice severely hampers students' ability to fully achieve the school's academic expectations. (self-study, facility tour, student support services, teachers, students, Community Resources Standard Subcommittee, student shadowing)

The city of Lowell and the school do not maintain comprehensive documentation that the physical plant and facilities meet all applicable federal and state laws and are in compliance with local fire, health, and safety regulations. The city of Lowell owns the school buildings, thus city departments maintain many of the documents related to compliance with federal and state laws. Within the school department, the

superintendent for finance and operations coordinates document maintenance with the headmaster. Occupancy permits for each of the three buildings (1922, 1980, and Freshman Academy) are verified by the city's building department and kept at the school. Specific occupancy permits, however, for given spaces (i.e., the Burgoyne Theater in the Freshman Academy and the two cafeterias) are not posted in the building. ASAP Fire and Prevention maintains records relating to fire and safety. Aramark food service confirms that there are monthly inspections and reports to DESE and twice-yearly audits by the health department. The school acknowledges concerns about accessibility for the physically challenged, especially in the 1922 building and the Freshman Academy. The 1922 building has no ground level access for wheelchairs which require the use of a lift to enter. The ramp for emergencies is not up to code. All of the buildings are equipped with elevators and elevator inspections are up to date and clearly displayed. The elevators are not all big enough to fit a gurney or a wheelchair and do not provide access to all parts of the facility. The comprehensive facilities assessment done by OMR Architects in March 2014 cited several areas of concern where stairs and handrails also are not up to code. A lack of handicap access throughout all three buildings limits students' access to an equitable educational experience. (self-study, facility tour, school board, support staff, teachers)

Most professional staff members actively reach out to engage parents and families as partners in each student's education and some reach out specifically to those families who have been less connected with the school. Teachers and administrators are required to actively engage in outreach activities, a topic which is included as part of the evaluation tool for administrators and teachers. The school assigns students to one of four houses which consist of a headmaster, two guidance counselors, and a social worker. The school provides parents an orientation to the house system both when their children are freshmen at the Freshman Academy and then again when they enter the tenth grade. The student remains in the same house and families with multiple students are also placed in the same house to provide consistency for the family. The Freshman Academy runs regular parent outreach events. Most teachers have an online presence, but not all. Most teachers post homework assignments on various online sites. Some teachers are also collecting work using various online platforms. The school uses *Connect-Ed* to inform parents of events that are occurring at the school, such as open house, Friends of Lowell High meetings, and college information nights. The school places some of these calls in the more prevalent students' native languages to encourage broader involvement. All teachers are using Aspen to record students' progress and some parents feel this is a very efficient way for them to track their children's progress. Some parents feel comfortable using email to contact teachers and they report getting very quick responses to their inquiries. Friends of Lowell High School is an established parent group that works in conjunction with administration to promote activities and open communication between parents and the school. They also reach out to all the boosters clubs at the beginning of the season to encourage new members to join. The school keeps its website up to date with daily announcements of activities. The headmaster posts a blog which highlights major events. The Latin Lyceum also hosts a parent group. Teachers in the ELL department communicate with parents as much as possible. Without data to show the effectiveness of the school's multiple attempts and strategies to engage parents, it is not possible to assess the current level of success of the various outreach initiatives and establish goals for improvement. The higher the level of parent involvement in the daily life of the

school, more likely is the higher the level of student success. (self-study, student shadow, teacher interview, parents, school leadership, school support services, school website)

The school develops productive parent, community, business, and higher education partnerships that support student learning. The school has a number of strong partnerships. The Friends of Lowell High School is a parent group that meets monthly with the headmaster, the athletic director, and the student activities director. Other administrators also cycle through the meetings depending on the agenda. This group was originally intended to support athletics at the high school but has since developed into one that focuses on a variety of issues, including curriculum, scheduling, safety, and college and career planning. They also raise money to support scholarships. The school fosters this group by scheduling Freshman Academy events to coincide with Friends of Lowell High School meetings working to funnel parents from one to the other. The school or individuals in the school have sought and maintained a huge number of community and business connections which engage students in learning beyond the classroom. These partnerships range from national organizations like Air Force Junior ROTC to local businesses like the Jeanne D'Arc Credit Union. The Junior ROTC program has about 400 student participants and is a four-year program devoted to developing character through a program of academic courses combined with service alongside community organizations such as the Merrimack Valley Food Bank and the Lowell Housing Authority. On a more local level, the school engages with Catie's Closet a community organization that does in-school distribution of donated clothing and other necessities directly to needy students. Lowell High School and the Jeanne D'Arc Credit Union maintain a close alliance. Along with the credit union branch that is in the school and staffed by students who are in the business, marketing, and finance pathway, Jeanne D'Arc runs an annual "credit fair," where students are given an identity (i.e., income, family) and participate in a simulation. All seniors are invited to attend; approximately 300 participated last year. The other Lowell High School Pathway programs have developed their own links to local organizations and businesses for both learning opportunities and internship placements. Both Middlesex Community College and UMASS Lowell have a very strong presence at Lowell High School. Approximately 200 students participate in dual enrollment courses at the high school at no cost to the student. Along with dual enrollment, the school maintains several articulation agreements through which students who take classes at LHS (e.g., in the business department or culinary arts program) do not need to repeat the classes at the community college. The school maintains an easy relationship between the high school and the nearby higher education institutions. For example, teachers can easily secure classroom speakers for a wide variety of topics or audience members or judges for student presentations. Strong partnerships between the school and parents, the community, businesses, and higher education support rich educational options and experiences for students which greatly expands real-world learning beyond the walls of the school. (self-study, facility tour, panel presentation, teachers, parents, school board, school support staff, Endicott survey, Community Resources Standard Subcommittee)

Commendations:

1. The community and the district's support for a wide range of courses and high-interest electives offered at different levels in most departments

2. The district's strong financial commitment to maintaining reasonable class sizes that allows teachers to meet individual student needs
3. The city of Lowell and the school district for meeting the Massachusetts net school spending requirements under Chapter 70 for 2014-2015 school year
4. The city of Lowell and the school department's strong commitment to investing in needed upgrades over the past three years such as the replacement of some exterior doors, roofing, the renovation of the special education suite, and the renovation of the auditorium in the Freshman Academy
5. The focused renovations of the school's various auditorium and performance spaces that support the delivery of expanded learning opportunities such as guest speakers and various student productions
6. The daily maintenance of a remarkably clean building that reflects a high degree of student respect for Lowell High School
7. The clear and consistent commitment of the community, city officials, and the school district to securing funding for the renovation/construction of a new Lowell High School as evidenced by the funding of the OMR Comprehensive Facilities Assessment and the ongoing pursuit of a grant from the Massachusetts School Building Authority to underwrite a portion of the associated costs
8. The development and nurturing of strong partnerships with Middlesex Community College and UMASS Lowell which expand curricular offerings and provide opportunities to earn community college and for dual enrollment credits
9. The numerous partnerships with organizations, institutions, and businesses in the surrounding community that give rich opportunities for students to learn and grow outside of the standard classroom

Recommendations:

1. Consistently provide a dependable funding stream for school programs and supplies
2. Provide sufficient funding for a range of professional development activities including, where needed, expertise from outside the school/district to support and enhance the achievement of the school's vision and goals
3. Undertake an audit of the process for timeliness of maintenance and repairs at Lowell High School and respond accordingly
4. Report to the Commission on the district's success in developing and actuating the long-term technology plan through 2017
5. Create an inclusive, equitable, and transparent method for the development and implementation of the school budget that instrumentally involves all stakeholders
6. Report to the Commission the school's and the city of Lowell's progress in securing authorization and funding from the Massachusetts School Building Authority for siting and renovating/building a new Lowell High School
7. Immediately repair any leaks in the bridges joining the individual school buildings
8. Schedule an audit by an appropriately certified entity that clearly and fully assesses all issues related to handicap accessibility and respond as needed
9. Ensure that all documentation that the physical plant and facilities meet all applicable federal and state laws and are in compliance with local fire, health, and safety regulations
10. Build on the authentic learning experiences that community organizations and higher education institutions offer by making explicit connections to the school's core values, beliefs, and learning expectations

11. Identify an effective method to track the level of parent involvement at various activities with the goal of establishing baseline data to be used to identify methods to increase that involvement

FOLLOW-UP RESPONSIBILITIES

This comprehensive evaluation report reflects the findings of the school's self-study and those of the visiting committee. It provides a blueprint for the faculty, administration, and other officials to use to improve the quality of programs and services for the students in Lowell High School. The faculty, school board, and superintendent should be apprised by the building administration yearly of progress made addressing visiting committee recommendations.

Since it is in the best interest of the students that the citizens of the district become aware of the strengths and limitations of the school and suggested recommendations for improvement, the Committee requires that the evaluation report be made public in accordance with the Committee's Policy on Distribution, Use and Scope of the Visiting Committee Report.

A school's initial/continued accreditation is based on satisfactory progress implementing valid recommendations of the visiting committee and others identified by the Committee as it monitors the school's progress and changes which occur at the school throughout the decennial cycle. To monitor the school's progress in the Follow-Up Program the Committee requires that the headmaster of Lowell High School submit routine Two- and Five-Year Progress Reports documenting the current status of all evaluation report recommendations, with particular detail provided for any recommendation which may have been rejected or those items on which no action has been taken. In addition, responses must be detailed on all recommendations highlighted by the Committee in its notification letters to the school. School officials are expected to have completed or be in the final stages of completion of all valid visiting committee recommendations by the time the Five-Year Progress Report is submitted. The Committee may request additional Special Progress Reports if one or more of the Standards are not being met in a satisfactory manner or if additional information is needed on matters relating to evaluation report recommendations or substantive changes in the school.

To ensure that it has current information about the school, the Committee has an established Policy on Substantive Change requiring that principals of member schools report to the Committee within sixty days (60) of occurrence any substantive change which negatively impacts on the school's adherence to the Committee's Standards for Accreditation. The report of substantive change must describe the change itself and detail any impact which the change has had on the school's ability to meet the Standards for Accreditation. The Committee's Substantive Change Policy is included in the Appendix on page 79. All other substantive changes should be included in the Two- and Five-Year Progress Reports and/or the Annual Report which is required of each member school to ensure that the Committee office has current statistical data on the school.

The Committee urges school officials to establish a formal follow-up program at once to review and implement all findings of the self-study and valid recommendations identified in the evaluation report. An outline of the Follow-Up Program is available in the Committee's *Accreditation Handbook* which was given to the school at the onset of the self-study. Additional direction regarding suggested procedures and reporting requirements is provided at Follow-Up Seminars offered by Committee staff following the on-site visit.

Lowell High School
NEASC Accreditation Visit
October 18-21, 2015

Visiting Committee

Chair			
Charles McCarthy	New England Association of Schools and Colleges	Bedford	MA
Assistant Chairs			
Michael Fiato	Lawrence High School	Lawrence	MA
Daniel Richards	Belmont High School	Belmont	MA
Visiting Committee Members			
Lisa Begley	Haverhill High School	Haverhill	MA
Edie Boynton	Quincy High School	Quincy	MA
Kim Carrozza	Nashua High School South	Nashua	NH
Jessica Cleveland	Agawam High School	Agawam	MA
Annette Cochran	Doherty Memorial High School	Worcester	MA
Deidre Collins	Chelsea High School	Chelsea	MA
Nadine Crowe	Spencer-East Brookfield Regional School District	Spencer	MA
Maria Giacchino	Cambridge Rindge and Latin School	Cambridge	MA
Rich Gorham	Lawrence High School	Lawrence	MA
Brian Gould	Classical High School	Providence	RI
Susan McKenzie	Danbury High School	Danbury	CT
Elaine Mokrzycki	Agawam High School	Agawam	MA
Karen Monahan	Weymouth High School	Weymouth	MA
Christopher Motika	Manchester High School West	Manchester	NH
Stacey Mowchan,	New Britain High School	New Britain	CT
Sung Joon Pai	Charlestown High School	Charlestown	MA
Joanne Pare	Exeter High School	Exeter	NH
Mario Pires	New Bedford High School	New Bedford	MA
Mark Quinones	Somerville High School	Somerville	MA
Sydney Viloria	East Boston High School	East Boston	MA

NEW ENGLAND ASSOCIATION OF SCHOOLS & COLLEGES

Committee on Public Secondary Schools

SUBSTANTIVE CHANGE POLICY

Principals of member schools must report to the Committee within sixty (60) days of occurrence any substantive change in the school which has a *negative impact* on the school's ability to meet any of the Committee's Standards for Accreditation. The report of a substantive change must describe the change itself as well as detail the impact on the school's ability to meet the Standards. The following are potential areas where there might be negative substantive changes which must be reported:

- elimination of fine arts, practical arts and student activities
- diminished upkeep and maintenance of facilities
- significantly decreased funding
- cuts in the level of administrative and supervisory staffing
- cuts in the number of teachers and/or guidance counselors
- grade level responsibilities of the principal
- cuts in the number of support staff
- decreases in student services
- cuts in the educational media staffing
- increases in student enrollment that cannot be accommodated
- takeover by the state
- inordinate user fees
- changes in the student population that warrant program or staffing modification(s) that cannot be accommodated, e.g., the number of special needs students or vocational students or students with limited English proficiency

Lowell High School

Commendations:

Standard 1 – Core Values, Beliefs, and Learning Expectations

1. The orderly, comprehensive process of adopting the PBIS model in the Freshman Academy
2. The identification of and the growth of the use of the RIDER acronym for succinctly encompassing major features of the Lowell High School Core Values, Beliefs, and Learning Expectations
3. The commitment to the school's social and civic competencies as demonstrated by being highlighted and in murals, banners, and signs in high traffic areas of the school

Standard 2 – Curriculum

1. The Lowell High School's Pathways program that provides hands-on, minds-on experiences connecting high school course work to the skills and knowledge students need for post-secondary education and careers
2. The development of courses that provide experiences that mirror offerings at the college level, including Latin Lyceum, Advanced Placement, and dual enrollment
3. The use of essential questions in designing curriculum which strongly focuses on inquiry, problem, and higher order and big picture thinking
4. The emphasis on the ethical use of technology in some sections of the English curriculum
5. The use of the monthly department meetings which provide teachers with the opportunity to create, implement, and review common assessments, to target gaps in the curriculum, and to make changes to course components and assessments ultimately benefiting teaching and learning
6. The math department's recent institution of a highly collaborative professional learning network (PLN) for groups of geometry, algebra and pre-calculus teachers
7. The core academic departments annual use of some professional development funds to run highly effective data summits for grade-level teams

Standard 3 - Instruction

1. The full embrace by the Freshman Academy of the core values derived from the PBIS and its use of those core values to guide and shape instructional practice
2. The purposeful move from a teacher-centered to a student-centered approach to pedagogy that more fully engages students as active and engaged learners
3. The presence in a number of courses such as culinary, business, fine and applied arts, and broadcasting that are fully centered on applying knowledge and skills to authentic tasks
4. The burgeoning use of technology to support the vibrant delivery of class content and to make college courses accessible to all students
5. The strong school culture that supports non-evaluative teacher observations and an openness that creates the opportunity for peer observation and the sharing of successful instructional practices
6. The strong partnerships with local colleges that enable students to earn college credits

7. The general willingness across the faculty to give freely of their time to assist students, to examine student work, and to engage with colleagues in focused discussions about assessment results all with an eye toward improving instruction
8. The adoption of the use of the District Determined Measure (DDM) scores to identify the weaker areas upon which to focus in order to improve instruction.
9. The strength of the Lowell Teacher Academy in supporting the new teacher-mentor program and in providing professional development opportunities focused on expanding the range of effective instructional strategies

Standard 4 – Assessment of and for Student Learning

1. The broad use by a majority of teachers of classroom and departmental rubrics to provide students with clear direction and connection to learning goals
2. The regular scheduling of data summits for analyzing student performance common assessments in all core areas to create goals to improve student achievement and to shape district and building level goals to better accommodate student needs
3. The focused analysis of specific assessment data sources such as ACCUPLACER, MCAS results, ACCESS testing, to inform math course selection and student placement for English language learners (ELL)
4. The dedication of time at Freshman Academy weekly department meetings and dedicated department meeting time during early release to analyze student work and student achievement data, to examine student assessments, and to make adjustments to curriculum and instruction
5. The practice by a majority of teachers of identifying the course-specific expectations in all types of assignments
6. The provision by most teachers prior to summative assessments of the corresponding rubrics
7. The establishment of partnerships with Middlesex Community College and UMass Lowell that provide data on the readiness of Lowell High School graduates to complete college work
8. The establishment of a grading policy committee to create and implement a uniform school-wide grading policy

Standard 5 – School Culture and Leadership

1. The numerous strategies adopted to ensure a safe school culture, including the development of emergency protocols for lockdowns and evacuation drills, the use of closed circuit cameras to remotely supervise areas throughout the building, and the employment of security personnel and school resource officers (SROs)
2. The wide range of strategies employed to maintain a positive school culture such as celebrating student achievement on bulletin boards, with “high five” cards, on the school’s website and social media outlets, and the redesign of the of the main entryway with an emphasis on LHS as a teaching and learning community
3. The numerous school social and academic practices that support a respectful school culture such as The International Club; monthly cultural awareness events and celebrations such as the Day of the Dead Festival, Cambodian New Year, and Three Kings Day; and the establishment of an English elective course for all students called Race and Ethnicity

4. The highly effective adoption of the advisory period (for grades 10-12) and the freshman seminar (for grade 9) to encourage connections between students and an adult who knows them well who can assist them in achieving the school's 21st century expectations
5. The adoption and the ongoing expansion of the Positive Behavior Intervention System as a mode for developing and maintaining a positive, unified culture on a school-wide basis
6. The strong commitment to improve student learning as demonstrated by the willingness of the school to piloting the new Massachusetts DESE model for teacher supervision and evaluation
7. The director of curriculum and instruction's adoption of positive initiatives aimed at improving teaching and learning such as the introduction of the Instructional Rounds protocol for gathering data on instructional practice across the faculty
8. The commitment to maintain/reducing class sizes as evidenced by maintaining staffing levels even in the light of declining enrollment to enable teacher to better met individual student needs
9. The headmaster's consistently strong individualized support and broad-ranging advocacy for student success, including the establishment of community partnerships, the emphasis on increasing attendance rates and decreasing the dropout rate, the initiation of an alumni interview program, the development of a large scholarship base, and strongly emphasizing community partnerships, such as the dual enrollments with UMass Lowell and Middlesex Community College
10. The establishment of the LHS Educator Workshop Series allowing current school leaders to share their knowledge and experience on various best practices in classroom management, differentiated instruction, working collaboratively, and using technology with the main focus of improving instruction
11. The positive presence of collaborative and supportive structures and open lines of communication in place between and among the school committee, superintendent, and headmaster

Standard 6 – School Resources for Learning

1. The successful pursuit of grant-funded programs to provide comprehensive educational opportunities to various at-risk populations within the student body, including a therapeutic day school (LeBlanc Day School), the student leadership and mentoring program for upperclassmen, compensatory services for students who have been suspended for long periods of time or who are not meeting with success in a traditional high school, and a before- and after-school tutoring program in the library
2. The wealth of strong options for student support, both in and out of school, for almost any need that may arise, including services for struggling students (e.g., JobCorps, YouthBuild, UTEC), for health services (e.g., suicide hotlines, birth control and pregnancy support, drug and alcohol prevention, eating disorder support), for partner programs (e.g., Catie's Closet, SCORE, Upward Bound), and after-school programs
3. The effective use of a wide array of technology to support the delivery of services to all students
4. The design and highly effective functioning of equitably staffed house-based teams in both grades 10-12 and in the Freshman Academy to ensure that counseling and support services are available for all students

5. The provision of a comprehensive range of varied health service options within the school including preventive health services, health assessments, referrals to outside providers, and the added resource of the school-based health center (SBHC)
6. The high level of engagement of the library media specialist in the integration of library/media services in the school's curriculum by way of regular meetings with the curriculum and instruction supervisor, department heads, and teachers; the orientation to program provided to all grade nine students focused on 21st century skills such as research strategies, higher order thinking, and decision-making; and increasing the range of electronic resources such as eBooks and data bases
7. The library media specialist's redesign of the library through the creation of many small seating areas to make it more welcoming to students and to make it a center for learning for all disciplines
8. The Compass Program pilot program (21st century program grant funded) designed to transition approximately 40 students from 8th to 9th grade during the summer of 2015
9. The maintenance of effective systems for implementing timely, coordinated, and directive intervention strategies for all students, including the focused use of the teacher assistance team (TAT) to support struggling students by reviewing assessment data, suggesting classroom interventions, and bringing to bear necessary support services
10. The provision of training in Rethinking Equity and Teaching for English Language Learners (RETELL) to most general education teachers

Standard 7 – Community Resources for Learning

1. The community and the district's support for a wide range of courses and high-interest electives offered at different levels in most departments
2. The district's strong financial commitment to maintaining reasonable class sizes that allows teachers to meet individual student needs
3. The city of Lowell and the school district for meeting the Massachusetts net school spending requirements under Chapter 70 for 2014-2015 school year
4. The city of Lowell and the school department's strong commitment to investing in needed upgrades over the past three years such as the replacement of some exterior doors, roofing, the renovation of the special education suite, and the renovation of the auditorium in the Freshman Academy
5. The focused renovations of the school's various auditorium and performance spaces that support the delivery of expanded learning opportunities such as guest speakers and various student productions
6. The daily maintenance of a remarkably clean building that reflects a high degree of student respect for Lowell High School
7. The clear and consistent commitment of the community, city officials, and the school district to securing funding for the renovation/construction of a new Lowell High School as evidenced by the funding of the OMR Comprehensive Facilities Assessment and the ongoing pursuit of a grant from the Massachusetts School Building Authority to underwrite a portion of the associated costs
8. The development and nurturing of strong partnerships with Middlesex Community College and UMASS Lowell which expand curricular offerings and provide opportunities to earn community college and for dual enrollment credits

9. The numerous partnerships with organizations, institutions, and businesses in the surrounding community that give rich opportunities for students to learn and grow outside of the standard classroom

Recommendations:

Standard 1 – Core Values, Beliefs, and Learning Expectations

1. Ensure that a sufficiently wide range of stakeholders are involved throughout any processes for the development and future review of the school's core values, beliefs, and learning expectations
2. Ensure that the Lowell High School 21st century academic, civic, and social learning expectations for student learning are stated in measurable terms
3. Create school-wide analytic rubrics for each of the LHS student expectations that identify targeted high levels of achievements
4. Develop a procedure to ensure that the LHS core values, beliefs, and student expectations are actively reflected in the culture of the school, drive curriculum, instruction, assessment in every classroom, and guide the school's policies, procedures, decisions, and resource allocations
5. Develop a dynamic, collaborative, and inclusive process for regular review and revision, as needed, of the LHS expectations for student learning, based on research, multiple data sources, as well as on district and school community priorities

Standard 2 – Curriculum

1. Undertake an audit of the degree to which the current curriculum and its practitioners provide sufficient opportunities in multiple settings across the school day for students to practice and achieve each of the school's learning expectations and act on the results
2. Develop a curriculum template whose form will allow for the identification in all courses or units of study essential questions, concepts, content, and skills; the school's 21st century skills that will serve as the focus of each course; instructional strategies; and assessment practices that include the use of school-wide analytic and course-specific rubrics
3. Develop a plan to ensure that the curriculum engages students in cross-disciplinary learning, provides authentic learning opportunities, and engages student in the informed and ethical use of technology in all courses
4. In consultation with the district design a plan that will ensure sufficient vertical communication about curriculum with all sending schools to directly share and/or discuss data, trends in instruction, and curriculum, and that will ensure sufficient horizontal and vertical communication about curriculum for all curriculum areas
5. Ensure that all curricula (CCSS, NGSS, MA frameworks, etc.) identify the 21st century skills upon which they will focus
6. Conduct a needs assessment to determine the optimum levels of support for staffing, instructional materials, equitable and effective access to technology, equipment, supplies, facilities, and the resources of the library/media center

7. Develop a plan for the regular review of the curriculum that engages and supports all professional staff in the collaborative development, evaluation, and revision of the curriculum using assessment results and current research

Standard 3 – Instruction

1. Conduct a school-wide audit of instructional strategies and identify and advance the use of those strategies that improve the students' achievement of the Lowell High School 21st century learning expectations
2. Develop and execute a plan, with sufficient financial support and dedication of professional development time, to increase the level of use in all classes instructional strategies that personalize instruction, engage students in cross-disciplinary learning, engage students as active and self-directed learners, emphasize inquiry, problem solving, and higher order thinking, engage students in self-assessment and reflection, and further integrate technology
3. Ensure that all teachers have adequate and equitable access to resources that support the full-scale integration of technology as a tool for instructional practices and a support to student learning
4. Develop and execute a plan to increase the use of all manner of formative assessment within each classroom as a means of providing a basis for improving outcomes in instructional practice
5. Provide as feature of instructional practice more frequent opportunity for students to be able to demonstrate comprehension in a manner in keeping with their learning style
6. Increase opportunities for common planning time to improve instructional practice and to provide opportunities for relevant professional development within contractual hours
7. Develop a formal process for successfully soliciting input from students and parents focused on instructional practice

Standard 4 – Assessment of and for Student Learning

1. Develop a formal process, based on the use of school-wide rubrics, for assessing whole-school and individual student progress in achieving the school's 21st century expectations
2. Develop a process for communicating to students, families, and the school community at large the individual and whole-school progress in terms of the success of students in meeting the school's 21st century learning expectations
3. Maintain data summits for all content areas based on common assessments in order to provide the school with meaningful data to inform the development of curricula and instruction
4. Develop a process to ensure that all teachers identify prior to each unit of study the school's applicable 21st century learning expectation
5. Create a process by which teachers establish a common understanding of formative assessment in order to master and employ formative assessments among a wide range of assessment strategies and use their accumulated data to inform and adapt their instructional practices to improve student learning
6. Ensure that all teachers provide students with timely, substantive feedback and also provide opportunities for revision on both formative and summative assessments so as to demonstrate mastery of a given lesson

7. Provide dedicated time for all teachers to regularly examine student work and to have full access to other assessment data for the purposes of revising curriculum, instruction, and assessment
8. Further develop partnerships with post-secondary schools, using data gathered therefrom to inform the revision of curriculum and instruction through data analysis
9. Collect data from current students and alumni and use them to inform the revision of curriculum and instruction
10. Develop and implement a formal assessment plan that includes the regular use of both formative and summative assessments in all subject areas

Standard 5 – School Culture and Leadership

1. Assess the reasons behind the relatively large number (33 percent) of students who identified bullying as concern and pursue remedies to address this perception
2. Complete a needs assessment and develop a plan, with both short- and long-term components, to continue to increase the level of equitable access to challenging students for all students
3. Develop, with sufficient input from faculty members and LHS administrators, fund and implement a comprehensive professional development schedule that will avail teachers and allow sufficient time to meet for a broad range of professional development opportunities
4. Develop a plan to expand Instructional Rounds groups as a method of expanding the school's range of instructional strategies to include more classroom teachers, not simply lead teachers
5. Develop and implement a comprehensive master schedule that will, not only, meet the learning needs of the LHS students but also, create flexibility for teachers to collaborate with other teachers both horizontally and vertically to ensure smooth curricular transitions and the spread of best practices
6. With input from all appropriate stakeholders, develop a comprehensive plan to guide the use of faculty meeting time (more collaborative time and less administrative housekeeping), department meeting time (more opportunity for collaboration among teachers), and non-instructional teacher time (more designated common planning time) to focus more clearly on the achievement of the school's 21st century expectations
7. Identify and develop various structures and procedures which will provide parents, students, and teachers the opportunity for input into the school's decision-making process and will establish formal roles for them as key stakeholders in the advancement of the school and the achievement of its expectations

Standard 6 – School Resources for Learning

1. Continue to ensure full access to all families to available support services for identified students by providing consistently reliable translation services by translators who are appropriately trained for a given situation (i.e., registration, discipline, initial assessment, crisis, medical needs) in student/parent home languages for both printed materials and in-person meetings
2. Create a coordinated method across all curriculum areas by which students continue to build upon the library media specialist's pre-existing 9th grade 21st century training in independent research strategies, the use of information resources to enhance the achievement of the school's

student expectations through higher order thinking, inductive, deductive reasoning, and independent work

3. Develop a codified process for fully engaging the library/media personnel in discussions about curriculum and instruction to ensure appropriate communication about library/media purchases that support teaching and learning
4. Undertake an inventory of available resources in the library media center focusing on the overall age of the collection, its level of integration with the school's 21st century learning expectations, and the suitability of range of resources for English language learners
5. Ensure that the physical size of the library media facility is capable of presenting a fully integrated library/information services program and that funding is sufficient to build and maintain a collection of library materials that fully support ELL students the achievement of the school's identified 21st century expectations for learning
6. Establish a resource for job coaching to help life skills students engage in meaningful employment in a real-world setting
7. Establish a system including special education testing in low-incidence languages to ensure the accurate assessments, distinguishing between student needs in ELL, special education, and/or mental health counseling
8. Ensure that all support service area (counseling, health, library/media services, support services for identified students) regularly conduct ongoing assessments using relevant data including feedback from the school community to improve student services and to ensure that each student achieves the school's s 21st century learning expectations

Standard 7 – Community Resources for Learning

1. Consistently provide a dependable funding stream for school programs and supplies
2. Provide sufficient funding for a range of professional development activities including, where needed, expertise from outside the school/district to support and enhance the achievement of the school's vision and goals
3. Undertake an audit of the process for timeliness of maintenance and repairs at Lowell High School and respond accordingly
4. Report to the Commission on the district's success in developing and actuating the long-term technology plan through 2017
5. Create an inclusive, equitable, and transparent method for the development and implementation of the school budget that instrumentally involves all stakeholders
6. Report to the Commission the school's and the city of Lowell's progress in securing authorization and funding from the Massachusetts School Building Authority for siting and renovating/building a new Lowell High School
7. Immediately repair any leaks in the bridges joining the individual school buildings
8. Schedule an audit by an appropriately certified entity that clearly and fully assesses all issues related to handicap accessibility and respond as needed
9. Ensure that all documentation that the physical plant and facilities meet all applicable federal and state laws and are in compliance with local fire, health, and safety regulations

10. Build on the authentic learning experiences that community organizations and higher education institutions offer by making explicit connections to the school's core values, beliefs, and learning expectations
11. Identify an effective method to track the level of parent involvement at various activities with the goal of establishing baseline data to be used to identify methods to increase that involvement

Date Prepared	12/20/2016	
Project Name	Lowell High School	
Project Number	67150.00	
Subject	Focus Groups- Feasibility Study (v4)	
Meeting Location	LHS Lord Building Head of School Conference Room	
Meeting Dates	11/15/2016	
	11/16/2016	
Prepared By	Robert Bell, Alicia Caritano	a.caritano@perkinseastman.com
	T: 617-449-4001	F: 617-449-4049
Participants	Perkins Eastman: Robert Bell (all meetings), Alicia Caritano (11/15 am) Point Line Space: Peter Constable, Aaron Constable (11/16 all sessions except Custodial) Crabtree McGrath: 11/16/16 Culinary & 11/22/16 Foodservice only. LHS: See specific meetings below.	

Agenda Items		Notes
11/15/16 & 11/16/16	**All Focus Groups**	LHS Attendees: Refer to specific Focus Groups attendees noted below.
		Focus Group Process Overview: The LHS design & drawing process will take approximately 3 years before proceeding into construction. We are currently in the earliest phase, called Feasibility Study. We are gathering information, determining the space needs and developing goals/objectives with the City, School & Community. Through the design & drawing process, we will be meeting with LHS in the form of Focus Groups (+/- 4 times during the design process) and as full faculty forums (first one 12/7). Our objective in this first round of meetings is to understand the spaces needed, where they should be located & and any major equipment of functional requirements that might affect the shape/size and position of rooms. Current enrollment +/- 3,128 students. MSBA planned enrollment 3,520 students. MSBA average is 23 students per classroom. We will design layouts for average of 28-32 students per classroom LHS is currently experiencing. Current LHS teacher contracts are for 5 of 7 periods which is 71% efficiency. MSBA requires 85% efficiency & effective non-ownership of classroom. Refer to attached Process Overview Form with questions that were distributed prior to the meeting that serves as a framework for these Focus Group Meetings.

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11/15/16 7:15-8:00	Safet;y & Security	LHS Attendees: Jeannine Durkin-Deputy Superintendent, Roxane Howe DIS/OPS, David Peaslee-LPD
		• At the start of the day students/staff come into both buildings; only main entrance is manned. • Future goal is to secure all entrances per recommendation in safety audit; 32 entrances exist • Existing sign-in sheet at security desk (Raptor), not totally secure • Plan is for freshman to be part of campus in future; separate entrance pending layout • Kirk St. one entrance is open currently for Gr.9 travel between bldgs • Over 10,000 visitors per year • Vestibule control options; fully controlled w/ check-in and separate manned security as opposed to reporting to administration office; astounding number of people pass through the building in a day; would prefer secure vestibule in each building. • Restaurant: Current Public access to restaurant from Kirk Street with a buzzer but no security, students can provide access via buzzer. Future possible storefront at restaurant for visibility/draw for restaurant as well as security. Ideal design would have visibility of security desk. • Also public access to bank and store • TV studio and maker space no public draw currently • Field House Auditorium & Cafeteria need thought re; after hours; design should allow for zoning & controlled access • Deliveries occur from multiple access points currently: maintenance area (not always manned), main entrance, & freshman academy; bulk of deliveries at Lord Building currently – difficult access for trucks that requires shuffling cars, delivery would need to be reconfigured. • Security Space Needs: Existing 3 in Lord Building – Police/Security/Dare and 1 at Freshman Academy. Future: ideally 1 for Freshman Academy if remote, SRO offices w/ meeting space approx. 150 sf, computer is remote w/ a couple of monitors, some schools secure command and control center w/ consoles or interior bunker type locked and secured room. Security Staff: also space for a couple of security staff, DARE is same space -needs to feel welcoming and accessible to students • Other security space needs pending Lobby design • House offices have a lot of traffic and would be good to be centrally located near the entrance • Student support office for enrollments also very busy and should be located near entrance • Field House has a lot of traffic and should be near security office • Unique challenges of canal & trolley including response time due to remoteness of buildings, if staffing permits would be beneficial to have staff in each building. • Multi-level bridges would help alleviate congestion and keep students in the buildings • Some open dining on the west side of the canal; a few incidents of issues with kids adjacent to tracks; option for cafeteria w/ contained outdoor dining (currently no recess option for air and sunshine; existing cafeteria is very contained and crowded and

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		outdoors is a release- perhaps double duty space for outdoor dining and classes • No current student roof access • Special safety / security equipment: licenses by FCC use of the radios, need 1 antenna for repeater of the radios (currently roof of the old building)
11/15/16 8:00-9:00	**Health & Bioscience Pathway**	LHS Attendees: Roger Morneau-Dept. Chair, Killian McAnaney-Science Teacher
		• Pathway created after building was designed, so current configuration is not ideal • Core course microbiology; currently 1 room Bio Lab scheduled, future ideally micro & bio tech lab w/ clean room • Vision for pathway: medical side like teaching hospital demonstration /mock-training area or patient, if get Certified Nursing Assistant (CAN) program which is a goal, regular lab w/ curtained off area and exam table • CNA Training Area would need to be authorized by department of Education; LHS to confirm if this space should be included • Would like health and bioscience cluster in each building, • MSBA standard for lab 1440 sf plus Prep Room 400sf: Lab is one large space w/ fixed perimeter casework and loose interior furniture which can include mobile demonstration tables which floats, and prep room with 2-sided fume hoods, and standardized sizes gas etc. • Microbiology: ideally specialized Clean Room w/ fume hoods • New Clean Energy Pathway w/one course spearheaded by Killian; idea to include renewable teaching tool in building i.e. PV, geothermal, wind. PE noted that if budget does not allow for renewables at outset could plan for renewables to be included in the future. Collaborating w/ U Mass Lowell and Middlesex Community College – speakers and field trips. Part of class is field development, and getting credits. Curriculum is developing. • Clean Energy is a grant from Mass Clean Energy Center: **LHS to provide copy of Grant.** • Grants received would be subtracted from MSBA reimbursement • # of students in pathway varies; students can get in and out of pathways, hard to predict number currently, need to understand space needs pathway vs. larger science curriculum (can design to fit up to 28) • Combined Old “Kouloheras” Building East Side of Campus: no Health and Bioscience, Room 304A, 1 chemistry mixed use room 314, 304 mixed use • Flex Teaching Room could be lab room; medical terminology & procedures • State mandate: nobody owns a room, typically need to plan for 85% utilization (maybe less for Science due to labs) • Central Department Room: possibly a collaborative space for teachers that is not just for Science; proximity helps with efficiency • Organizational Models: Want collaborative clusters w/ Science in each, STEM school. Science is critical organizer because of specific rooms that are not interchangeable, possibly cluster w/ disciplines ie. Biology, Physics, Chemistry

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		• Other Specialty Needs: Greenhouse, growing, rooftop equipment i.e. Weather Monitor • Big push in Lowell for gardens as a teaching tool; D House/coffee center (was a plant room), and greenhouse space Plant Room 650 – both are too small and not utilized; green space could tie to all levels of Bio and honors genetics, both existing spaces too small • Weather Center would be beneficial for Meteorology classes • Can the Canal/Bridges be featured in the design & educational mission / Building as a Teaching Tool i.e. hydroelectric power for clean energy, deflection of bridges, PV panels on bridge portions elevations (energy & shading) • Student and Department Input That Would be Beneficial: Future of teaching and learning? Students learning at their own pace? The flipped classroom? • Technology: Target at this time; 1 to 1- timing pending funding. • Biotech: None at this time, but was previously discussed with MCC, would like to pursue this – possible certified pathway. MCC Biotechnician program. Need to confirm if this program will be included in planning. • Microbiology vs. Biotech: both would need a clean room. • 9th grade: teams of 4 or 5 classrooms including a science lab? • Dual Enrollment: biology, U Lowell removed credit because LHS has no physical labs & resources for credit; UML Chemistry and Biology • Offices: currently Dept. Head in Teacher's Dept. Mezzanine in old building • **LHS to coordinate representation from U Mass Lowell & Possibly Middlesex Community College in next round of Focus Group Meetings.**
11/15/16 9:00-10:00	**Freshman Academy**	LHS Attendees: Jill Lang-Director, Bopha Boutselis-9th Grade Math Teacher, Mark Cullen-9th Grade History Teacher
		• Very important that Freshman Academy is separate: Freshman Academy model separates Freshman to accomplish a smooth transition between middle school and high school • Statistically separation helps; students need extra support beyond that of house model • Currently 760 students, typically 750-850, highest was 1000, surge anticipated next year • Currently 3 teams organized in clusters, originally 4 teams of 8 , 4th cluster removed a few years ago due to staffing cuts; plan for 4 clusters of 8 teachers of 110 students • Director w/ 2 support staff per cluster helps minimize behavioral incidents • Course offerings were less, now have more high honors, geometry and algebra • Team: Math, Science, English, Social Studies • Outside of clusters: 2 full time and 1 part-time Specialists, 2 specialist classrooms + 2 SPED that work w/ all classes, full-time suspension, balanced literature teacher, adjustment program, emotional disabilities (moved to main building 2 years ago due to space shortage but should be with FA) ,3? foreign language (spanish, Kamir, French) and 2 health, Missing Latin Lyceum, and ELL spaces (separate now due to space) – need direct connection to FA

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		• Key to have guidance and social worker in Academy for quick response time to correct behavioral issues • Existing FA was middle school so layout does not reflect current HS needs. • Smaller communities w/in each cluster helps minimize class cuts and improve behavioral issues, staff recognizes students and knows who should/shouldn't be on the floor • Currently separate cafeteria and theatre; inherited the theatre which is currently used for seminar and assemblies but not crucial for future • Some Freshman activities on Main Campus help ease students into upper class campus: existing - gym, library & theatre, future possibly others i.e. Foreign Language? • Cafeteria: distributed dining w/ choice and scaled social dining vs. large area w/ multiple seatings. What is the ideal for the FA? Possibly dine on main campus? Need to explore safety benefits of smaller cafeteria but possible benefits of larger integrated cafeteria Freshmen can be vulnerable and need a safe space that is not too crowded. Freshman start as timid and unsure and some may not feel comfortable eating lunch in a large scale situation with all classes together; explore both separate and integrated dining. • Teachers Rooms: Currently 1 large teachers room on 1st floor. May be difficult to convince teachers not to have their own rooms for belongings, materials books etc. and time to travel to common area. Also concerned with space to leave their materials. State provides 100 sf / teacher/classroom for space for teacher. Friday 11/18 tour to Essex Tech w/ teacher planning rooms outside of the classrooms. Planning space includes some limited file cabinets/storage. Storage planned into classrooms as well as additional general storage. • Would like some separate area w/in room for multiple situations/flexibility i.e. separate cubicles for tests. • Teacher space: shared technology • Classrooms: how to personalize and share space? Concept "primary ownership" 85% utilization, plan for flexibility • Still have 100 sf/ for teachers which could be Teacher Planning Rooms or other • Classrooms: Flexibility, possible break out or pull-out /spaces (enclosure could vary), option shared space in the corridor w/ good visibility. • Existing Corridors: A bit small and can cause congestion, but also intimacy and no nooks and easy teacher insertion to prevent incidents, no cross corridors and no unsupervised areas, only one near nurses in existing, easy to supervise id and makes for good eye/contact and conversation w/ teachers, all corridors visible good line of site no hiding • Maker Space: created last year, part of integrated science used by science ea. cluster and Latin Lyceum, functions as a lab and need to schedule, directly related w/ curriculum, 3-D and laser printers w/ lab tables, large touch screen monitor part of a grant • Maker Space: Space can vary greatly pending on district needs.Where should space be located- proximity to 9th grade classrooms is part of Grant, adjacent to Media Center? could be beneficial to entire campus. **Roger to provide copy of Grant.**

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		• Media Center: FA uses Main Campus library currently • Computer Lab: Rms 810 and 903, issues, 903 not enough room for notebooks at desks, State does not have an allowance for general computer labs that are not specific i.e. Graphics, expect this to be in Library or other space. Currently need to schedule rooms for classes to use this space. Alternate Idea: computer carts in each classroom, technology FFE/Technology budgets for computers etc. • Guidance/Social Work: Office 716A, 717Teachers: currently separated but not desired, just an existing space constraint • Main Office: 800, In-House Suspension 715, 1st,middle office Cluster 7 / ELL, next Rose Cluster 8 Guidance, last Gina Social Worker, Side Office Storage, Reception is 1 Clerk, need a security and check in office not currently available, all buzz in and go to Main Office; ideally want separate waiting room for parents separate from Office and students/ copy etc. 800 main office: 1 person works there, top left office 100 was 2nd student support specialist that was eliminated budget cuts would be beneficial, Student Support, Special Ed Testing, Conference, • Rm 811: Gear Up and Talent Search w/ Middlesex Community College: small classroom, need an office and a few desks and small table; need to check if Grant extends / funding, good to include office for outside partner or school counselors, but then would need large office and no classroom • Rm 902: Was teacher's room, now used for screen testing, hearing and vision, plus 2 nurses office 1 has 2 cots, the other has none • Rm 901: science but no classes scheduled, used sim to Maker Space, kitchen not used –was inherited, includes large lab tables which are missing in existing science rooms • Rm 852: Copy Room and Teachers' Lounge • Rm 850 / 851: captured room in back, now used as teacher room but not teaching because open and acoustical issues • Storage above theatre used as dressing rooms associated w/ Fine Arts dept.; MCC rents the theatre too, would need storage and props storage if theatre stays, • Special Ed & Testing: speech and testing, varies from year to year • 859 Room for speech and hearing impaired, this is not only a freshman class (in FA due to space issue); some freshman but also upper class
11/15/16 10:15-11:15	**ELL/Foreign Language**	LHS Attendees: Stephen Gervais-ELL/Foreign Language Dept. Chair, Barbara Hodgson-ELL, Jeannine Ameduri-French Teacher
		• Will have distinct Freshman Academy currently 3 teachers (French, Spanish, Kumai – currently feeling isolated) teachers are there because of shortage of rooms on Main Campus • ELL:many ELL students have tutors (currently 8 tutors), would like adjoining pull-out area not in classroom for extra help/attention, law is no wall or door allowed between tutor & teacher, would like 3-4 normal sized student study rooms for before & after school tutoring and projects during day, also would like another Language Lab w/ integrated technology for daily ELL use (currently in room 237 in "Kouloharas" building, trend is mobile labs, like carrels for writing and listening and helps overcome shyness, privacy encourages students to speak w/out intimidation, also fewer distractions then mobile labs, Room 237 is not a scheduled room

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		currently, one lab shared by 2 departments, the state doesn't fund dedicated labs(they expect media center to be used, but we can make the case for language labs) • Carrels would not work well in the classrooms • ELL: like these distributed/integrated in pairs of 2(for a buddy) as opposed to ELL wing which can be isolating and "against the law". The students sometime feel that they "are not part of LHS", Also good for teachers to integrate w/ other teachers in their discipline. Students need to be exposed to what students in Gen Ed classes are doing. • Foreign Language: How should this be organized – an area or wing, a cluster on the cusp of academic classrooms? Either could work, need to query other teachers. Benefits to collaboration. We can test options. Foreign language tends to want to be accessible and possible on the cusp of academic language similar to science (would have windows). Like to collaborate in a language cluster. • Flexible Learning; want more Independent Spaces w/ good visibility. Won't work in a corridor but could work in smaller pull-out or study space that is not a traditional classroom for smaller groups of students. Need some separation i.e. an arch that provides some enclosure but is not full wall. • ELL/Foreign Language: "Lab" surround sound, or sound proof; existing requirements for sound are much higher than older traditional classroom designs, also options integrated sound security in a classroom need to discuss the value of this vs. budget constraints, sound reinforcement – wire separate system w/ speakers and teacher wears device, every room short throw data projection w/ built-in sound reinforcement, centralized sound system center room picks up sound system (acoustical consultant part of team to help create effective learning environments and also evaluate acoustics for mechanical systems – issues w/ rooms on courtyard currently) • ELL enrollment can creep from 16-30+ during the year; can some rooms be expandable? • Teacher Work Rooms and Offices: Most located in the Mezzanine of "Kouloheras", would like to be with other Academic Chairs Colleagues. Idea of large Teacher Center or dispersed Teacher Centers. There used to be a Foreign. Language common meeting areas. • Student Support area: Need to acknowledge distance and privacy when considering teacher center design. • Other spaces: Storage, Dept. Offices, would like central storage or w/in classroom areas, text books are still used. Some storage can be included in rooms. • Lockers: need places to store and lock things up. Like the old built-in cabinets form the 1922, like the glass for visibility and helps with dust.
11/15/16 11:15-12:15	**Wellness & Physical Education**	LHS Attendees: Jim DeProfio-PE Chair/AD, Pat Swett-PE Teacher, Krisi Keegan-PE Teacher/Coach
		• MSBA funds Physical Education including 12,000 sf gyms but not "Field Houses" or Athletic Team locker rooms • Want flexibility • Desire to get mats up off of floor to use space for Zumba or other

		• Athletics only permanent equipment set up is gymnastics • Have both a boys and girls interscholastic team, beyond that separate rooms off of gym are all used for PE program with athletics use after school and weekends • All spaces well utilized between 8am-8pm • Plan diagram provided is ideal sketch (not to scale) reviewed w/ all coaches and tried to be realistic and practical. PE noted that this diagrams contained more stations than is typically funded by MSBA • Gym: synthetic floor w/ lines to delineate basketball and track • Long jump (LJ) and triple jump (TJ) have are sand pits that can be closed w/ covers for PE application. • If need to compress footprint could be on multiple floors • Wrestling 42x84 full set up with soft divider • Gymnastics need layout assist: **LHS to provide diagram** • Yoga/Weigh Functional Strength: 35-37 students at a time, current room is a little small • Weight Room: Olympic lift/traditional type room free weights, weight training more than core training, kettle bells, weights, storage on perimeter, fitness balls, medicine balls, • Desire small size instruction, variety of very active kids • Functional vs. weight separate rooms: should there be transparency? • Long wall looking out into gym: top safety glass & bottom solid, opportunity for shades for privacy on glazing • Mens' / Womens' Room: want to avoid students returning to the locker room mid-period, would like return to be monitored w/ teacher supervision; don't want students left unsupervised, • Main gym lacking system of dividers– curtains or others; hard vs. soft options • State standards: plan for 23 avg. size; state considers 1 gym station 3,000 sf; diagram shows 8 stations, will explore validated square footage and see how to divide to accommodate stations • State doesn't fund natatoriums • Locker/Shower Rooms: showering is activity dependent, Pool / swimming they shower, lockers are divided for PE and Athletics, Lockers are used during gym period (students bring own lock) # lockers is enough for 1 PE period = +/- 35. Varsity Locker room used in season. • Ofices for PE: There are no athletic offices, there is one PE office in each locker room, and one at pool, 1 at Varsity, and one in the hallway. Offices are shared for 2 people, some are for 3. Coaches share the spaces with the PE teachers. Envision gender offices for PE/Coaches. Seriously missing in current design is a teacher / coach spaces to change and shower that is separate from students; would like private adult dress/shower. • Storage: 2 specific types, Cage Storage for teacher instruction, open w/ locks for nets racquet sports, jump ropes etc., also permanent bleachers w/ storage below, slop sinks, Zamboni machine, storage for teachers. • Access to outside: Only green space adjacent is green triangle at Tsongas Center. Teachers would like outdoor space; creative ideas-turf top of garage. Need field space to enhance instruction. • Overlap w/ ROTC –marching upstairs in the morning in Field House

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		• Options to lift things into the ceiling; existing baseball cage is lifting into the ceiling and used for baseball and softball, have 1 cage that lifts. • Other large equipment: Indoor shot putt (plastic casing filled w/ buckshot) needs to be caged in. Functional strength – have some equip in weight that was donated. • Functional training/fitness; moving the body in ways similar to your daily activity (picking up groceries, twisting, turning, walking carrying), PE which designed to manage physical demands of real life. Need an open space, with things that move kettle bells, sleds, medicine balls, climbing ropes, each class can re-invent itself/not structured, can change by grade level and need, could have turf. • Natatorium: 6 lanes @ 25 yards, looking for 8 @ 25, and a diving well in 2 lanes, or bump-out diving well, for Phys Ed reward is to go learn diving, also large part of program for interscholastic teams. Range – some students may not want to put their face in the water. Intent is to level the playing field for all of the kids that don't belong to gyms or have private lessons. Range: learning to swim, water polo diving, instruction life guards; divide lines to provide flexibility. • Ethnic / Cultural Specific Considerations: Changing / showering – some cultures have difficulties participating in PE because locker rooms are open space. What to plan for to accommodate these cultural issues? No gang showers. Would prefer fewer shower heads if it means more privacy – may increase participation. Existing girls room changing stalls; most use these; would like to see these again. Boys individual also get used to change; only 2 existing. • Refer to attached "Lowell High School Physical Education/Athletics Plan for Focus Group provided by Jim DeProfio that includes additional "pencil"/lowercase PE notes.
11/15/16 12:45-1:30	**ROTC**	LHS Attendees: Eileen Ironfield-Senior Instructor, David Smith-Instructor
		• Existing = 4 classrooms + cadet staff/conference classroom + classroom for supply + office + bathroom taken over for gym • 385 students in ROTC, 4 instructors (5th mandated at 350); had 232 15 yrs. ago, has increased gradually. When HS was 4000, they had 475 cadets • Students begin and end in classrooms, but they pull-out typically for inspection, drills (in hallways… they get interrupted), PT • Drills need a gym space (2500sf regulations based on units of 100) • Drill space needs height for rifle toss • 6:45am gym used for drill (to not conflict with PE/Athletics but teachers used to run, creating conflicts). Gym is used 5 of 7 periods and before school by necessity (drill, inspections) • ROTC cadets train for numerous events • See regulations; noting they are minimums and based on 2 instructors and 100 cadets. Classrooms (CR) capped at 32 seats/CR • Cadet Staff/Conf area for 14 computer carrells, 24 seat conference (also used for counseling). Could probably change to laptops if school goes that route, except for use of Turning Point Software (not mac friendly) used for teaching classes • Cadet staff have jobs, must interact with US Air Force website

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		• ROTC office should be for 4 instructors + Director • Ideal location is with gym/drill space, but also at ground-level with access to outside
11/15/16 1:30-2:30	**Student Support Services**	LHS Attendees: ~~Dave Robinson – Coordinator Student Support Services~~, Roxane Howe, ~~Tim O'Keefe House Dean~~, Maria Bejar, Heather Brunner-Guidance Counselor, Maureen Schwartz-Social Worker, Karyn Cassidy-College & Career Counselor, Mary McLaughlin – Nurse, Pat Noonan-SSS Clerk, Lisa McHugh-Clerk Scheduler, Cindy-Obika-House Clerk, Darmery Montoya-Parent Liaison
		• 4 House offices (Dean, 2 guidance, clerk/scheduler, house clerk & social worker); 2 clerks in the general house office/waiting. Would like a small conference. Waiting for 10-12 with tardy computer station. Would like kitchenette • Note houses are just a way to break down the large no. of students into manageable groups, same support • Need separate copy machines • Consider house offices located off of main lobby (closer to entry) • Deans, Guidance & Social Work needs enough for meeting w/4 • Each guidance has about 4 or 5 lateral files • Nurse suite (waiting for 8-10, counter/desk area for 4.5, 2 private rooms for exam/conference, 6 cots, 2 bathrooms, storage for supplies, ice-maker. Need files/records • Locate nurse near Student Support; might want to locate teen clinic nearby also • Lactation room near nurse • Would like nurse access to outside for student pick-up • Student Support needs main office w/ clerk, separate registration/waiting area, (2-3) separate ELL testing cubicle areas, 4 liaison desks in open office, student support office, conference for 12-15, need room for 7yrs of student records (graduate, withdrawn, etc.); for 40 lateral files • Student Support should be located near security, main lobby, but acoustically separate • Once a year parents registering students for a week, spills into halls • College Career Center (CCC) currently is an extension of guidance, they help students with workshops, fairs, testing, etc. Currently use 2 classrooms with 3 full-time staff, 1 room is multi-purpose conference (need for 10-15) + several students computers, other room is 24 computer station lab with desk. Would like secretary/reception. • CCC needs large space w/ secretary and large laptop area with presentation capability, space lined w/ the individual offices and conference space (Nashua HS North). Locate near guidance for monthly Naviance training. Need kitchenette
11/15/16 2:45-3:45	**Athletics**	LHS Attendees: Jim DeProfio, Jen McGlauflin, Paul McCarthy, Tim Patterson, ~~Damon Amato,~~ Kevin Donahue, Jessie
		• Jim to provide full athletic program/season with participation (subsequently provided by Jim via email on 11/29/16) • Main Gym can have upward of 300 students at any one time; inter-scholastic needs are greater than PE (Gym boys/girls indoor track = 200 alone + Basketball + Cheerleading). Need water jug filler and ice-machine area for coaches • Wood Floor Gym w/ one competition basketball and 3 volleyball. Should have spectator stands on one side, not opposite

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		• Equipment/Uniform Storage needed w/ laundry. Football is done at the stadium, but everything else done on-site • Frustrating/inefficient to bus students and commandeer other MS • Crowd control and flow is an issue, many ways to get in/out and up/down floors • A lot of space in the existing Field House is unused/inefficient • Functional Room – non cardio, more natural movement space • Weight Room to be slightly bigger than existing, size for 50+ (Jim to provide inventory); like combo Olympic lift station as one element • Cheer/Yoga space for 36 students and Cheer meet mats (45x45) • Wrestling should have subfloor suitable for dance; mat lift is ideal or space to roll-up mats. Plan for (2) 42x42 layouts • Gymnastics part-time on-site, girls off-site. Rents gym (half equipment is broken), they have about 80 kids sign-up. Needs 6000sf set up**. Jessie to send layouts.** • Trainer about 1200sf w/ separate exam room and toilet. Also need a number of taping stations • Natatorium – needs to accommodate meets (8 lanes + separate diving well w/ 2 1meter boards, separate bathrooms and 150 spectators, ideally up above pool deck, alongside); Locker/shower area can overlap and be part of main locker area. • Pool needs separate PE and athletic storage, noting the wet nature of items • See attached Physical Education / Athletics Plan for Focus Group provided by Jim DeProfio w/ additional PE handwritten notes in pencil.
11/16/16 7:15-8:00	**Custodial**	LHS Attendees: Rick Underwood-Operations & Maintenance Director, Alan Sayer-Custodian. ~~Patrick Harrigan~~
		• Loading Dock is both kitchen and custodial. Existing not big enough • Large (30yd.) mixed recycling, (2) 10yd. exist. Need more recycling dumpster. No composting • Recycling program is in all CRs, two bins each room. Tuesday barrels into hall and student group collects. • Maneuvering space for trucks not enough (2 -44' storage sheds and dumpster don't allow enough room for maneuvering) • Full tractor trailer deliveries; daily milk, bi-weekly Sysco, trash daily/recycling 1/week (not enough) • Kitchen deliveries direct to kitchen, School supplies direct to custodial. Custodial storage too small; supplies ordered as needed • Other than small custodial closets, no other major distributed storage, except basement of 1922 building (supplies and major equipment) • Gas storage is out in 44' storage (4-5 snow blowers, mowers, weed wackers, light bulbs) • Salt stored under each stairs at entry areas • One office w/ bathroom; small locker area, bathrooms and showers (need unisex) • Need freight elevator; need to accommodate pallets • Ideally distribute cleaning equipment w/ charging each floor (ride-on, walk behinds, Kaivac -bathroom machine) • Interested in non-waxable finishes

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		• Have 2 genie lifts (one in gym, one in 1922 stair), plus an old scissor lift in the gym • Auditorium lights drop-down • Boilers on the roof of Lord; the steam plant is for freshman and Kouloheras • No neutralization tanks known • Would like access to bathroom chases; if major work required, walls/finishes will get destroyed and not replaced • Problem with drywall in classrooms, teachers move desks against walls
11/16/16 8:00-8:45	**Business/Culinary**	LHS Attendees: Margaret Overlan-Restaurant, Jacqui Taylor-School Store, Roxanne Howe
		Culinary • Marketing is only Ch.74 program, but Culinary program follows Ch.74 guidelines • Students have 2 periods a row in am, program is M/T breakfast, W-F breakfast and lunch • Culinary has front of house and back, includes restaurant w/ point of sale, bakery, kitchen w/prep (sections are split between front/back of house) • 36-40 is their current capacity; need 25 minimum • Bathrooms needed nearby (for students, staff and patrons) • 1 upright fridge and freezer in kitchen (too small); distance to dry storage and walk-ins too far (good size, but remote. • Classroom is also too far. Would like dining room to double as Classroom, with full capability • Class sizes are 18-20, would like to grow program • Students do deliveries around the school • Public access not ideal, not direct or controlled. Should have open to public, but secure door from restaurant to kitchen could be done • Location is near down town streets; might want to be toward main lobby, make showcase. The primary patrons are the school • Note; culinary program cannot compete with school's food service for students. • See attached Culinary diagram provided by LHS. See to attached Crabtreee McGrath Foodservice Equipment Meeting Minutes for 11/22/16 meeting. School Store • School store w/ classroom attached (for 25 max) and secure storage and small office. As many as 10 might work in the store at one time • Classroom equipment has large format printing, heat press, need large layout tables, need secure inventory room (sweatshirts/ t-shirts). • Would like computer stations in classrooms (currently have ipads) • Store should be connected to Classroom (one teacher supervises); • Sink needed in the store for cookies; they back with small toaster/convection ovens. They sell water, soda. Need small cooler and freezer

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		• Store needs better display; location is ideal near cafeteria and bank with visibility outside along main entry. Needs more direct/secure public access. Would like peg or slat wall system and good lighting • Existing school store size is ok • Need two registers • Classroom needs student storage/cubbies for belongings • Store room needs to lock Business • Current rooms are primarily fixed labs (need more flexibility) • Ideal existing room has multiple LCD TV's (not on a central pole) on multiple walls with students facing different directions • Could look at perimeter computers and central
11/16/16 8:45-9:45	**Special Education**	LHS Attendees: Diane Chandonnet-Dept. Chair, Donna Newcomb-SPEDTeacher, Lenny Rapone-SPED Teacher
		Overall program has about 10% IEP, the concern is that the percent is not growing but students are shifting between programs (towards more severe needs) Acoustic treatment, between and among spaces is key, not just for SPED student needs, but also for loud/behavioral School needs multiple elevators in each building, sometimes one goes down. Also would like main lobby/multi-level ramp access for all Substantial-Separate Program (includes: Fundamentals, Adjustments & Lifeskills) Fundamentals (190 students) • 2 math, 2 eng, 2 history,2 instructional support, 1 reading, & 3 freshman academy classrooms exist. Typically 8 rooms per classroom, but growing to 12+ lately. These could be half classrooms. Locate near regular academics, incl. science, math, etc. • 1 instructional support classroom (tutoring) & transitional support to prepare for real world. Room has 2 teachers and many resources (books, computers, work tables, a few break-out/tutoring rooms connected, etc.); classes range from 12 to 22, needs larger than classroom size ("learning career enrichment center") Adjustments (40 students 9-12 grade w/ emotional or behave disability) • 7 CRs exist with about 12 students each, rooms should be set up with main space, but need a few quiet areas/cubbies w/in the room. Need flexibility for more PBL (Project Based Learning) • Traditional classroom setting, but need flexibility to do group instruction, break-out and 1:1 • Storage is important; differentiated instruction requires many means • Social Worker associated with program, should be nearby, but also need counseling space for 8-10 • Locate dispersed w/in classroom wings for integration, but would like not to be in remote corners, if somewhat close to each other, they can cross-communicate

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		• Access to life skills kitchen suite would be beneficial (sign-up for as a pull-out lab) Life Skills (69 students); CRs are div 14-17 & 18-22 • Intensive SPED (2 CRs) 14-17 has 7 students, 18-22 has 4 in ea. classroom o Half students in wheel chairs, feeding issues, tubes o Need sinks w/ hot water o Need bathrooms and young adult changing tables; need one at these rooms and two in other locations (nurse & cafeteria) o Both rooms need to be joined with Sensory Room attached w/ large equipment closet (250sf) o Would like operable wall between rooms • Autism (2 CRs) younger has 4, older has 8 in ea. Classroom o Rooms have sectioned-off quite areas o Need direct toilet rooms (still potty training) o Need regular sized rooms, despite less students per room • Life Skills (4 CRs) younger has 12, older has 12 in each CR o Program seems to be growing o Older student classrooms set up as dual classrooms w/suite of kitchen area, mail room and laundry. The suite should be separate but adjacent. o Would like to see it as full service laundry with ironing, folding tables, closets to practice, etc. Mail room would also like to be more of a center w/ copy center, computers, filing, etc. (as work environment); would also like living center with media and reward o Would like to see hygiene lab with toilet, showers, sinks that could be used by any of the 3 major SPED groups • Need Speech Specialist w. asst. (need small office and small teaching space) • Need OT/PT space • Deaf & Hard of Hearing office • SPED Admin Team (ideally a suite, but currently dispersed a bit) o Department Chair o 1 clerk o 2 psych o 2 evaluator team chair o 2 evaluators o Conference (for 16-18) o 3 Testing rooms (for eval and psych, unless space in offices) • 2nd social worker
11/16/16 10:00-11:00	**Fine Arts**	LHS Attendees: Sharon Clark-Fine Arts Dept. Chair, ~~Pat Fitzpatrick~~
		Visual Arts • Currently have 3 Art rooms (1 sculpture w/ kiln & storage, 2 drawing/studio rooms); Class sizes run 25 to 26, Sr. portfolio is smaller. Sculpture needs 3 or 4 potting wheels • All rooms need storage within. • 1 Digital Photography Lab, including animation. Class sizes run 25-28; need flexible furniture for group an individual • Photography and drawing need access to outside

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		• Have graphic design lab is regulation Classroom w/ 25 mac desktop computers (all digital); need flexible furniture • Graphics has a lot of in-school program for group an individual • TV production CR (separate from TV production studio), but should be connected. Classes range from 15-25; room set-up w/ cameras, 25 desktop computers & flexible furniture • TV studio falls under Communication • Ideal location for lots of light (skylights?) and not in disruptive area • They have cross-curricula within arts, but not as much w/ academics because mixed age classes which doesn't work for cross-grade level content Performing Arts (they are in basement, don't mind location) • Band has classes of 63, holding steady. They have been able to fit 115 students in existing. Current sizes are good; Band room also used for world drums and string ensemble • Current instrument storage is good; student instruments kept in school. Doorways need to be wide enough for tympani (60" wide). Also need easy ramp and elevator pathways to auditorium • Choir has classes of 65, also steady. They have been able to fit 115 students in existing. Current sizes are good, but want flat floor with platform risers that could be set up or taken down for show choir/movement. • Guitar Lab occurs in the choral room (back corner); for 20. not sure if dedicated room required • 1 Dance room, sized for 30 students (over 240 students); note existing room 137 has hardwood floors • Auditorium is used for dance also; changing via nearby restrooms • Piano/Digital audio has classes of 20; room has 20 digital piano's (2 rows of 10) • Spaces need to be near auditorium • Drama is taught in the Choral Rm; classes in low 20's. Freshman Academy has 350 seat theater that is used like a black box. They learn light, props & costume • Auditorium balcony has odd storage spaces (scenery flats); Costume storage in the basement, with some sewing/workspace. • Want more sewing/workspace • Acoustic shell is stored there • Check height/width of storage • Auditorium has 4 electrics that can be lowered. No catwalk or stage lights over the house • Would like <u>all</u> Performing arts space/storage located together in basement • Scene building is dome in hallways and on-stage • Check heights
11/16/16 11:00-11:45	**Humanities**	LHS Attendees: Suzanne Keefe-English Dept. Chair , Robert DeLossa-Social Studies, Deanna Stanford – Lead Teacher, Joseph Jussaume-Social Studies Teacher
		• Humanities as a unit but like inter-department (SS & ELA); groupings of 6 (3 and 3) are ideal with some shared space. • Like interdisciplinary, but also department working together • Need shared planning space useful for PLC clusters of 6 • Need more presentation space (want to get 2 or 3 classes together), spaces to accommodate 100

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		• Technology in classrooms (the existing central pole with 3 monitors facing different directions was not the original plan); would rather have 4 screens, one on each wall where presentation capability could be on any wall or all 4 for small group work. • Would like technology infrastructure and phased room set-ups if budget can't afford all rooms to be set up with screens • Would like laptop carts for every 3 CRs (district is mac committed, but they prefer laptop pcs or chrome books); especially if cost for macs would limit how many carts per room • Currently 32 rooms are set up with a technology grant • Department storage not needed, moving away from text books. ELA does have books (novels, more than text). Departments do need libraries for 400 volumes. • Need nearby bathrooms for faculty and students (too much time and lack of supervision otherwise). Also non gender specific. • Teachers use hallways, send student out on occasion now. • De-escalation spaces are needed within the general population. Flowing water is a huge part. Would be good to have an area within each classroom for a quiet space (alcove) • See attached Humanities notes provided by LHS.
11/16/16 11:45-12:45	**STEM**	LHS Attendees: Roger Morneau-Dept. Chair, Tracy Estrella-Math Dept. Chair, Megan Vilcans-Sciene/English Teacher, Sam Hor-Math Teacher
		• STEM is not actually a department • Science would like to be organized in sets of dispersed pods • Science storage is important • Math is wildly spread out, they would like some semblance of clustering • Larger/fewer planning rooms not as desirable as many small planning rooms located with each grouping of classrooms • CRs need flexibility to do on all walls; would like much taller MBs or better use of full wall height • The computer poles are difficult to work around • Some teachers already doing teaching/learning and pull-out in hallways • Math is moving toward performance/projects based work… actual projects, like airplane design/angles and launch calcs. They need flexible maker-type spaces. Ideal might be to co-locate with science to create flexibility and access to lab space • Computer Science is w/in Math Dept. – need to grow program • Engineering needs a lot of storage for many materials, types of medium, tools/equipment, robotics components. Room should be outfitted with lots of table/counter top and flexibility • Need separate area for cutting equipment (medal/wood), fine soldering capability. Don't currently have large, dimensional supplies like sheets of plywood, but might in future • Book storage space needed; consider combined (inter-department) book room for ease of inventory and dispersement
11/16/16 12:45-1:45	**Food Service**	LHS Attendees: Paula Trudeau – Lead Cook, Sharon Lagasse- Aramark Crabtree McGrath: John Sousa
		• Food service is federally funded program; they can't cross paths with other school programs. They are subject to same regulations as far as what they are allowed to serve.

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		• They serve water, chips, ice-cream and cookies at register • The restaurant can't serve to students, but can serve what they want (to teachers and public) • Food/loading is a problem (mostly due to obstruction of dumpsters and storage); 10 palettes every Tuesday; need space for them and to break-down and distribute. Might work best to have an LHS specific dry goods storage vs District. • Major rodent concerns/issues • Do not have enough storage (walk-in or dry goods) • They are one of two schools where commodities come in • Kitchen/equipment is old, not most efficient, a bit chaotic • Would like to continue with grab/go, 4 breakfast carts are very successful. Stored in kitchen. • Like existing deck oven, takes up a lot of space. Might work to have a rotating oven that is smaller, but has same output • Need more prep stations • 2 steamers and 2 kettles are ok • Serving is wide open; separate serving stations is desired to cont. They don't want to corral and overly direct. The advertising piece is important, so students can make a decision and commit. Need LCD screens • If school is designed with pods; would like kitchen central so that time is not spent delivering • They have 85% participation that may impact the idea of satellite serving, which is typically cold food. • Labor is one of the biggest expenses. They need to look at how to maximize efficiency and accommodate service points • Freshman Academy will want its own kitchen (it's a school of 1000 students) • Need 3 offices (cook & manager & cash counting), currently 27 staff (4 at freshman) • Need toilets, locker area • Pressure to start more wet waste/composting • Serve 21 cultures • See attached Food Service diagram provided by LHS. • See attached Crabtree McGrath notes for additional Foodservice meeting on 11/22 @ 2:30 pm.
11/16/16 1:45-2:45	**Communications Pathway & Library Media Center**	LHS Attendees: Kathy Downey-Library Media Specialist, Bryan Wilkins-Dreegan Media , Faye O'Leary-Digital Media / Graphics Design Teacher, ~~Sharon Clark~~
		• Would like entire digital/media spaces set up as a cluster to share space and resources, including a shared network for redundancy • Location in a quite area, doesn't necessarily need to be right with auditorium, but could envision an arts building • Outdoor space for presentation, performance & events might be of interest, but exists already across the street (across freshman academy); maybe an enhanced area off of lobbies • Would like gallery space for student work or themed shows • Video on demand available to the whole district, is managed by Media Studio. They supply multiple local cable channels (coax to every classroom internally and out to the City)

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- TV Production classroom (see notes within Art)
  - Needs layout similar to Graphic Design
- TV/Media Studio (operates Cable Access channel)
  - Full size studio and control room (current sizes are good), but would like room for multiple sets (live music vs interviews vs other)
  - They develop video; requires desktops and utilize separate server as redundant/back-up
  - Eight editing suites (50 to 100sf each); 3-4 students computers with additional audio mikes, large display monitors
  - Need major equipment storage (2 rooms now)
  - TV/Media CR needs flexibility as a lab, but open floor space for camera set-up, or class/lecture setting
  - 3 staff have offices, they work in classrooms
  - Conference room (for 15)
  - Lobby area with waiting; also used for brainstorming/collaborating. Space has soft seating and flat screen
- Graphic Design (see notes within Art)
  - 25 computers + teacher; could see it going toward laptops. Like the idea of being more mobile
  - Have projection capability, but would like multiple LCDs
  - Current room proportions drive the layout
  - Would like movable tables
  - Need locking storage
- Digital Photo & Animation (see notes within Art)
  - Would like a digital media cluster (right now sep. digital, graphic and media studio locations)
  - Need more exhibition space (and variety of media); cork walls in rooms, but also in corridors
  - Would like small area for portrait photography or stop-motion work area (shared)
  - Plan for 25 seats/computers
  - Need ability to connect tablets (computers)
- Digital Journalism (occurs in computer lab); they do podcasting
- Digital Audio occurs in piano lab
- Public Speaking occurs in regular classroom
- Band sound system is portable and rolled into the gym (gym system has failed). ROTC also uses the Band's system. Show Choir also has a portable system. Cafeteria has a fixed sound system, not used.

Library Media Center

- Only one librarian, considers herself mobile but the media center and resources as stationary (not necessarily dispersed)
- Need to prepare students to be able to use college library and how to use on-line catalogs. How to use database, how to be efficient and effective researchers
- Volumes are reducing, they are going more digital. Estimate about 25k volumes
- Currently can accommodate 3 or 4 classes; librarian can
- Before and after school tutoring program occurs. Library also used during lunch

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		• Library might want to accommodate maker space (like freshman academy's) • Need a balance of quite areas, collaboration areas and meeting areas • Computer area, table area and presentation area (each accommodated a class) • Would need 50 to 60 laptops (depending on time of year, students are relying on library for comp access) • Would like a dedicated reading area; with soft seating/casual • Need docking stations for charging phones. • Every discipline (except math) tends to use the Library • LHS archive and artifacts in a 250sf space • Would need security system (currently 3M system); books, computers and equipment need to be coded • See attached: Media Center Process Overview form notes,volume notes, and Media Center Studio notes provided by LHS.
11/15/16 3:00-4:00	**Outside Programs**	LHS Attendees: ~~Colleen Winn Gear Up Trio,~~Andrea Laskey-Lowell Community Health Clinic, Henry Och – Lowell Community Health Clinic COO, Anne Marie Bisson-Catie's Closet President & Jeanne D'Arc Credit Union VP Marketing & Financial Aid
		Lowell Community Health Center (room 22): • Funded by Massachusetts Department of Public Health • Licensed under ospices of the health center, subject to regulations incl. design/layout of spaces • **Health Center to send specs** • Currently 2 exams rooms, 1 recovery room (student needs to go home), clean room to store stuff and a utility room. • Need bathroom within the suite • Need waiting area and separate office space (privacy) • Clinical social worker office • They have separate contracts for operations (medical waste, etc) • No direct exterior access • Because health center is in renovation they have waivers now, but might not have them if it is in new construction • Services provide (primary care including immunization, physicals, STI, chronic disease management refugee management) staffed by medical assistant. They do individual and group therapy • Funds are not part of Dept. of Public Health; there may be federal funds available • Ideal location is to be separate and private, but some visibility • Need to discuss the future of health services (adding dental, vision, looking at utilization ratio of patients to student visits based on exam rooms) Catie's Closet: • Currently in 2 locations because of the building division with freshman academy. If 1 building, maybe 1 location, but bigger. • Ideally 400-500sf serving main building + 250sf for freshman • Each as one big space, lockable. They outfit themselves w/ rods, storage counters and equipment. • Space was provided instead of scholarship in the name

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		• Ideal location; privacy is important, typically near nurses station but not on a main path. Currently good location across from Social Worker St. Jean D'Arc Credit Union: • Current location is perfect; students need quick/easy access • They also help the school with deposits • Shape is odd; teller too close together, vault is exposed (need to lock-off) area. • Need larger than existing at 300sf • The credit union would build out the interior; they will also provide the layout • Need to bring in cables/electric direct from outside would like a bathroom nearby • They serve anyone inside the school • They need nearby doorway for currier and armored car access near • Alarm/electrical needs specifics Gear-Up/Talent Search/Upward Down (Trio): • They serve well over 1000 students • Level funded, federal grants for each • Cannot provide their own furniture per federal regulations • 3 spaces needed o Rm 811, but could be smaller; Need 150sf in freshman academy (desk, computer, small group) o Rm 206 suite, need space for 6 offices, work one on one with students (discuss financial situations) + common area for meetings with 12 staff. Need several computers for college career guidance. Similar to career center, but not part of guidance. They supplement and focus services on coll. o Rm 126 classroom; just upward bound; includes two teachers + 2 advisors and tutors come in. They provide intensive academic support. Ideally would have separate office for 4 + CR for 20-25. • Would like all 3 to be closer together, but need one in freshman academy. They also work closely w/ guidance/career ctr.
11/15/16 & 11/16/16	**Other Broad Planning Items**	
		• Need to plan for MSBA standards • Need to plan for flexibility • Classrooms: will prioritize natural light and ventilation • This is first year Alternative School is offered as independent choice: may need this as an option in new school that is completely separate, a facility within a facility w/separate entrance. • Currently a separate "Therapeutic" school exists off site. • Library is considered by some to be very small • Cafeteria: Need larger cafeteria, prefer smaller spaces and an overflow area that is multi-purpose room. State allows seating for 1/3 population; currently have 4 seatings. Currently a lot of ELL students eat in the hallway during lunch 2. Will design larger but scaled and easily visible/supervised space. Would like to go outside w/ designed seating and eat in the "National Park"-outdoor experience beneficial

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		• General School thought: lots of testing all the time, how is this handled, retesting MCASTS, national Latin Testing, currently use Little Theatre, meeting space for 50-60 students to discuss options career Foreign Languages • Issues w/ HC lift at North entry & HC access to auditorium need to be resolved • School needs multiple elevators in each building, sometimes one goes down (general use & Special Ed) • **Peer Mediation: This group was mentioned. LHS to clarify**

END OF MEETING RECORD

Next Meeting: Click here to enter a date.

Cc: LHS: Brian Martin, Roxane Howe
Skanska: Mary Ann Williams, Jim Dowd
Perkins Eastman: Robert Bell, Joseph Drown, Alicia Caritano, Dawn Guariello, Patrick Jones, Supatra Villegas
Design Team

Attachments:
Focus Group Process Overview
Sign-In Sheets
Lowell High School Physical Education/Athletics Plan
Culinary diagram
Crabtreee McGrath Foodservice Equipment Meeting Minutes for 11/22/16 meeting
Media Cente:r Process Overview form, volume notes, and Media Center Studio notes

This Meeting Record is our understanding of the items as they were discussed. Please report any discrepancies to Perkins Eastman. If no discrepancies are reported in five working days, this Meeting Record will stand as published.

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Creativity
Humanity
Purpose

Process Overview:

The LHS design & drawing process will take approximately 3 years, before proceeding into construction. This may seem like ample time and a slow pace, but most of the critical planning decisions are made up-front (within the first 6 months) and virtually all detailed scope decisions are made within a year.

We are currently in the earliest phase, called Feasibility Study. We are gathering information, determining the spaces needs and developing goals/objectives with the City, School & Community. Throughout the design & drawing process, we will be meeting with you in the form of Focus Groups (4 times over) and as full faculty forums.

Our objective in this first round of meetings is simply to understand the spaces you need, where they should be located and any major equipment or functional requirements that might affect the shape/size and position of rooms.

Tell Us About Your Program or Department

(What do you teach or oversee; what types of spaces do you use and how many?)

Uses & Functionality:

(What activities occur in each space, what student/teacher capacity is needed?)

Locations & Adjacencies:

(Describe connections or relationships to other programs, spaces or services)

FF&E/Technical Needs:

(Describe the types of furnishings/equipment, services or organizational needs)

Other Information:

(Provide additional information or highlights)

New York
Boston
Charlotte
Chicago
Dallas
Los Angeles
Pittsburgh
San Francisco
Stamford
Washington DC
Toronto
Shanghai
Guayaquil
Mumbai
Dubai

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50 Franklin Street
Suite 203
Boston, Massachusetts 02110
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www.perkinseastman.com

Perkins Eastman

LOWELL HIGH SCHOOL

SIGN IN SHEET

TOPIC: FS FOCUS GROUP MEETINGS

DATE: 11/15/16

	ATTENDEE	ORGANIZATION	TITLE	EMAIL ADDRESS
	SECURITY / SAFETY:			
1	Roxane Howe	LHS	Dis & OPS	rhowe@lowell.k12.ma.us
2	Jeannine Durkin	LPS	Deputy Superintendent	jdurkin@lowell.k12.ma.us
3	David Pearlee	LPD	SRO Sgt.	DPearlee@Lowellma.gov
4	**HEALTH & BIOSCIENCE:**			
5	Killian McAnaney	LHS	Science Teacher	kmcananey@lowell.k12.ma.us
6	Roger D. Morneau	LHS	Dept Chair	r.morneau@lowell.k12.ma.us
7				
8	**FRESHMAN ACADEMY:**			
9	Mark Cullen	LHS	9th grade History	MCullen@Lowell.k12.ma.us
10	Jill Lang	LHS	Director of the FA	JrLang@lowell.k12.ma.us
11	Bopha Bouttselis	LHS	9th grade Math	bbouttselis@lowell.k12.ma.us
12				
13	**ELL/FOREIGN LANGUAGE**			
14	Jeannine Umeduri	LHS	French teacher	jameduri@lhs.lowell.k12.ma.us
15	Barbara R. Hodgson	LHS	ELL	bhodgson@lowell.k12.ma.us
16	Stephen Gervais	LHS	ELL/For Lang DeptChar	sgervais@lowell.k12.ma.us
17				
18	**WELLNESS / PHYS ED:**			
19	JIM DEPROFIO	LHS	PE CHAIR/AD	jdeprofio@lowell.k12.ma.us
20	Kristina Keegan	LHS	PE TEACHER/COACH	kkeegan@lowell.k12.ma.us
21	PATRICK SWETT	LHS	PE TEACHER	PSWETT@LOWELL.K12.MA.US

Focus Groups 11/15 & 11/16 Attachment Page 2 of 16

Perkins Eastman

LOWELL HIGH SCHOOL

SIGN IN SHEET

TOPIC: FS FOCUS GROUP MEETINGS

DATE: 11/15/16

	ATTENDEE	ORGANIZATION	TITLE	EMAIL ADDRESS
22	ROTC			
23	Eileen Ironfield	AFROTC	Senior Instructor	eironfield@lowell.k12.ma.us
24	David Smith	AFROTC	Instructor	dsmith@lowell.k12.ma.us.
25				
26	STUDENT SUPPORT SERVICES			
27	Heather Brunner	Student Support C	Guidance Counselor	hbrunner@lowell.k12.ma.us
28	Maureen Schwartz	Student Support	Social Worker	mschwartz@lowell.k12.ma.us
29	Mario Vejar	C-House	Dean	
30	Darmelo Muntoz	SSS	Spanish Parent Liaison	
31	Patricia Moonan	SSS	Enrollment Clerk	pmoonan@lowell.k12.ma.us
32	Lisa McHugh	C House	CLERK SCHEDULER	LMCHUGH@LOWELL.K12.MA.US
33	Mary McLaughlin	Nurse	Nurse	mmcLaughlin@lowell.k12.ma.us
34	Kaye Cassidy	College & Career Ctr.	College Relations Counselor	Kcassidy@lowell.k12.ma.us
35				
36	ATHLETICS			
37	Tim Patterson	Athletics	Teacher/Coach	tpatterson@lowell.k12.ma.us
38	JIM DEPROFIO	~~[illegible]~~ ~~[illegible]~~ LHS	AD	jdeprofio@lowell.k12.ma.us
39	PAUL KMcCarthy	LHS	Teacher/coach	Paul KMcCarthy
40	JESSE RASCHAK	Athletics	Coach	jRaschak@lowell.k12.ma.us.
	Jen McGlauflin	LHS - Swim + Dive	Coach/Teacher	jmcglauflin@lowell k12 ma us

TOPIC: F5 FOCUS GROUP MEETINGS

DATE: 11/16/16

	ATTENDEE	ORGANIZATION	TITLE	EMAIL ADDRESS
1	CUSTODIAL			
2	Alan Sayer			
3	Rick Underwood			
4				
5	Business/culinary			
6				
7	Margaret Overlan	Restaurant	teacher / Chef	moverlan@lowell.k12.ma.us
8	Georgi Taylor	School Store	teacher	jtaylor@lowell.k12.ma.us
9				
10	Special Education			
11	Dianne Chandonnet		Dept. Chair	dchandonnet@lowell.k12.ma.us
12	Lenny Rapone	SPED Teacher	teacher	lrapone@lowell.k12.ma.us
13	Donna Newcomb	SPED Teacher	Teacher	dnewcomb@[illegible]lowell.k12.ma.us
14	Sharon Clark	Fine Arts	Dept. Chair	sharonclark@lowell.k12.ma.us
15				
16	Humanities			
17	ROBERT DELOSSA	Social Studies	Dept. Chair	rdelossa@lowell.k12.ma.us
18	Suzanne Keefe	English	Dept Chair	SKeefe@lowell.k12.ma.us
19	Deanna Stanford	English	Lead Teacher	dstanford@lowell.k12.ma.us
20	Joseph Jussaume	Social Studies	Teacher	jjussaume@lowell.k12.ma.us
21				

Perkins Eastman

LOWELL HIGH SCHOOL

SIGN IN SHEET

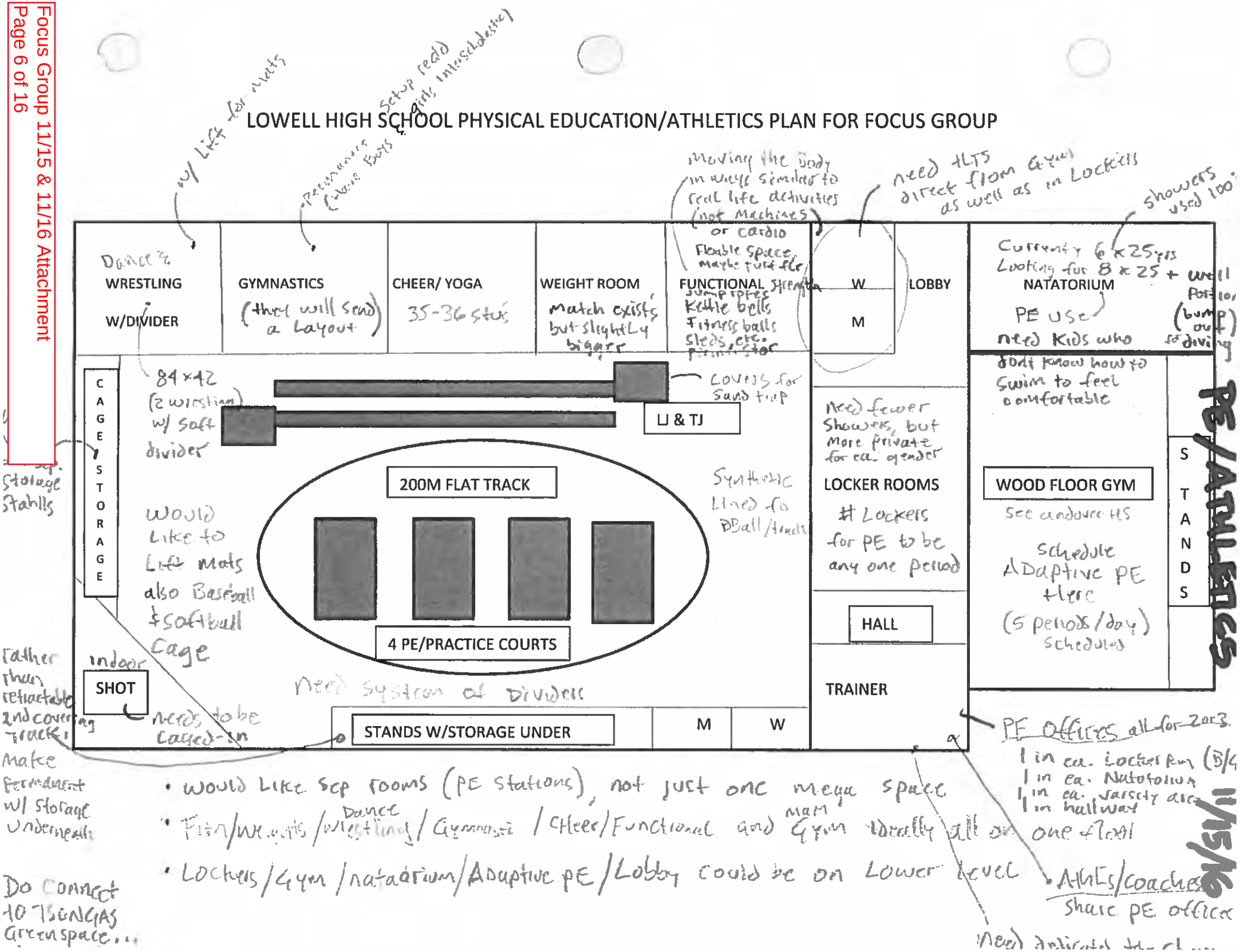
TOPIC: FS FOCUS GROUP MEETINGS

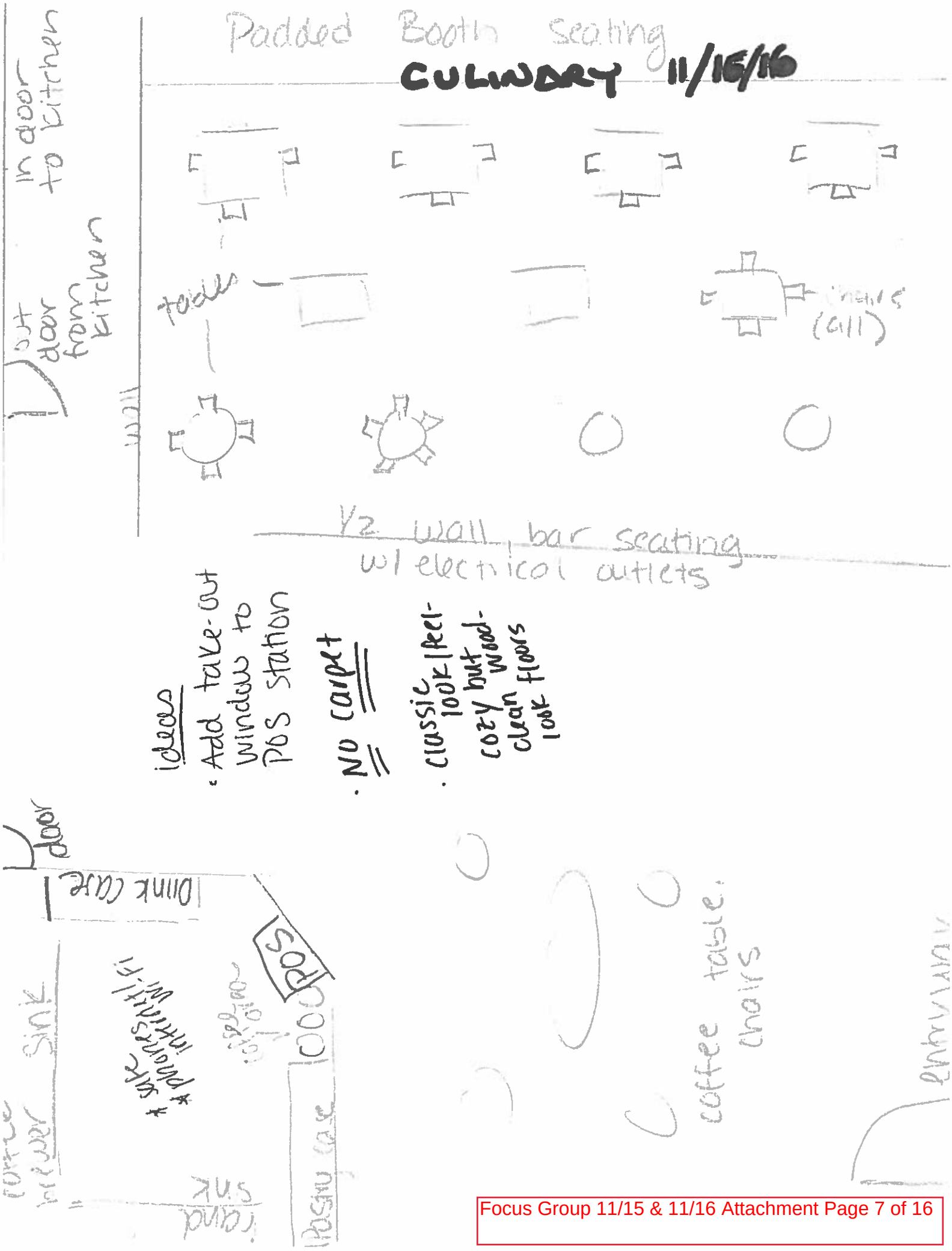
DATE: 11/16/16

	ATTENDEE	ORGANIZATION	TITLE	EMAIL ADDRESS
22	STEM			
23				
24	Tracy Estrella	LHS	Math Dept Chair	
25	Samnang Hor	LHS	Math Teacher	
26	Megan Vilcans	LHS	Science/Eng. Teacher	
27	FOOD SERVICE Roger D. Morneau	LHS	Dept. Chair	
28	John Sousa	CRABTREE MCGRADE	FOODSERVICE CONSULTANT	
29	Paula Trudeau	LHS Cafe Cook	Lead Cook	
30	Sharon Lagasse	Aramark	G.M.	
31				
32	Communications			
33	BRYAN Wilkins	Creegan Media	Producer	
34	Faye O'Leary	Digital Media / Graphic Design Teacher		
35	Kathy Downey	Library Media Specialist	LMS?	
36	Colleen Winn	GearUp / TRIO	Director	
37	OTHER Programs			
38	Jeanne-Marie Bisson	Jeanne D'Arc Credit Union	VP Marketing & Financial Ed	
39		& Catie's Closet	President	
40	Andrea Lasky	Lowell Community Health Center	3pm	andreala@lchealth.org
	Henry Och	Lowell CHC	Chief of Operations	henryoc@lchealth.org

Focus Group 11/15 & 11/16 Attachment Page 5 of 16

LOWELL HIGH SCHOOL PHYSICAL EDUCATION/ATHLETICS PLAN FOR FOCUS GROUP




Padded Booth Seating
CULINARY 11/15/16
in door to kitchen
out door from kitchen
wall
tables
chairs (all)
1/2 wall bar seating w/ electrical outlets
ideas
· Add take-out window to POS station
· No carpet
· classic look/feel-cozy but wood-clean look floors
door
Drink case
POS
sink
coffee brewer
* safe * phones intercept/Fi
coffee
Pastry case
coffee table, chairs
entrywa

November 29, 2016

MEETING MINUTES

DATE OF MEETING:	November 22, 2016 at 2:30 PM	
SUBJECT:	Foodservice Equipment Program Review	
ATTENDING:	Roxanne Howe	Business and Culinary Department Chair
	Margaret Overlan	Culinary Instructor
	Susan Brassard	Culinary Instructor
	John Sousa	Crabtree McGrath Associates, Inc.

Please contact Crabtree McGrath with any additional comments or corrections.

1. The Culinary program is generally split into two main disciplines. Baking and Ala cart with both programs supporting the retail restaurant space.
2. The Instructors asked that the two spaces have more separation. A common area between the two could be use for food preparation and instruction. This area was referred to as a classroom space.
3. An academic classroom was requested for instruction. Traditional desks and the room would be equipped with computer terminals for test taking and recipe research.
4. Bother the academic classroom and the food lab must be equipped with smart boards.
5. The filming of lessons for review at a later date by student was requested.
6. All hand sinks must have some form of hands free faucet operation. Knee or foot pedals are preferred.
7. Baking equipment needs:
    - Convection oven
    - Rotating rack oven
    - Wood topped tables
    - Stainless steel tables
    - Baking tables with sufficient power to plug and play various pieces of small counter top equipment.
    - Four burner range
    - Demo tables with mirrors
8. Ala Carte Equipment needs

161 West Main Street, Georgetown, Massachusetts 01833 phone: 978.352.8500 fax: 978.352.8588
mail@crabtree-mcgrath.com

- 2 Fryers with built in filter
- Char broiler
- Griddle
- Steamer
- 12 open burners for sauté work
- Salamander back shelf broiler
- Finishing oven on the line
- A complete chefs line to support the ala carte cooking and serve pick up station.
- A cold line to support desserts and salads

9. The Ala carte support (food lab) area shall include:
   - A kettle for stock and sauces preparation
   - Tilt braising pan for bulk production, soups, sauces etc.
   - Reuse the two existing trunion kettles
   - A range for small batch stockpot work.
10. A required pot and pan washing area convenient to both the baking program and the ala carte program is needed.
11. Dishwashing needs to be convenient to the retail dining room area. This is in addition to the pot washing area.
12. Both programs will share walk-in refrigeration and dry goods storage. Within the refrigerated rooms separation of program will be achieved with the use of aluminum fencing typical to this type of operation.
13. Both programs will support the retail restaurant space. Retail space needs
    - Pizza warmer
    - Cold display space
    - Hot food buffet space
    - Cold food buffet space (salad bar) with two soup wells
    - Retail counter for coffee service and other retail sales
    - Back support counter with support equipment.
14.
15. Office space for three staff.
16. Student will need cubbies to place personal belongings.
17. The flooring system must be a non-slip type floor. Altro sheet vinyl and epoxy flooring were discussed as options.
18. The staff requested no carpet in the dining area.

This concludes our notes.

Humanities visioning meeting 16 Nov 2016

Humanities 11/16/16

Considerations

Focus on

A. Humanities as a unit
B. Groupings of 3 SOC and 3 ELA in close proximity (pods?) in a way that allows for inter-departmental work
C. Q of whether SOC ELL and SOC SPED should be part of this (fewer teachers there, so this would be part of only two or three clusters... but this would even out ELA and SOC numbers)
D. Resources
    a. Flexible room spaces must be able to accommodate tables and chairs — not desk-chairs — in multiple configurations, but also the space should make it possible to push things to the side to create a large, open space.
    b. Can be open to other classrooms in a pod easily
    c. Central shared workspace for teachers outside of the room, so that rooms are used throughout the day, not just by one teacher; several outside telephone lines into those work spaces, there needs to be sound proofing of the shared workspace for confidential conversations
    d. Ideally hexagonal (or oval, but that's a pipe dream probably)
    e. Unisex bathroom and water fountain nearby
    f. Mobile cabinet with locked doors in each classroom — *alcove for this?* Each room should have a digital projection unit that can pivot from a smart board to other parts of the room (might be a problem for short-throw projectors, so a central long-throw projector might be better)

Other, random, thoughts:

Bathrooms - we really need to separate faculty bathrooms from student ones. A possible solution is multiple unisex, single-user bathrooms. This also helps with trans- and intersex students.

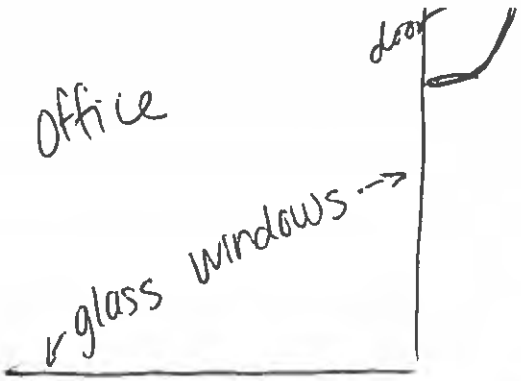
Hallways - these need to be wide enough between lockers for students to be four abreast; no choke points, as we have now

Presentation spaces - it would be good to have several interspersed around the school for student presentations. Should be able to hold minimum three classes (~100 students)

Tunnels - how many? Can we increase from 2??

Central flagpole - has thought been given to this? Maybe in conjunction with **reflection garden (zen??)**

Quiet, de-escalation space(s). Something with flowing water would be a huge plus for our students that need to de-escalate in order to avoid bad consequences.

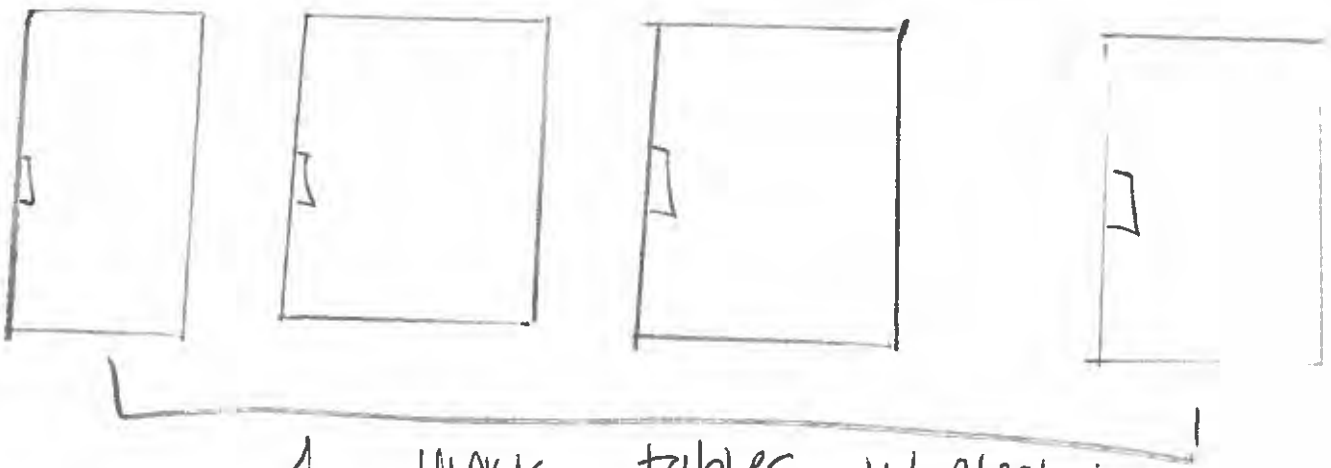


"Wish List"

- Nonslip coated floors

Must-Haves

- 1 hand sink (not shared w/ FOH/culinary
- Plugs/sockets for refrigeration, ovens
- Floor drains
- Hoods/exhaust over ovens
- All equipment on wheels
- Mop closet
- 2 offices (1 cul / 1 baker)



4 work tables w/ electrical outlets (for mixers + scales) on wheels

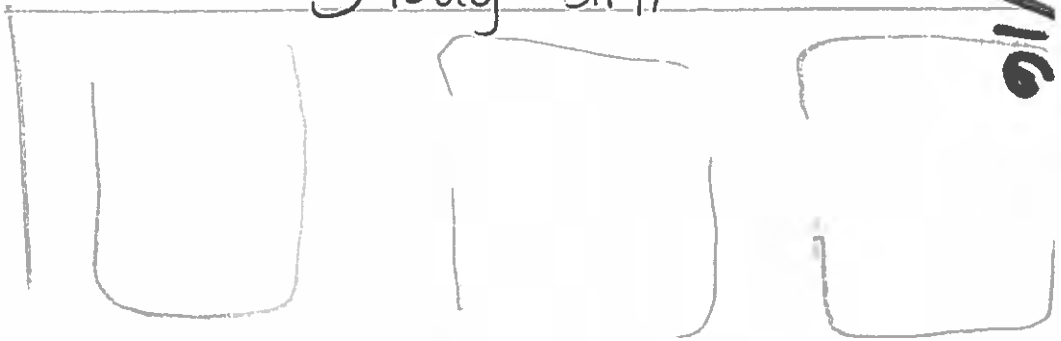
Bake Shop (located behind kitchen)

entrance

refrigration

areal rack for dishes to dry

3-Bay sink



FOOD SERVICE 11/15 & 11/16

Focus Group 11/15 & 11/16 Attachment Page 11 of 16

Library

MEDIA CTR 11/16/16

Perkins Eastman | DPC

Creativity
Humanity
Purpose

Process Overview:

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Tell Us About Your Program or Department

(What do you teach or oversee; what types of spaces do you use and how many?)

~~300~~ 1100 8oo-1000 students per day, Collaborate with teachers on presentations focus- research (efficient & effective), work w/ individual students

Uses & Functionality: - Meet the needs of all students

(What activities occur in each space, what student/teacher capacity is needed?)

Before and after school tutoring/Homework, All small rooms Class work, work space during lunch, are utilized during the week

Locations & Adjacencies: reading area

(Describe connections or relationships to other programs, spaces or services)

Connect to all subject areas, centrally located

FF&E/Technical Needs:

(Describe the types of furnishings/equipment, services or organizational needs)

Must be flexible spacing, need 500 laptops dedicated to library space, NOT computer-labs - need new

Other Information:

(Provide additional information or highlights)

Library database (current is 9th old)

~~200~~ 300 projection area

Enough seating for 3 classes. (Have approx 200 students in building)

upgraded sound system

currently can house 3 classes (presentation, computers (11 tables) with or without laptops) also be getting books

Balance of active + quiet areas/ collaborative areas

Fan upper floor

updated collected

docking stations for charging

Reading area

New York
Boston
Charlotte
Chicago
Dallas
Los Angeles
Pittsburgh
San Francisco
Stamford
Washington DC
Toronto
Shanghai
Guayaquil
Mumbai
Dubai

Perkins Eastman Architects DPC
50 Franklin Street
Suite 203
Boston Massachusetts 02110
617.449.4000
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TV/MEDIA STUDIO 11/16/16

COLLEN CREEGAN MEDIA STUDIO

Space Needs & Developing Objectives

About our Program

- The Creegan Media Studio houses Lowell Educational Television the educational access channel for the city of Lowell.
- Three staff members manage content and programming for channel 22 and let22.org as well as support LHS class activity.
- The Creegan Media Studio houses several pieces of equipment that provide for central storage for student & staff editing projects, video on demand servers, newer encoders that offer cable distribution, and older processors for analog channel distribution.
- We have several offices and edit rooms as well as a conference room, full sized media studio, and several storage rooms for multiple pieces of equipment.
- We have one teacher (we have had two in the past) that is teaching video production and producing a live morning show every day and also covers after school events for broadcast.
- Teacher works in media computer lab as her classroom where students create content for in school and city of Lowell broadcasts.

Uses & Functionality

- Classes are a mixture of computer lab activities, lectures in theories, and hands on activity.
- The future of this program will need two or more teachers whose classrooms are centrally located to the media studio (perhaps within a suite) and can serve as computer labs (with mounted displays for instructional purposes to include the option to screen projects), as a space for group project work, and provide the flexibility for hands on instruction and training (this requires the open floor space to set up tripods, cameras, portable light kits, and other equipment).
- Operate the city channel as well as in house cable feeds.
- House the offices for the three staff producers (these are offices that have non linear edit stations).
- Produce the live morning show from the studio
- Central location for student equipment needs.
- Provide students with private workspaces that will allow them to focus on their media projects without deterring from other students' work.
- Is a suite that stands out as a place of creativity and ultimately different from other parts of the high school.
- Provides the setting and expertise of a professional production company wherein students are producers of content.
- Space should be centered on collaboration of several other media related courses, activities, and productions.

Locations & Adjacencies

- Having the offices of the Educational Television staff near the classrooms allows for the staff members from the studio to support the class activities.
- Classes should be within the same suite as the media studio so that instruction can take place within the same space.
- As the program grows and begins to encompass several other types of media consideration should be given to locating other classes and labs in the same suite such as:
    - Journalism (can work with the Creegan Media Studio to incorporate different outlets of broadcast)
    - Music and Digital Music Production (can use the private edit rooms to work on digital music compositions)
    - Graphics (can incorporate some of the student work into website or video production)
    - Live Music production (perhaps can be added using the studio to record multi-track music pieces)
    - Web Radio Production (perhaps can be added to work as an advancement from the graphics teachings and incorporate other aspects of media)
    - Drama and Acting - perhaps having media related offerings in proximity to drama and acting classes can provide for relationships that gives students direction in diction, articulation, use of voice, posture, and other performance based media delivery.

Furnishings & Technical Needs

- Classrooms need to have high-speed network connectivity in order to connect to central media storage servers.
- Classes should also include interactive technologies that allow a teacher to project on several displays and to distribute audio for any instruction content (could be his/her computer desktop for teaching software use, video and audio examples of profound pieces, as well as the desktops of other students for critiquing).
- Student learning stations in the computer lab should look to have the latest in ergonomic design for improved instruction and interaction amongst the teacher and students.
- A continuation of the full sized production studio with adjacent control room for production crew. To include:
    - Full LED Lighting Grid
    - Professional Audio mixer and monitoring for both music and video productions.
    - The most up to date graphics system that allows for classroom creation and incorporation into video productions.
    - HD switcher and HD professional broadcast cameras.
    - Professional audio snake.
- Ample space within the control room to provide for hands on instruction in a classroom environment.
- Edit rooms should have work desks that provide for the proper rack mounted equipment and monitoring for versatile projects such as radio

production, digital music production, digital cinema and video editing, and graphic & web design.

- Several spaces for shelving and other storage and workspaces that house the hundreds of pieces of equipment the studio offers to students and staff.
- A meeting room for staff and student collaboration and planning outside of class activities.
- A screening room for presentations, dual enrollment offerings from Middlesex Community College, screening student work, analysis of famous works, and other class activities and presentations.
- A network and server room that is climate controlled which can house the network switches, editing storage servers, video on demand servers, cable distribution encoders and decoders, channel playback servers (for channel 22 and in house broadcasts), and all other video networking systems that serve the educational access channel broadcasts.
- The full lighting grid requires direct ties into the central electrical panel and power runs and drops into the media studio.

Other Information

- The next high school should look to provide the space and opportunities to expand and gather the media related programs in order to create a close-knit suite that engages students to collaborate with other students possessing different interests and skills. These programs serve as a foundation to the many media related or media inclusive jobs the world has to offer.
- The Colleen Creegan Media Studio has been a twenty-year investment through Comcast and LPS funds ultimately amounting to millions of dollars in equipment and staff salaries.
- The Lowell Public Schools has recently purchased a brand new media production truck, which is currently being outfitted for live remote broadcasting activities.
- Staff at the Creegan Media Studio also services the pre-K through 8th grade schools within the district of LPS to create content that showcases the activities happening there.
- There is a growing demand for video production services within the Lowell Public Schools to fulfill requirements for professional development content, instructional videos, and other types of staff informational videos. Consideration needs to the increase number of staff, volunteers, and interns are added to the current facility to fulfill such demands.

MEDIA CENTER 11/16/16

Peter,

I went through my NEASC material and found the information on # of volumes.

# of print volumes 23,419
other materials 2109

Total Volumes 25,528

Since these numbers were created, there has been a complete inventory of the library. (The library catalog matches the books on the shelf) We have also done a substantial amount of weeding especially of the video collection.

I will work on getting current numbers.

Kathy



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LOWELL HIGH SCHOOL PROJECT

OCTOBER 17TH 2016

Centralville Neighborhood Action Grp
(with the Centralville Community Coalition)



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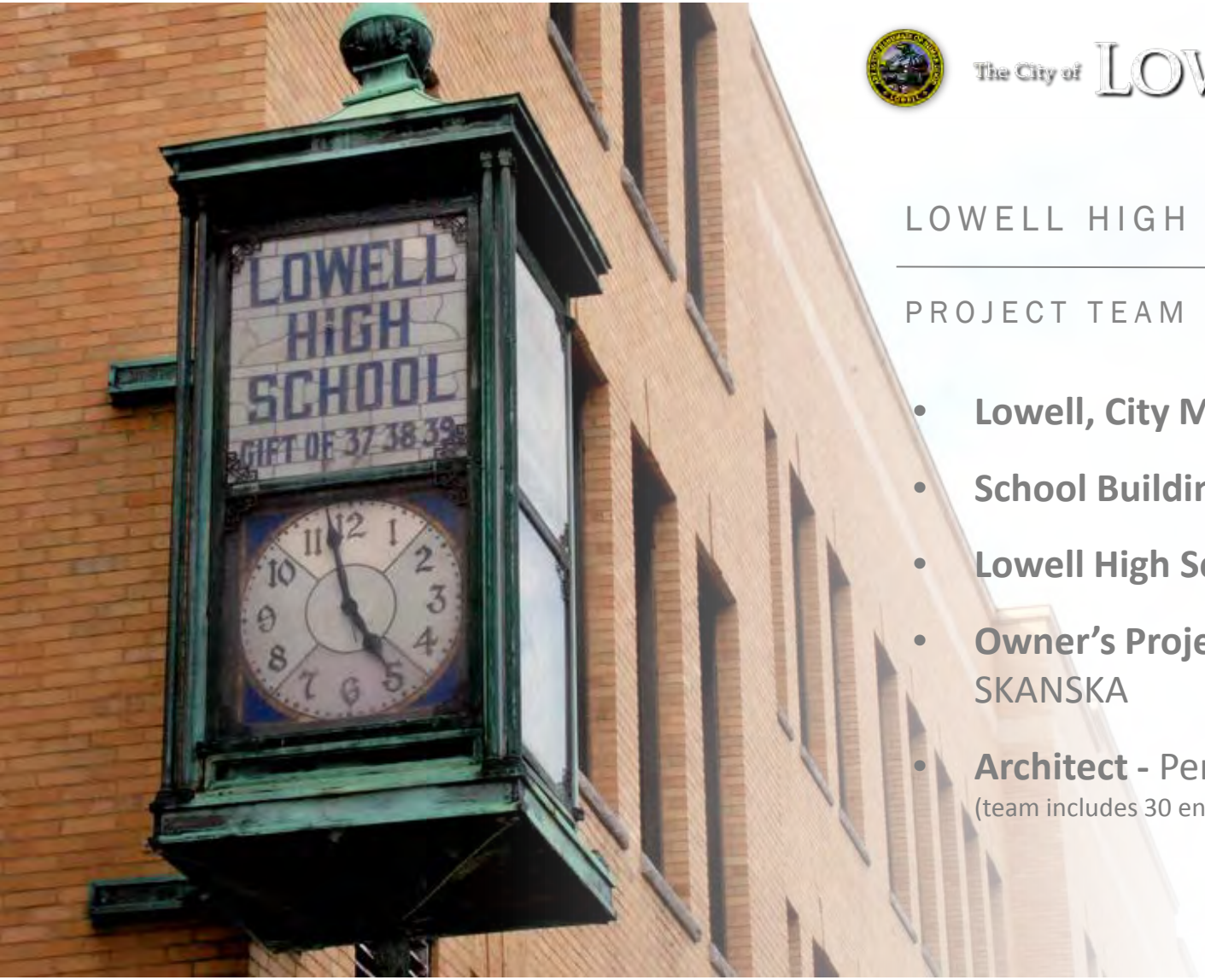
LOWELL HIGH SCHOOL PROJECT

MEETING AGENDA

- **Project Team & Introductions**
- **Overview of the MSBA / Process**
- **Project Timeline & Decisions**
- **What Have We Learned So Far**
- **Existing Conditions at LHS**
- **Community Involvement**
- **We Want to Hear From You**



The City of LOWELL *Alive. Unique. Inspiring.*

LOWELL HIGH SCHOOL PROJECT

PROJECT TEAM

- **Lowell, City Manager's Office**
- **School Building Committee**
- **Lowell High School**
- **Owner's Project Manager -** SKANSKA
- **Architect -** Perkins Eastman/DPC
  (team includes 30 engineers & specialty disciplines)

Massachusetts School Building Authority

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Reimbursement rates apply only to eligible costs

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Project Timeline & Decisions

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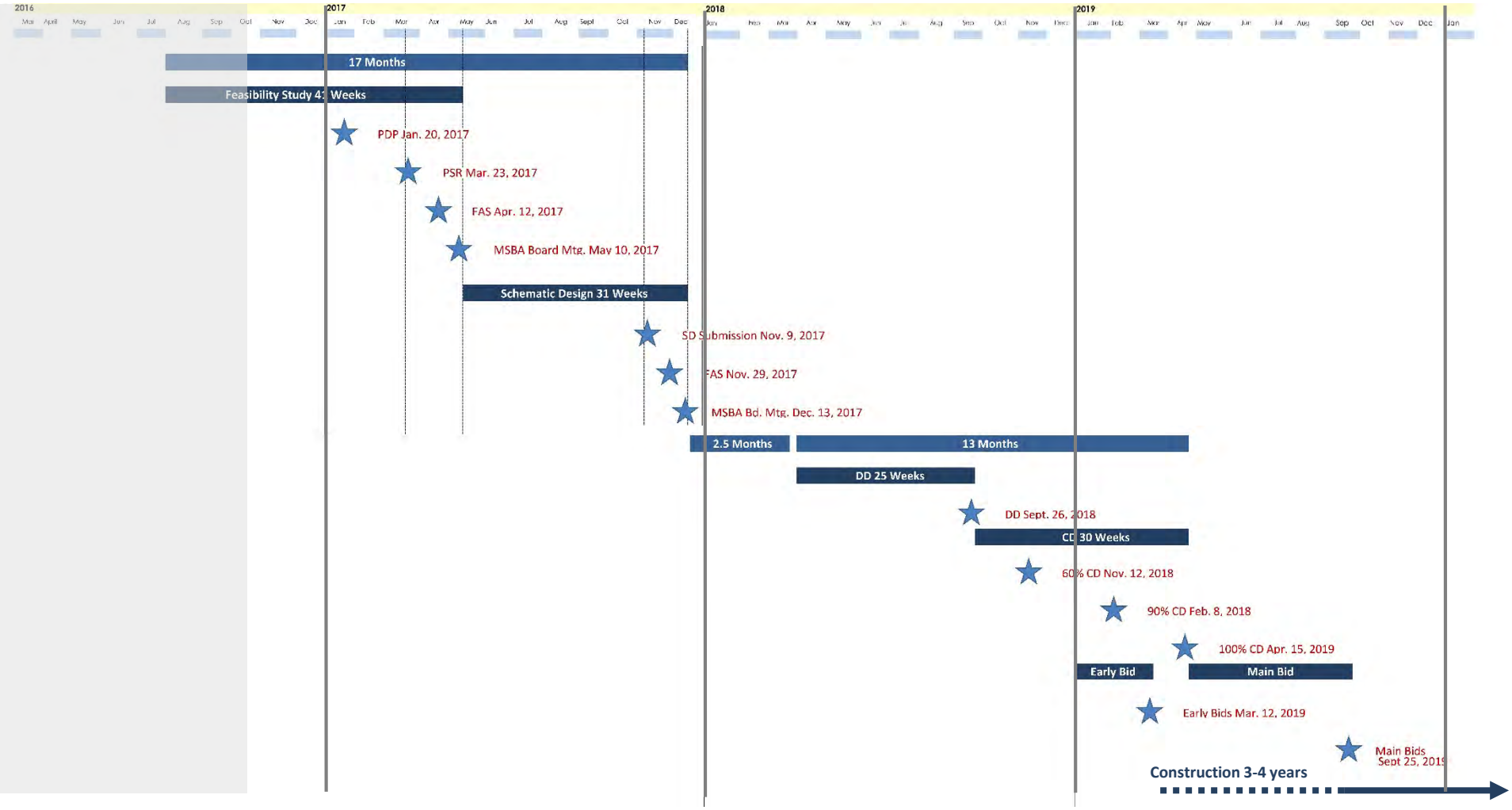

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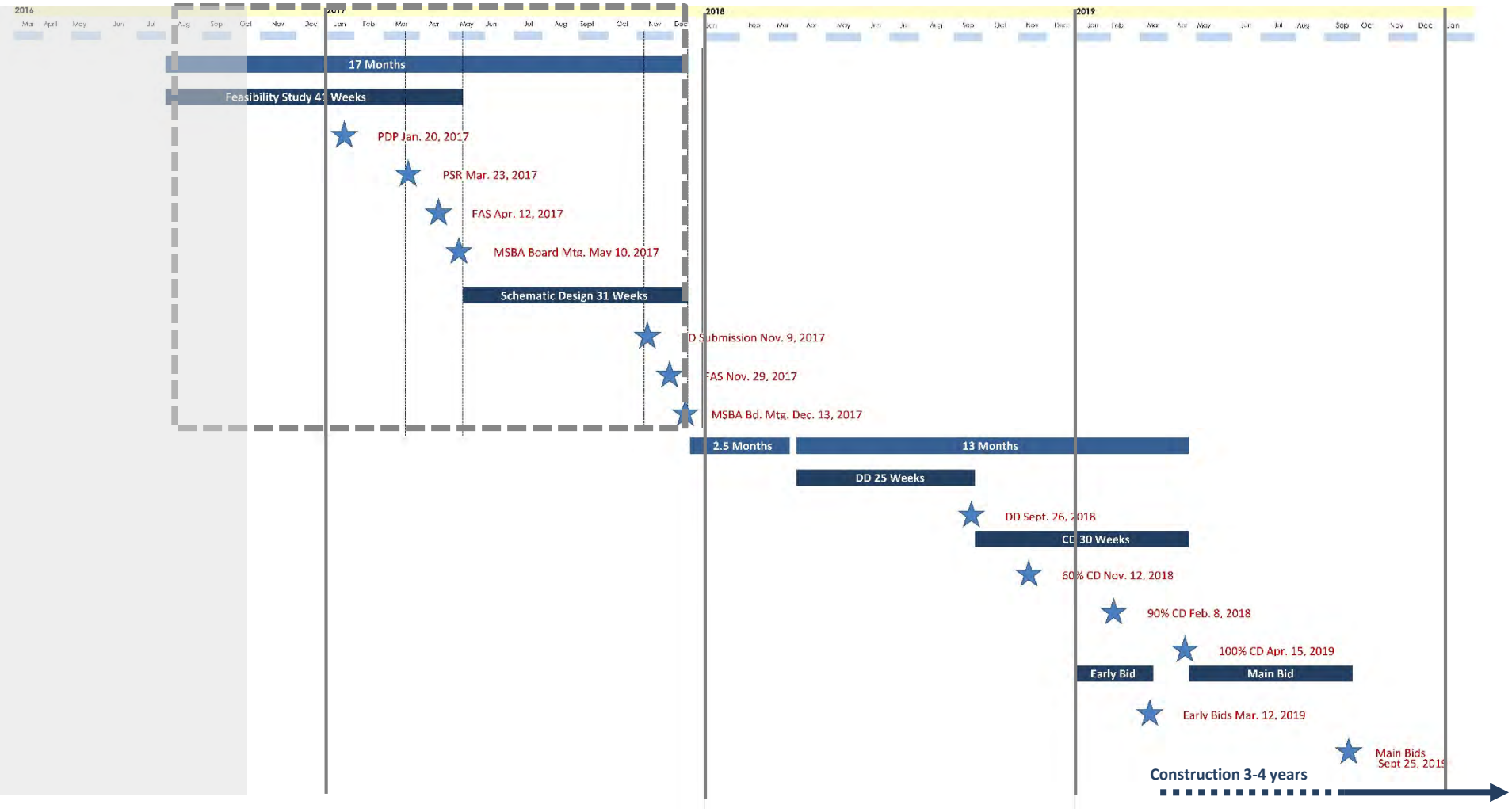
LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Project Timeline & Decisions

Current Phase (16 mo's from Aug.)



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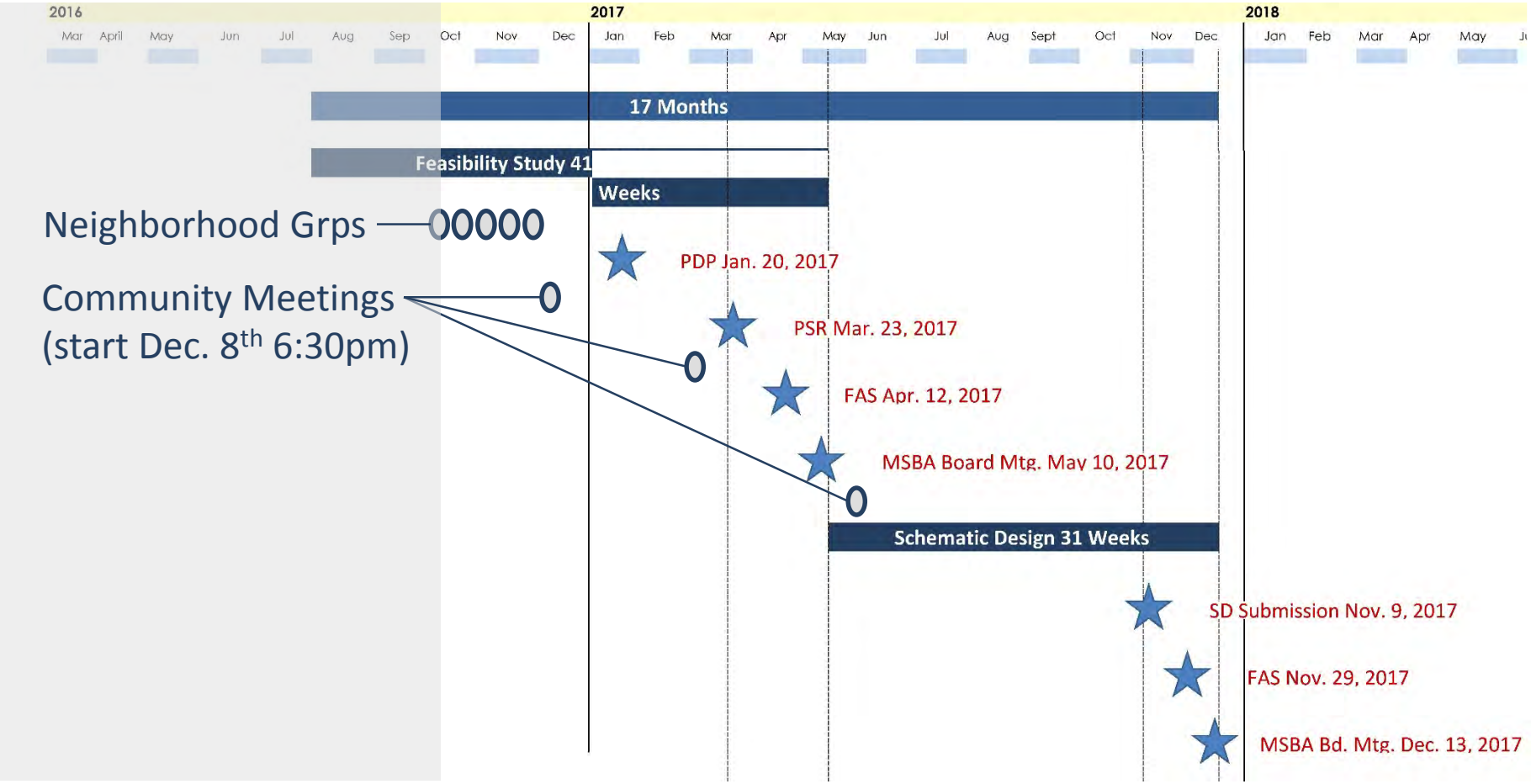

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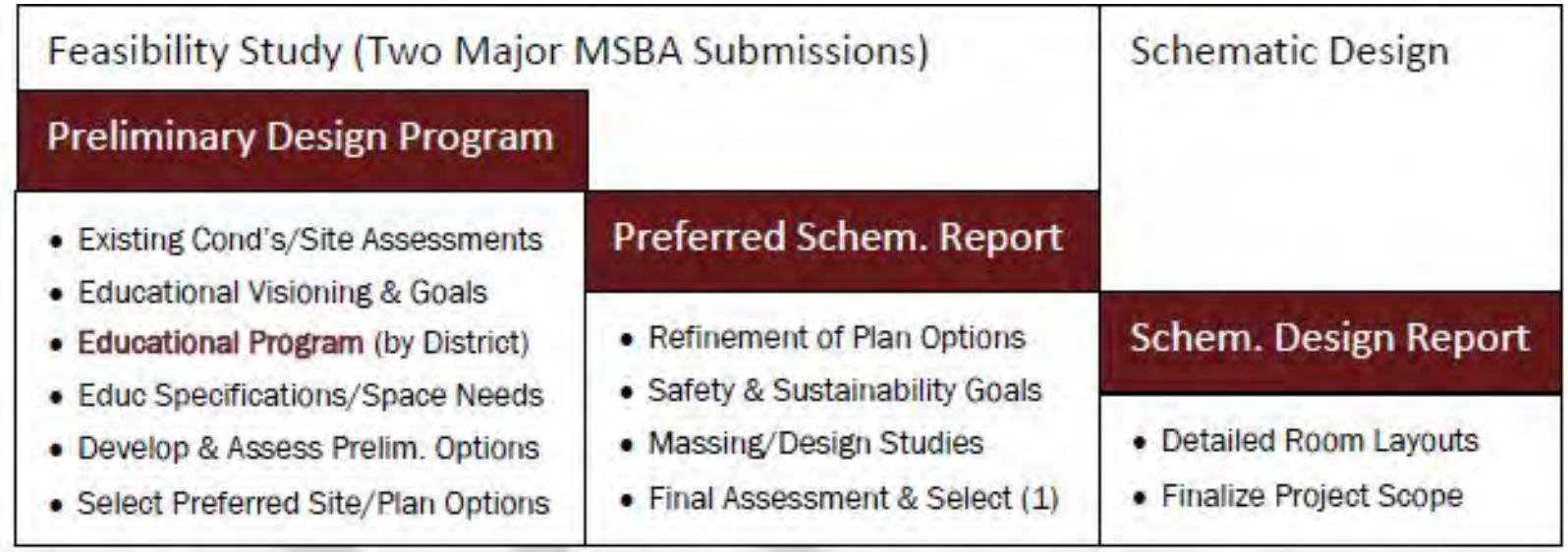

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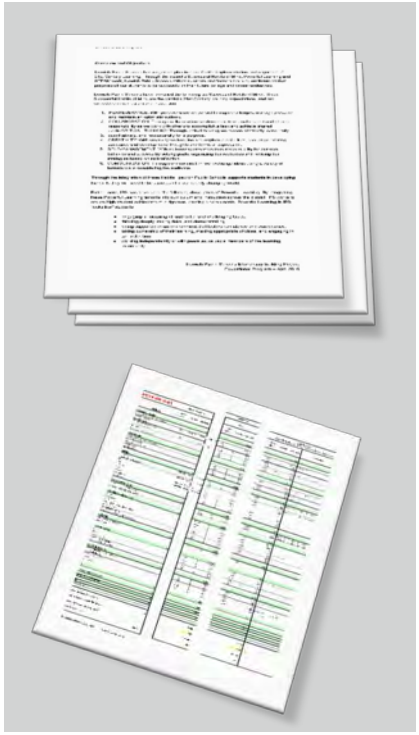

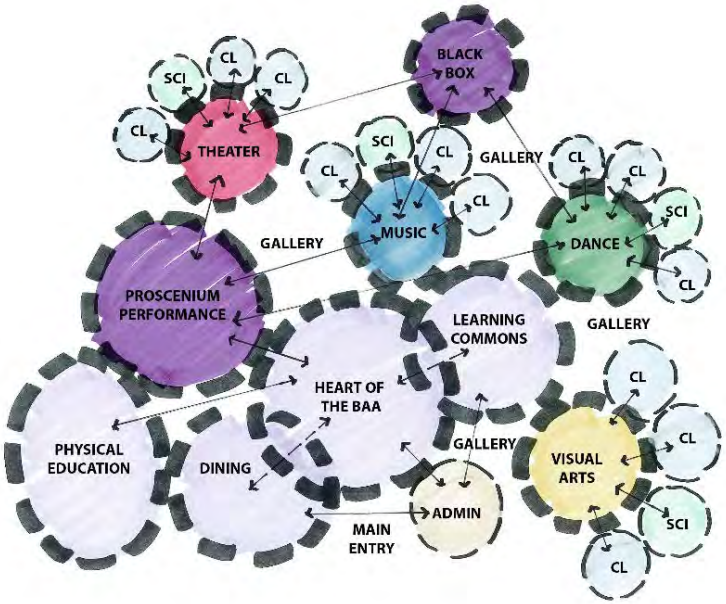



EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

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LOWELL HIGH SCHOOL PROJECT

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What We've Learned So Far





- Historic Fabric
- Broader Context
- Responsible Stewardship

What We've Learned So Far

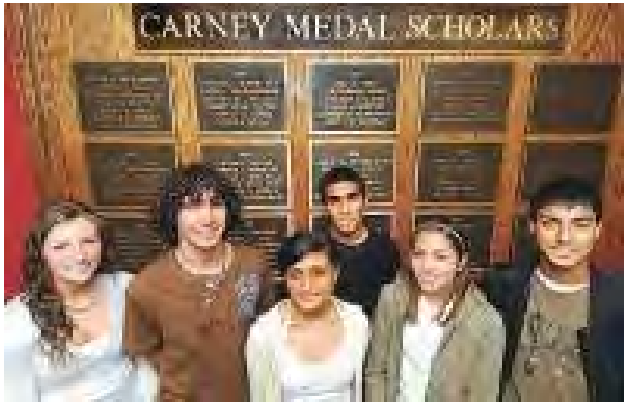
Approximately 3100 Students, Over 40 Countries Represented





What We've Learned So Far





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Existing Conditions at LHS



Existing Conditions at LHS



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LOWELL HIGH SCHOOL PROJECT

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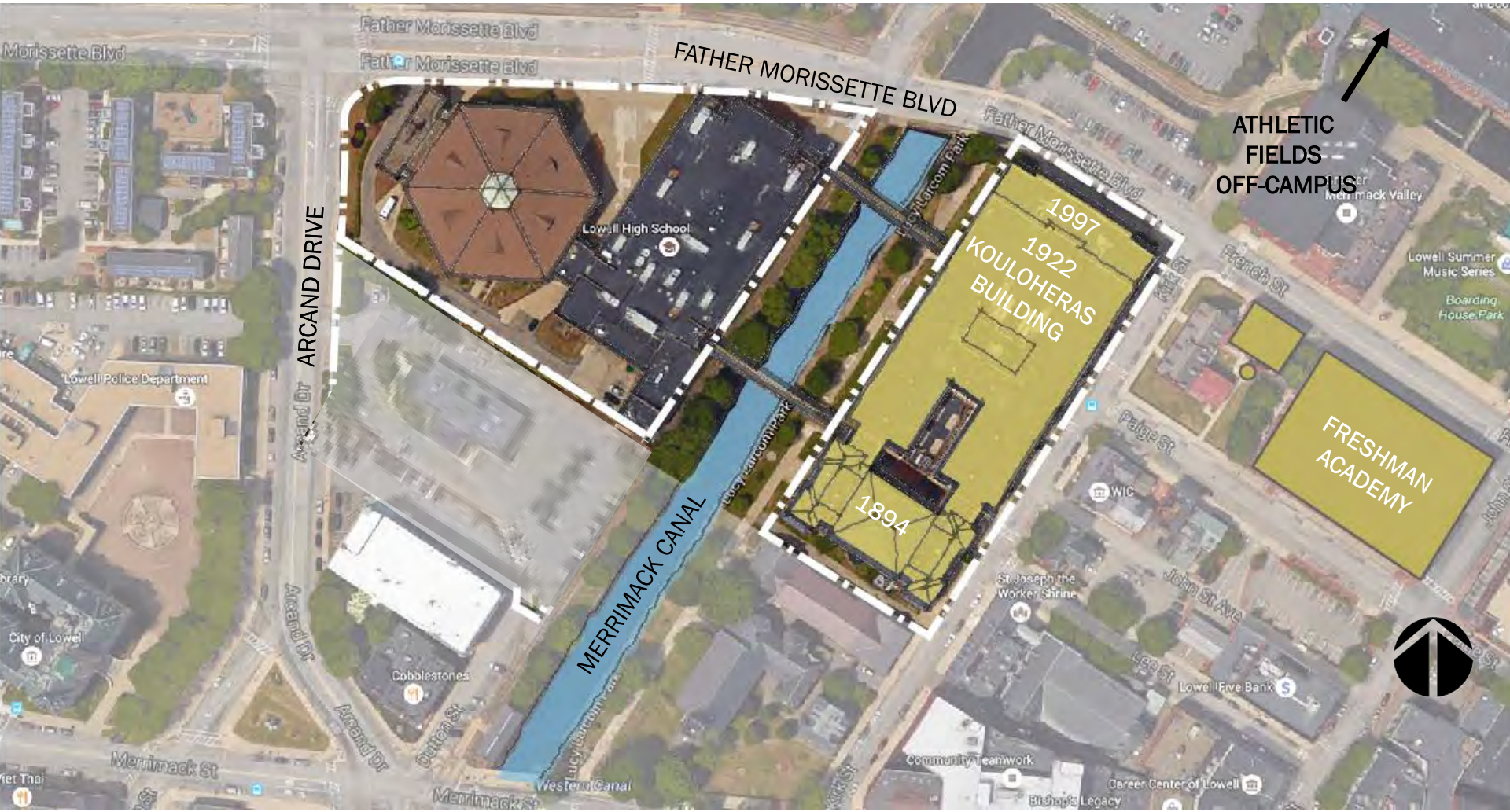

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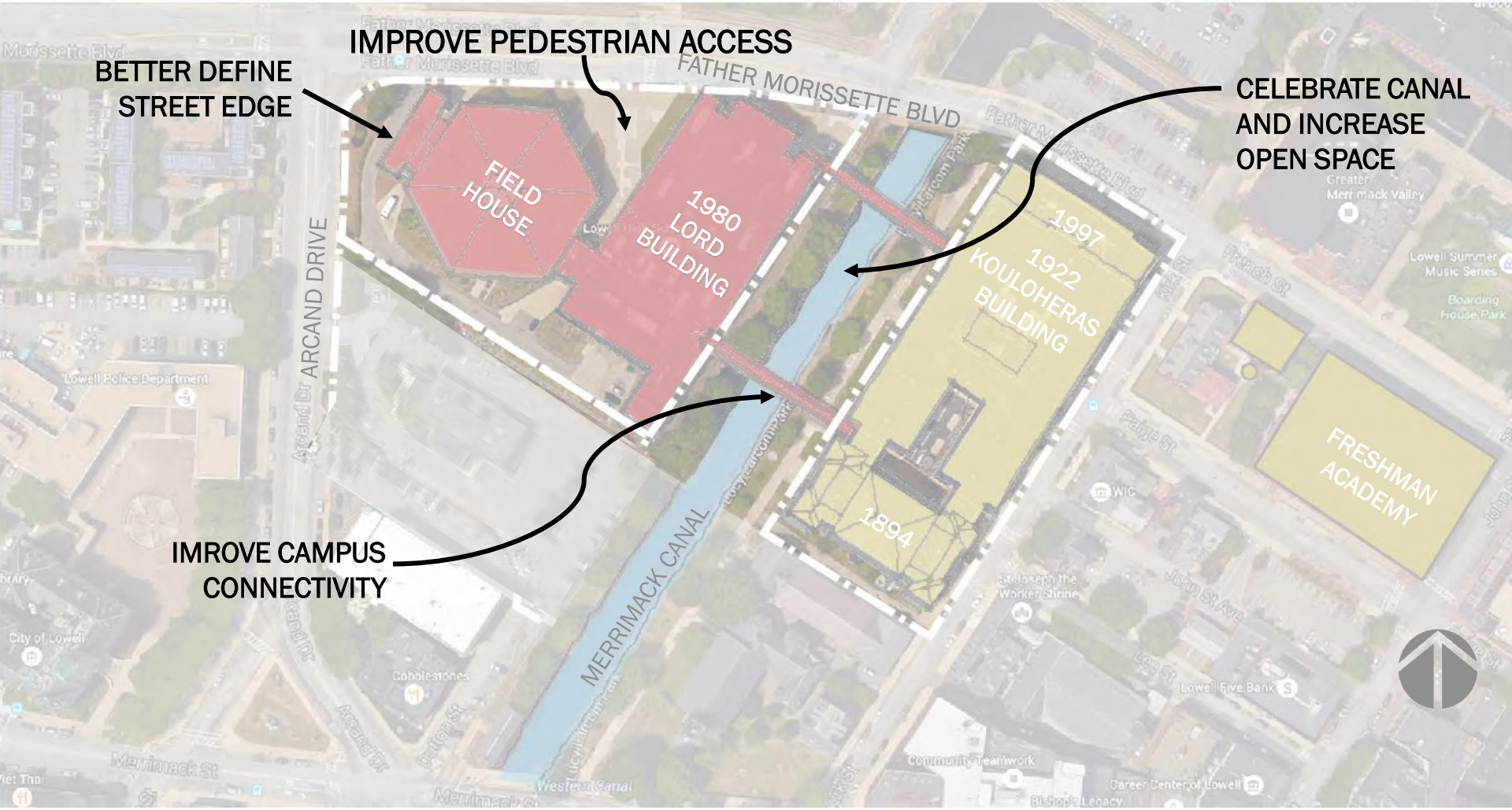

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Existing Conditions at LHS

What's wrong with the schools we have now?

- They Have Exceeded Their Useful Service Lives:
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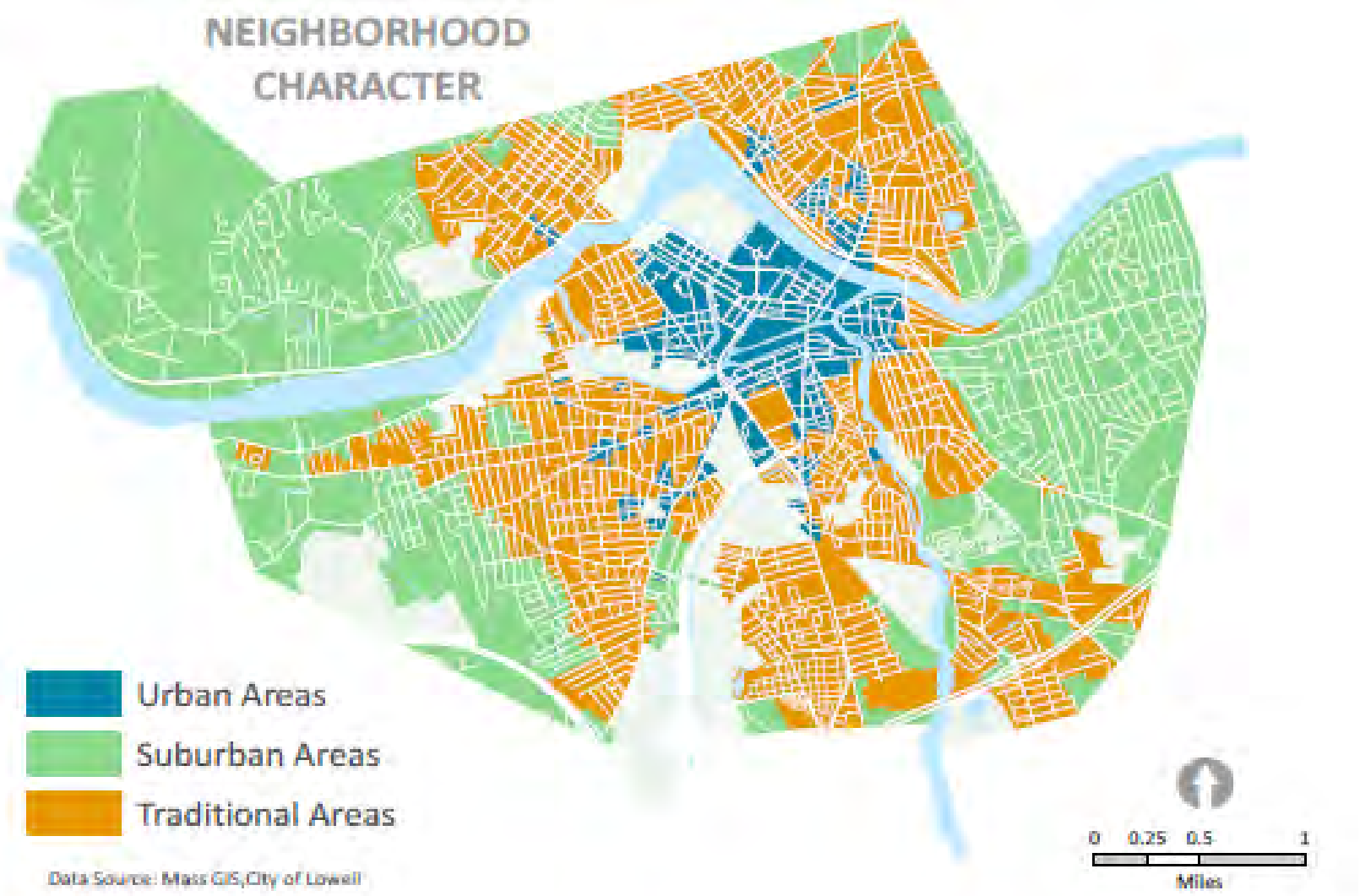
- Expensive repairs are needed in the future.
- They don't meet safety or accessibility codes to protect our children.
- They don't meet state and federal regulations.
- They no longer support the academic programs requirements being offered to our students or 21st Century Educational practices.
- They don't allow us to provide a competitive advantage to all of our children.

Community Involvement



Community Involvement

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development





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LOWELL HIGH SCHOOL PROJECT

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LOWELL HIGH SCHOOL PROJECT

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We Want to Hear From You



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LOWELL HIGH SCHOOL PROJECT

NOVEMBER 7TH 2016

Pawtucketville Citizens Council (with the East Pawtucketville Citizens Group)



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LOWELL HIGH SCHOOL PROJECT

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LOWELL HIGH SCHOOL PROJECT

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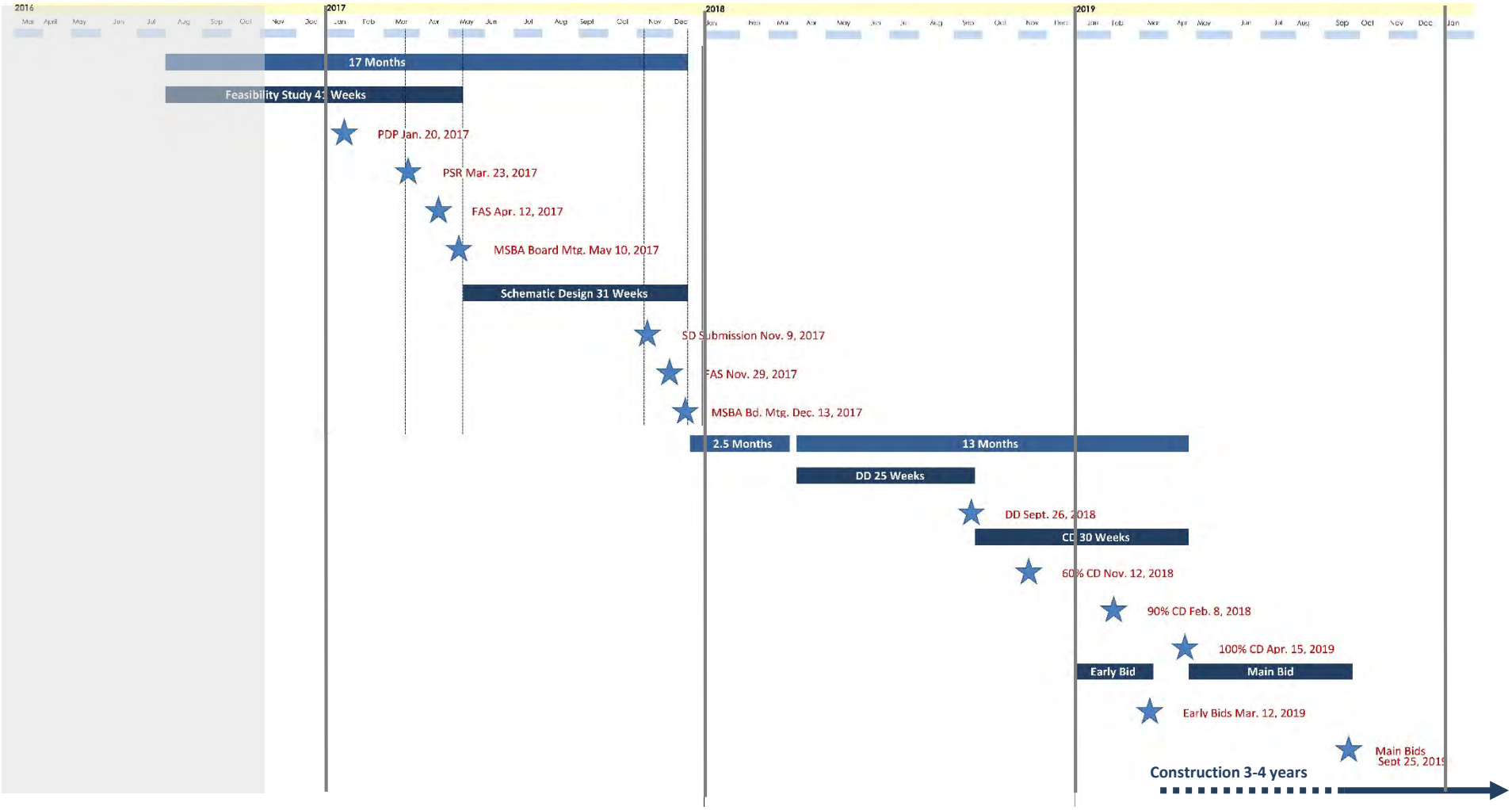

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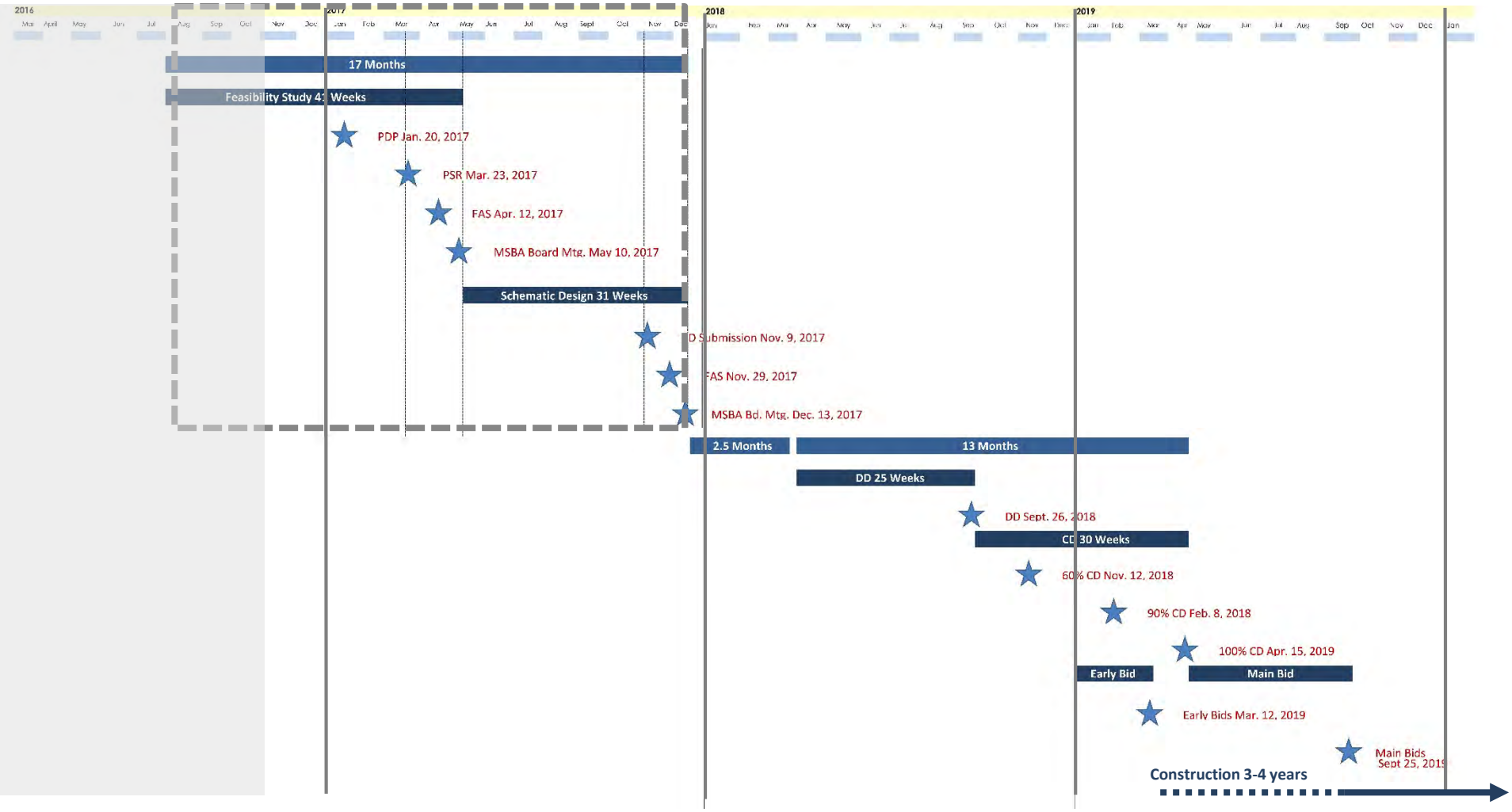
LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Project Timeline & Decisions

Current Phase (16 mo's from Aug.)



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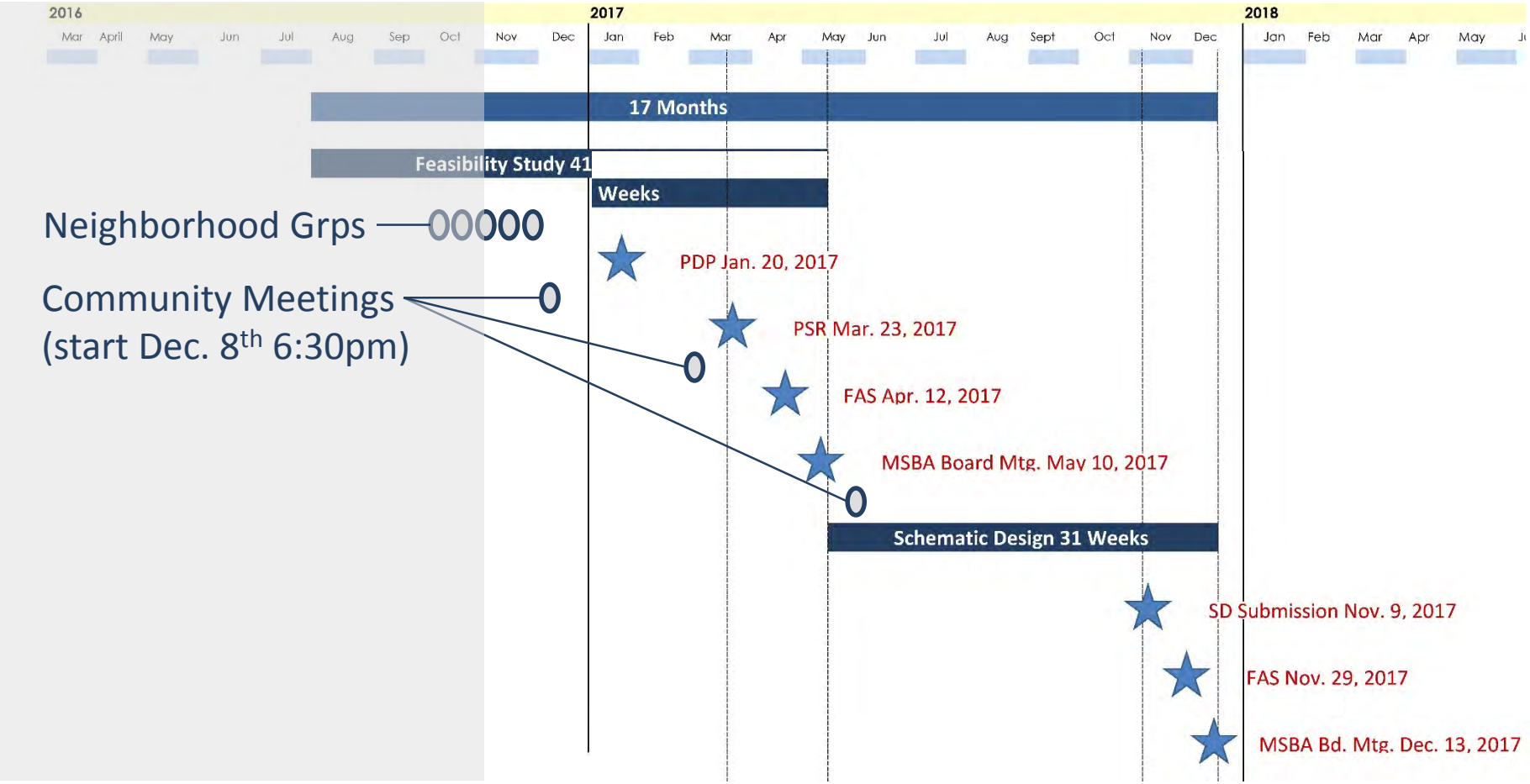

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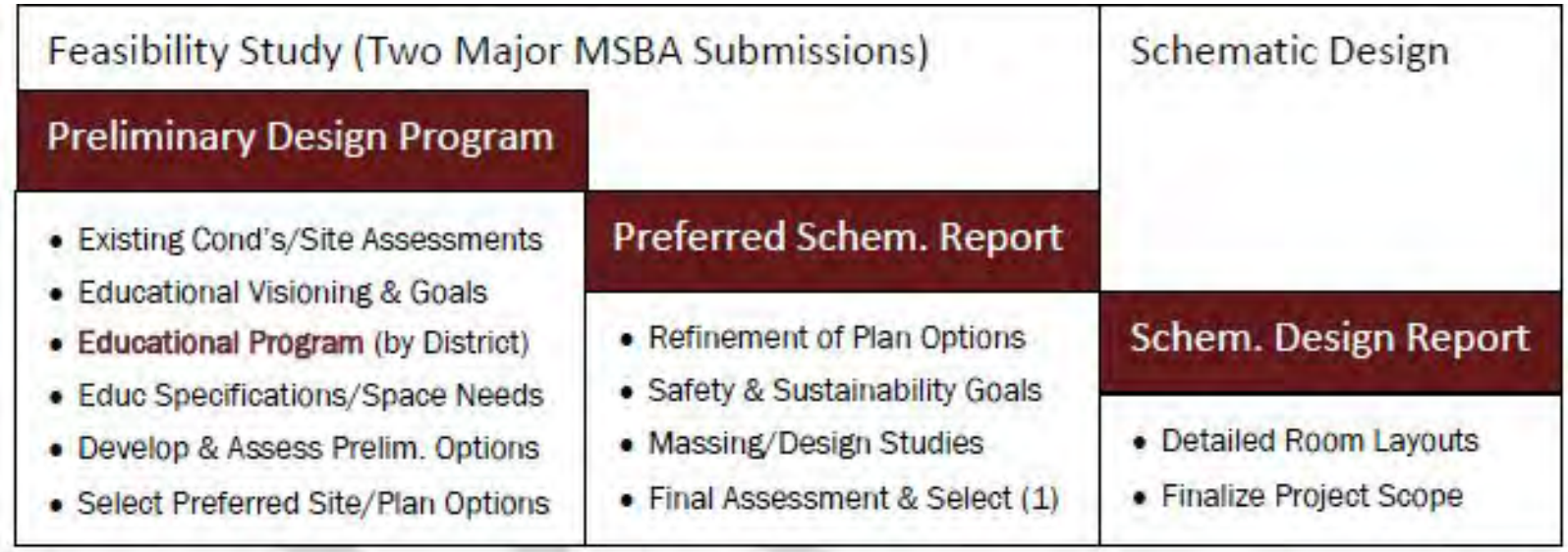

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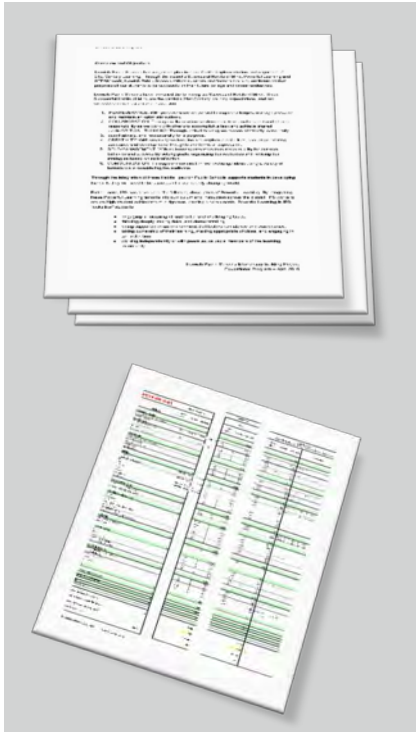

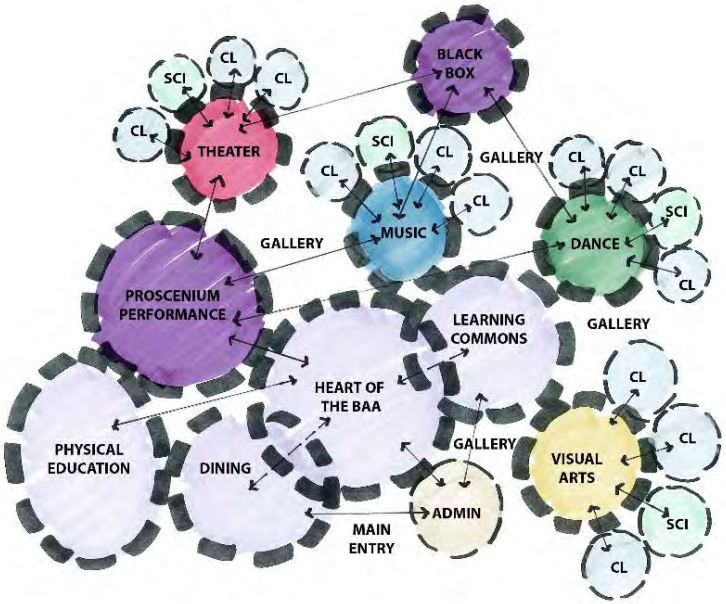



EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

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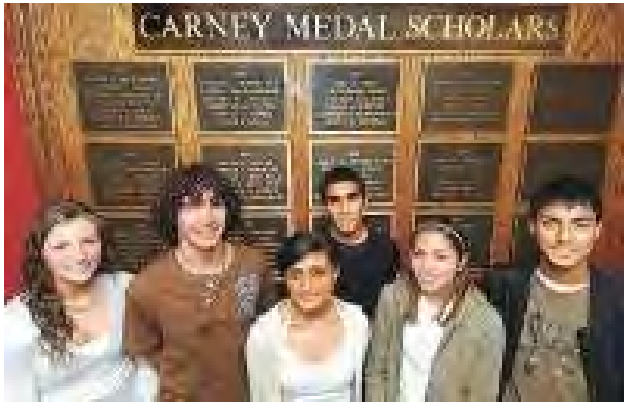
What We've Learned So Far





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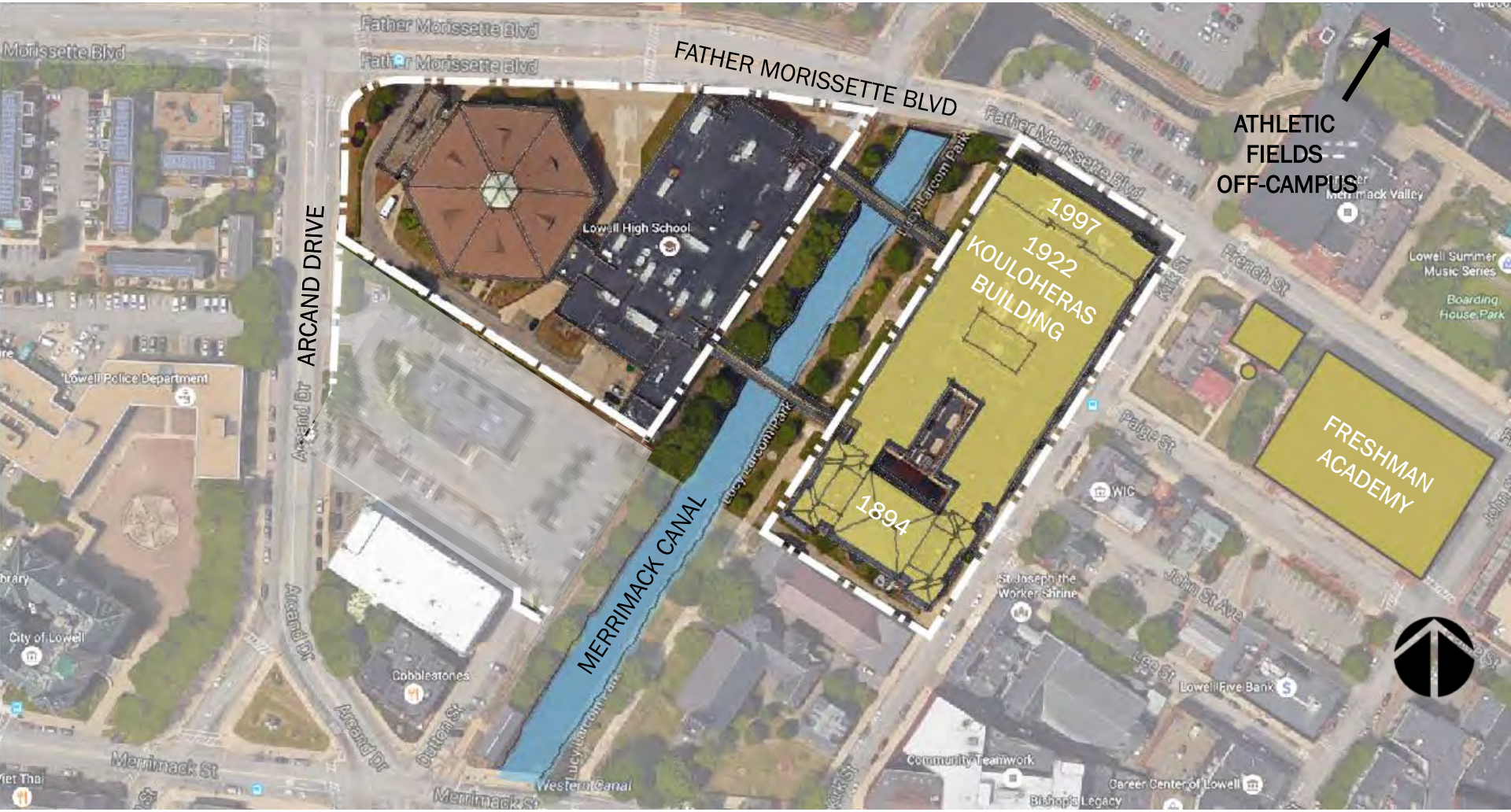

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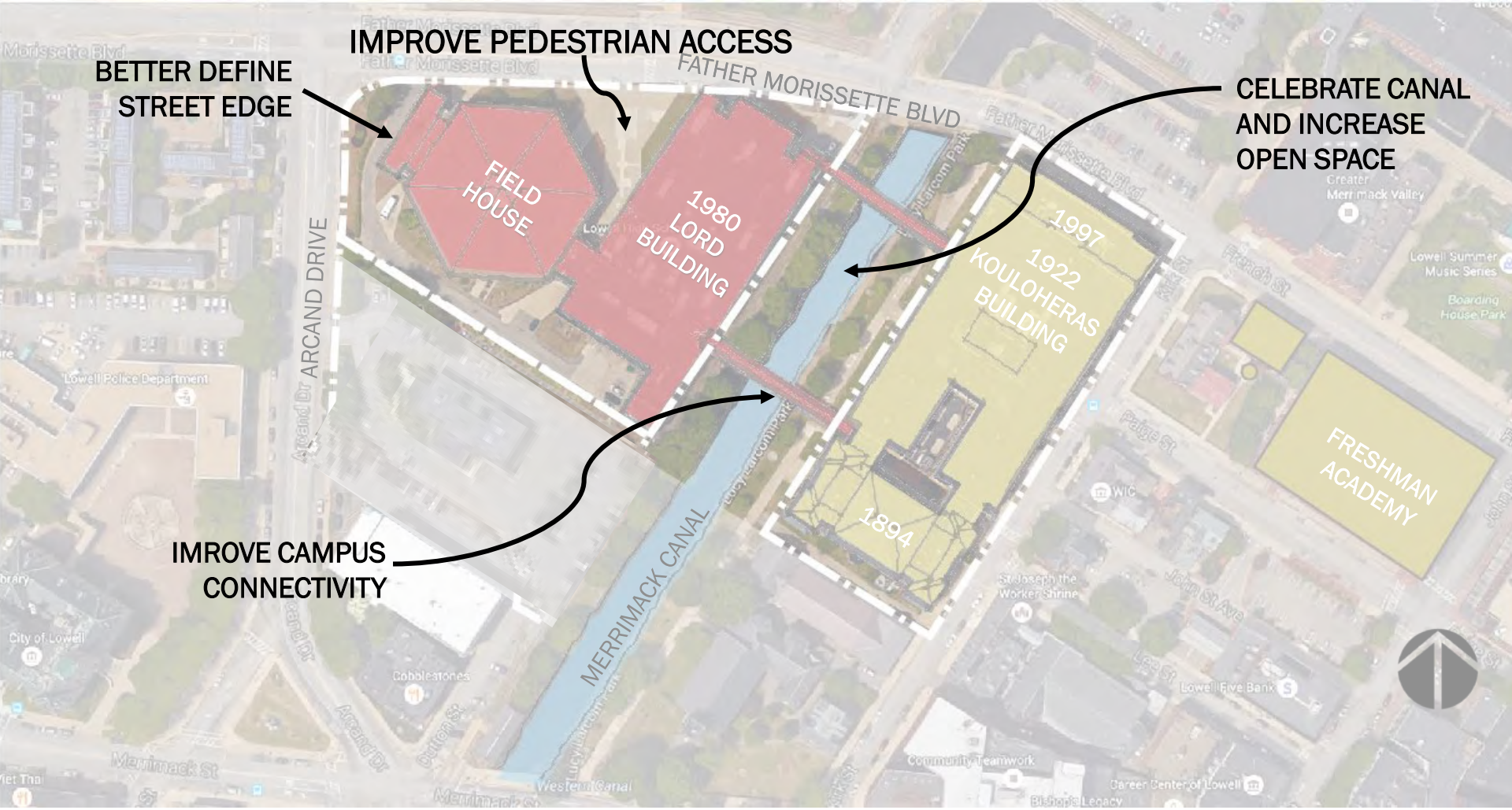

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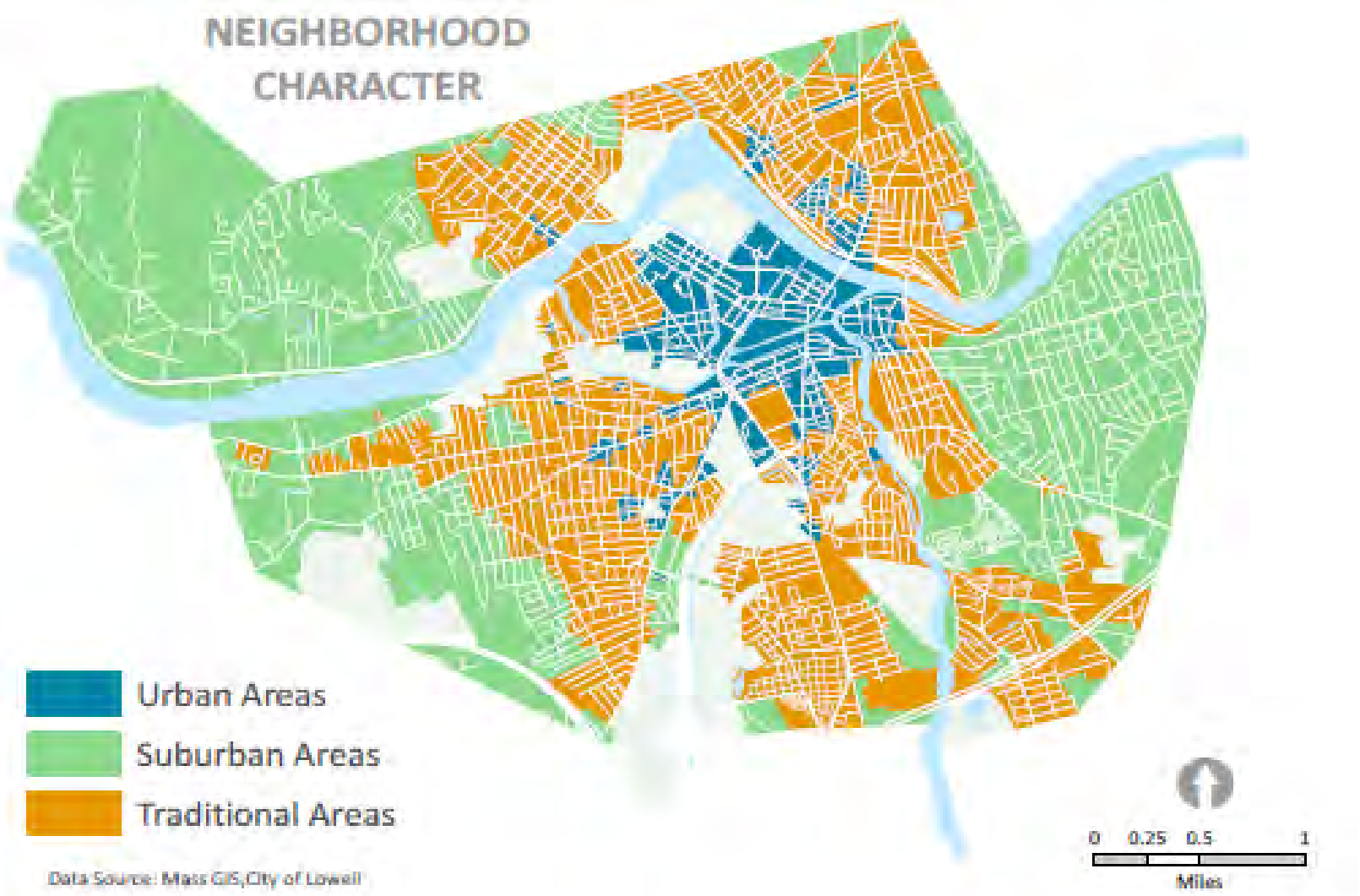

Community Involvement

City Council City Manager Mayor's Office Board of Health Emergency Management **Fire**

CH 91 Waterways **Traffic** Conservation Commission Development Services **DPW**

Planning Board **Historic Board** Board of Parks **Engineers** Building Committee

Water Utility Planning and Development Utility Department **Police** ACOE

CH 91 Waterways Recreation National Stormwater Center

MIS Management Systems **School Department**

Pawtucket Citizens Council (**PCC**) Centralville Community Coalition (**CCC**)

Highland Circle Neighborhood Assoc. (**HCNA**) Belvidere Neighborhood Council (**BNC**)

Back Central Neighborhood Assoc. (**BCNA**)

Central Neighborhood Action Group (**CNAG**) Cupples Square Business & Residence Assoc.

Sacred Heart Neighborhood Improvement Group & Riverside Community Council

East Pawtucketville Neighborhood Group (**EPNG**) Lowell Downtown Neighborhood Assoc. (**LDNA**)

Jackson Appleton Middlesex Business Residents Association (**JAMBRA**) Riverside Community Council

Acre Coalition to Improve Our Neighborhood (**ACTION**) Lower Highland Neighborhood Association (**LHNA**)

LOWELL **LOWELL HIGH SCHOOL PROJECT** SKANSKA Perkins Eastman | DPC

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LOWELL HIGH SCHOOL PROJECT

NOVEMBER 9TH 2016

Belvidere Residents Council (with Sacred Heart Neighborhood Improvement Group, Riverside Community Council and Back Central Neighborhood Association)



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Massachusetts School Building Authority

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Project Timeline & Decisions

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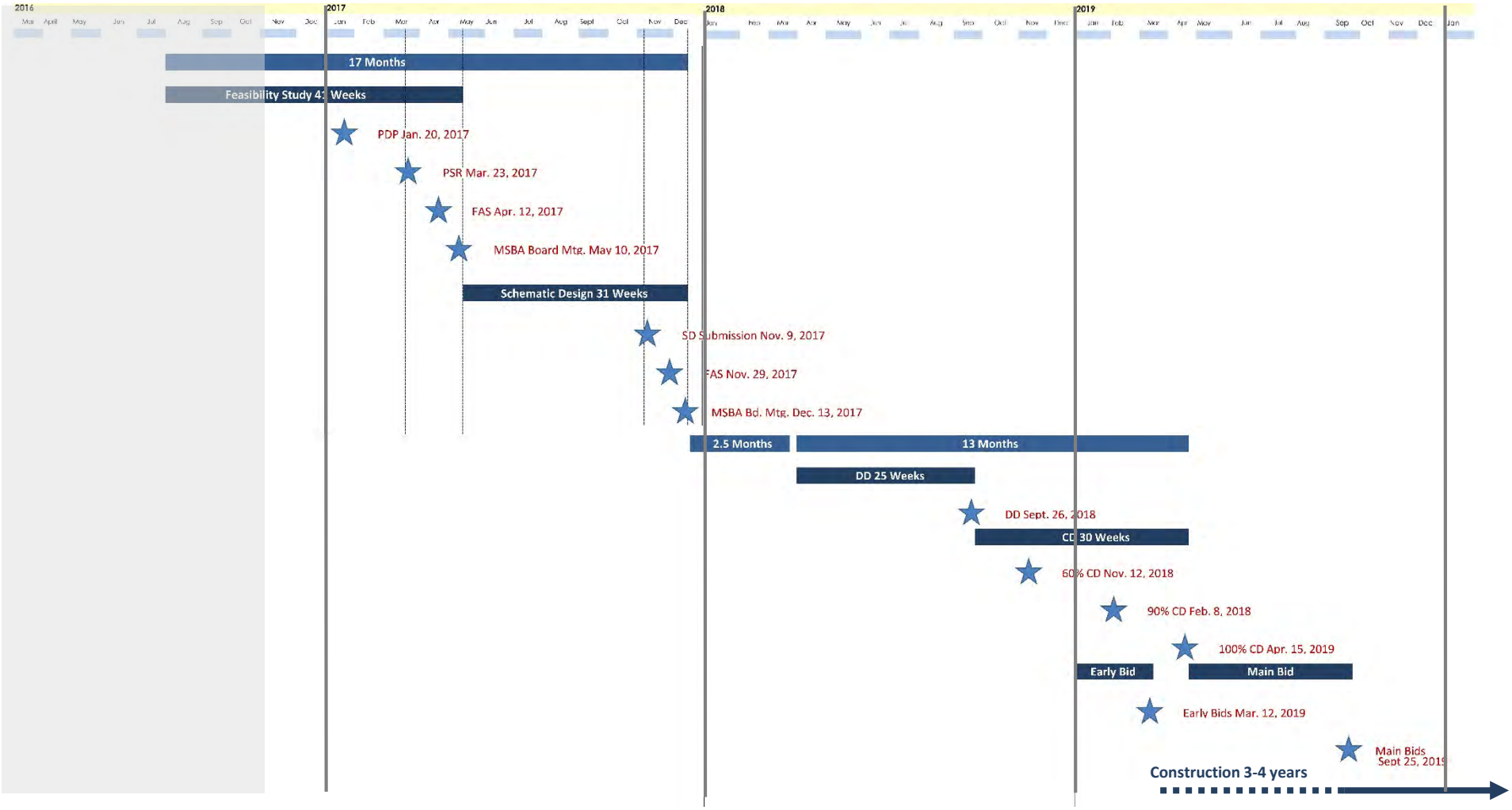


LOWELL

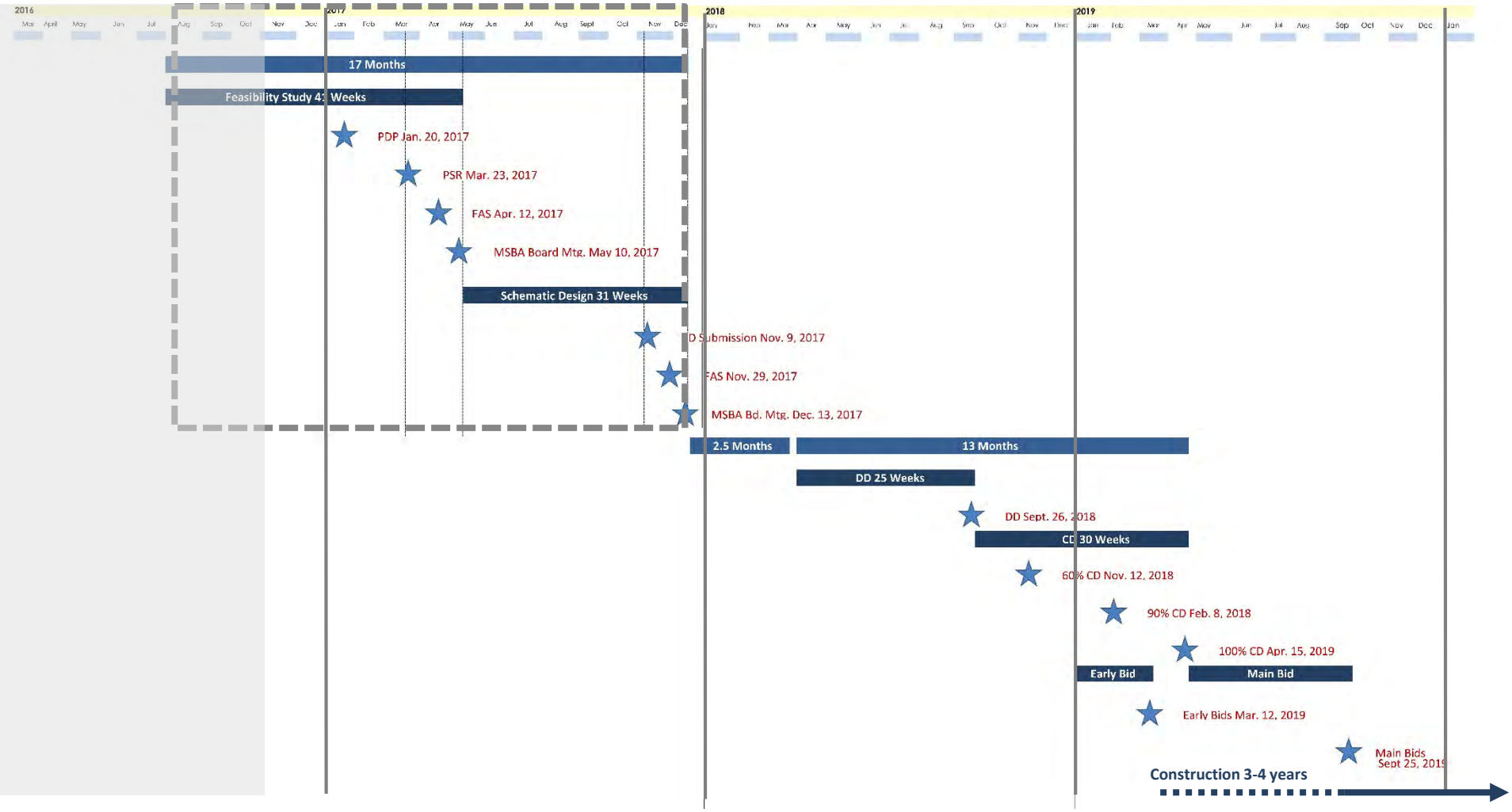
LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Project Timeline & Decisions

Current Phase (16 mo's from Aug.)



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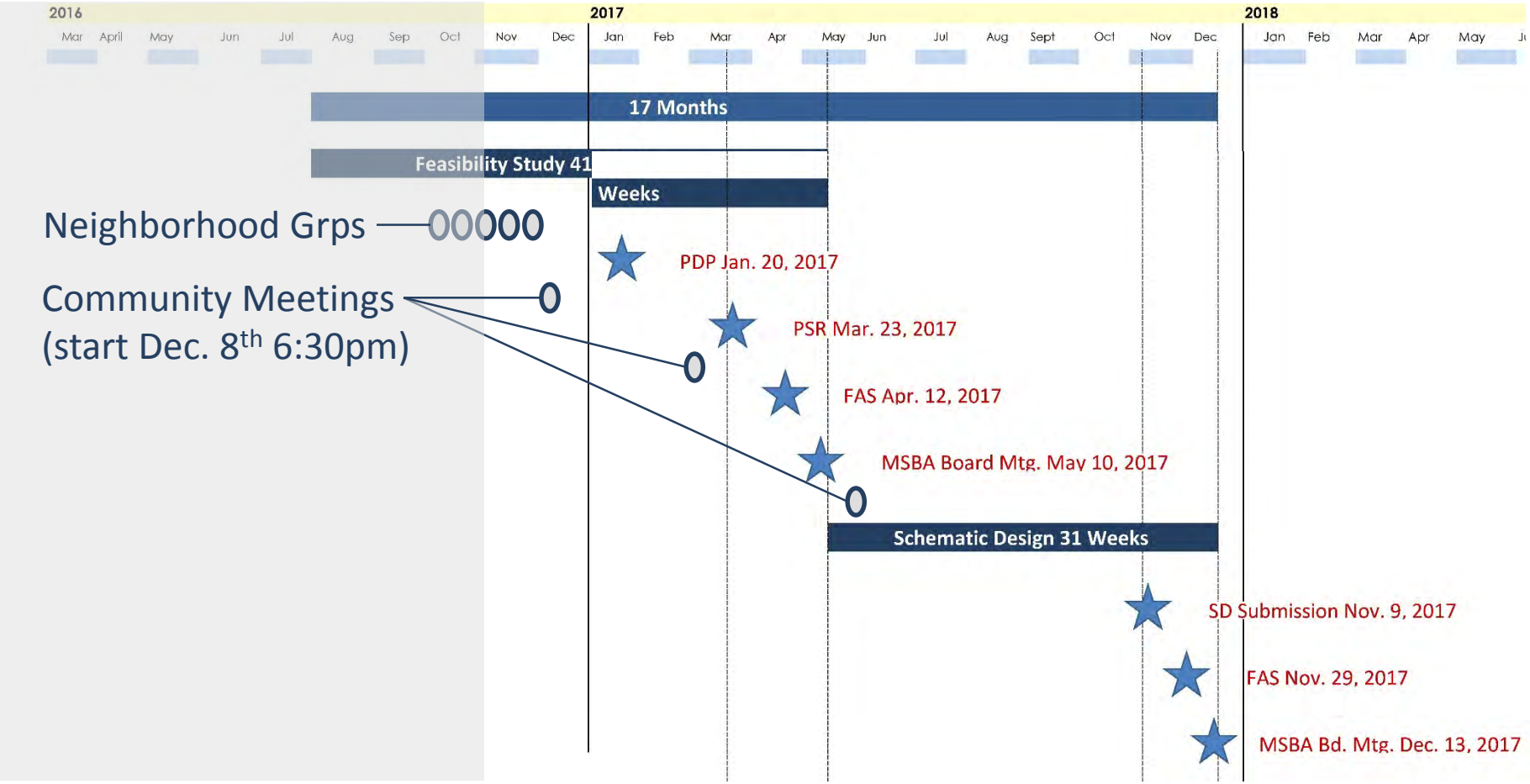
Project Timeline & Decisions

Closer Look at This Year (Most Intense in First 6 Mo's)



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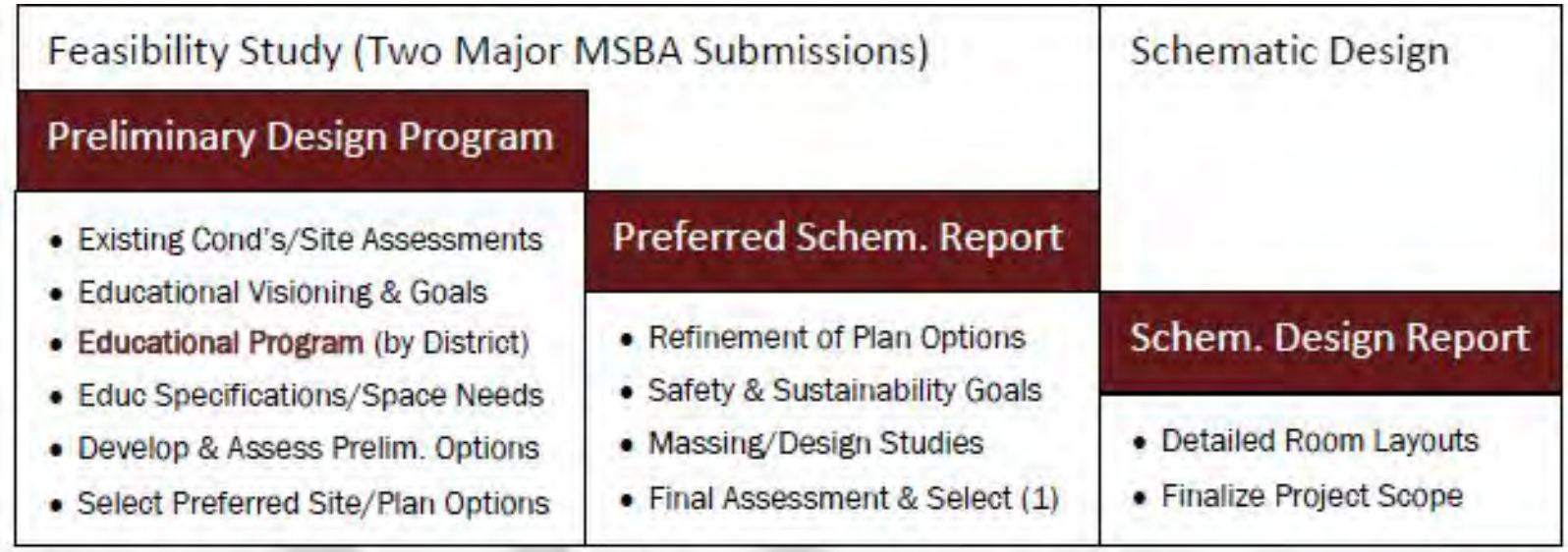

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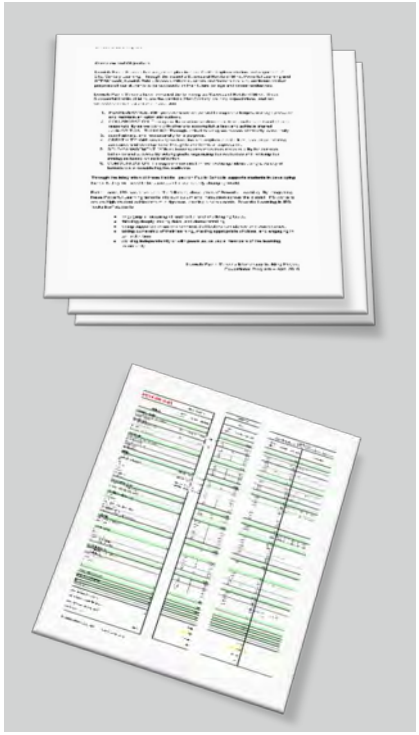

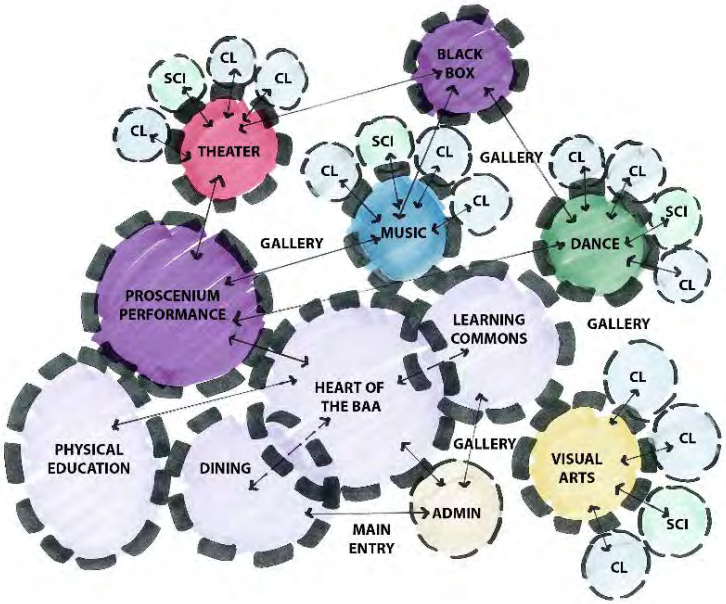



EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

LOWELL

LOWELL HIGH SCHOOL PROJECT

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What We've Learned So Far









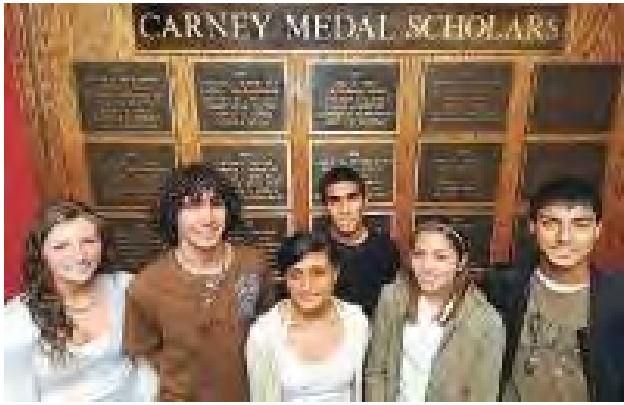
What We've Learned So Far

Approximately 3100 Students, Over 40 Countries Represented



What We've Learned So Far





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Existing Conditions at LHS



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Perkins Eastman | DPC

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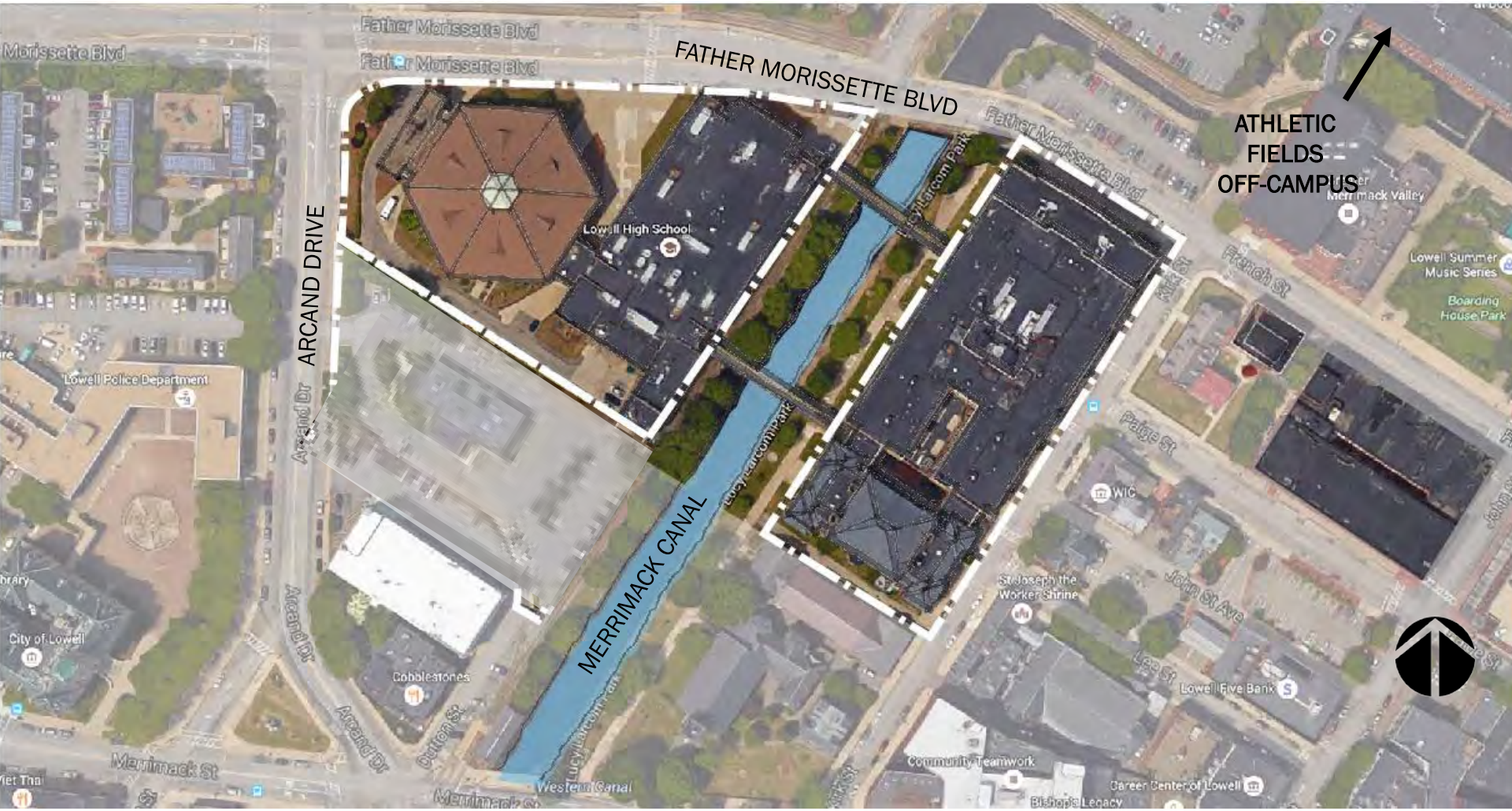

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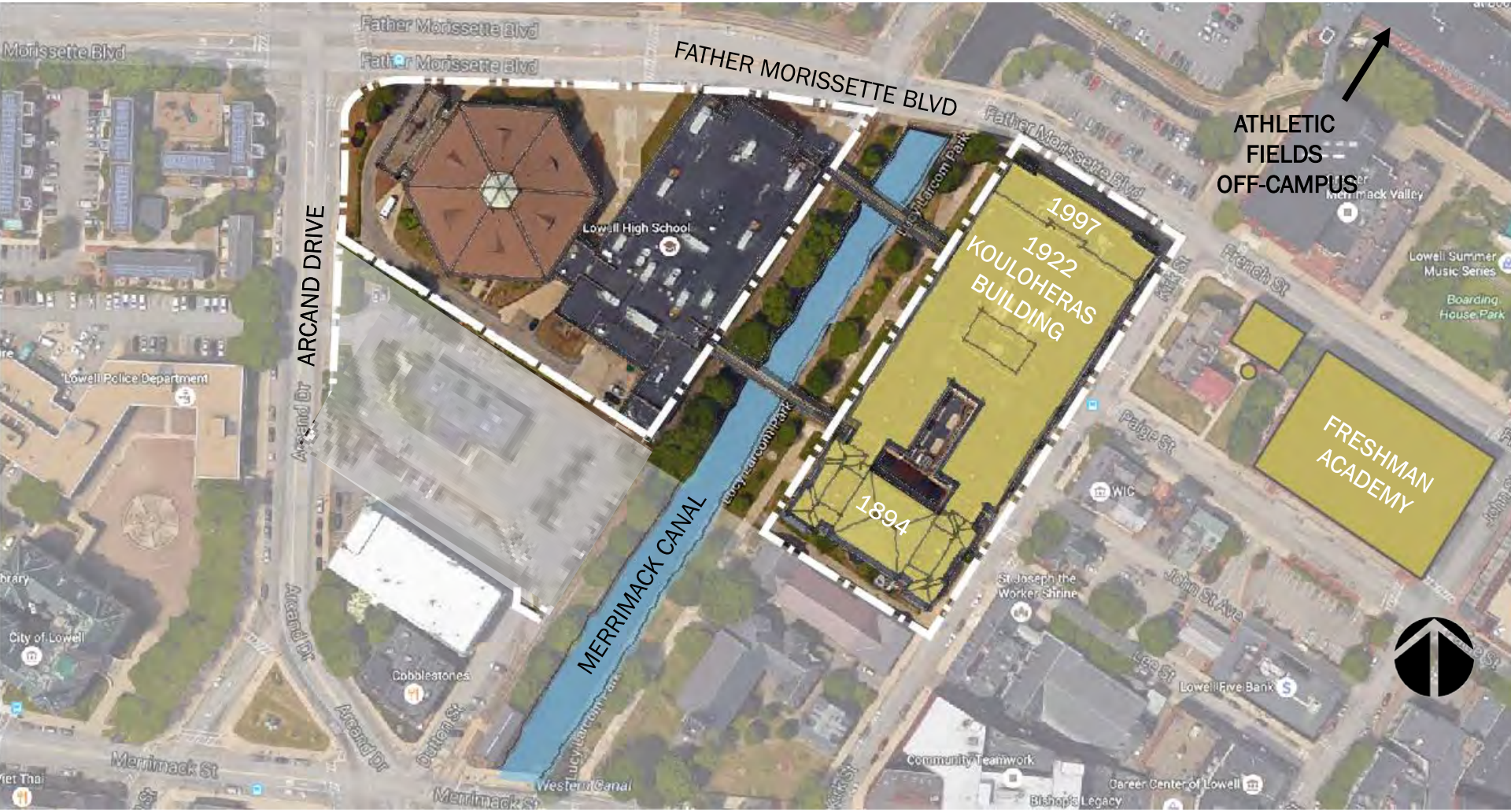

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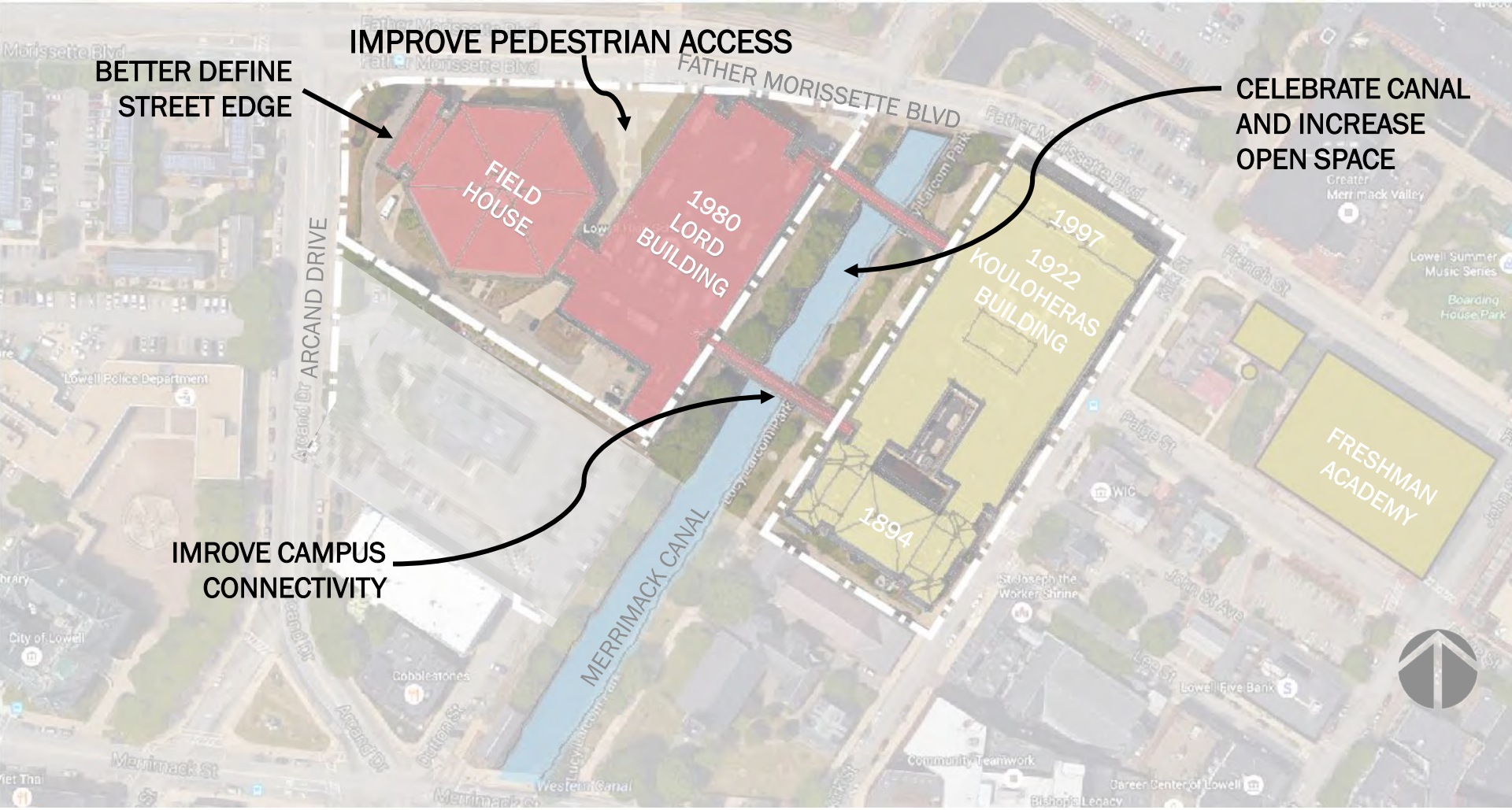

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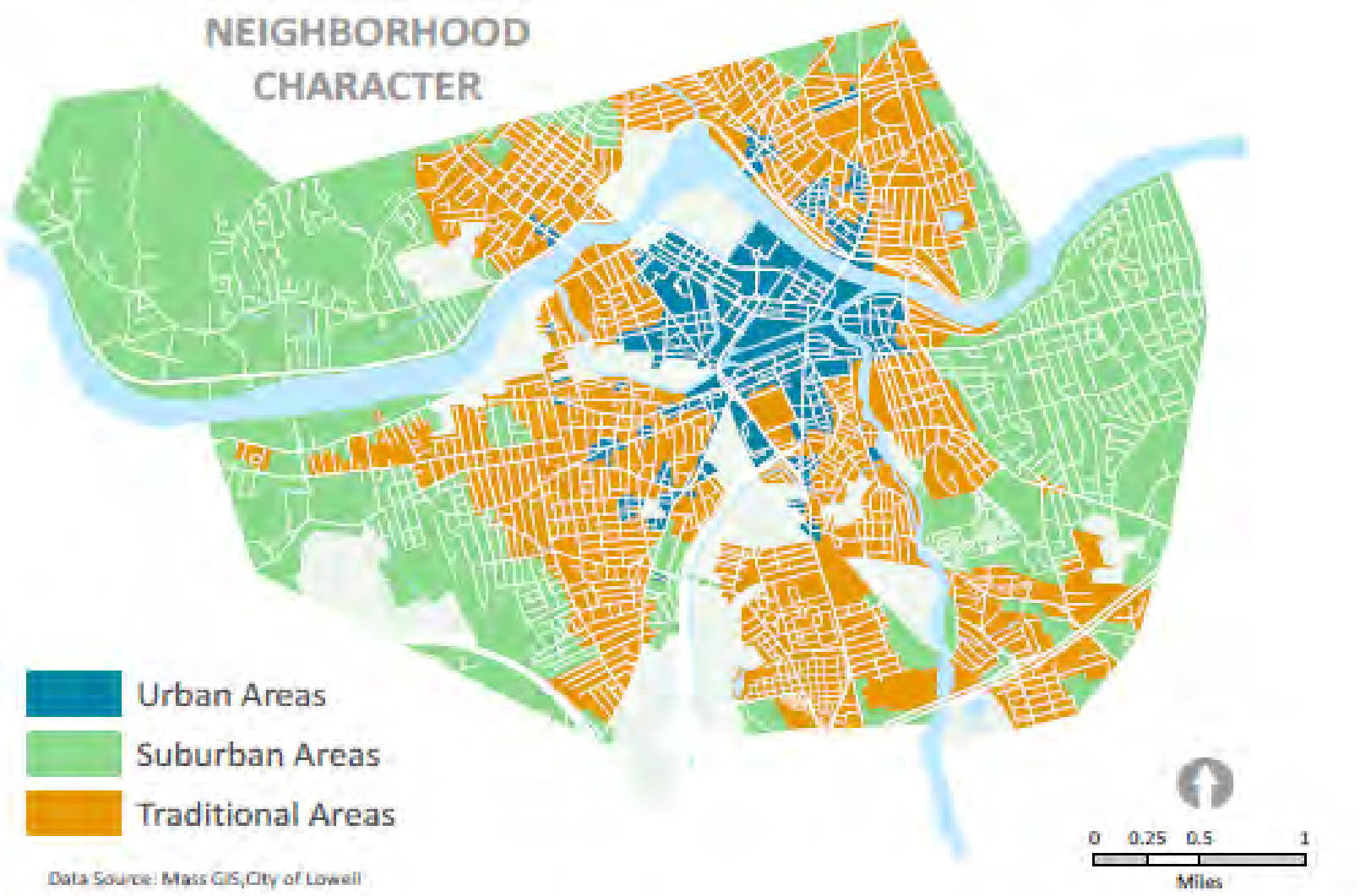
Community Involvement



Community Involvement

City Council City Manager Mayor's Office Board of Health Emergency Management **Fire**

CH 91 Waterways **Traffic** Conservation Commission Development Services **DPW**

Planning Board **Historic Board** Board of Parks **Engineers** Building Committee

Water Utility Planning and Development Utility Department **Police** ACOE

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LOWELL **LOWELL HIGH SCHOOL PROJECT** SKANSKA Perkins Eastman | DPC

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The City of LOWELL Alive. Unique. Inspiring

LOWELL HIGH SCHOOL PROJECT

NOVEMBER 14TH 2016

Highlands Circle Neighborhood Association with Lower Highlands Neighborhood Group, Cupples Sq. Business & Residents Association and Friends of Taylor Park



The City of LOWELL Above Abound Inspiring

LOWELL HIGH SCHOOL PROJECT

MEETING AGENDA

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- **Overview of the MSBA / Process**
- **Project Timeline & Decisions**
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- **We Want to Hear From You**



LOWELL HIGH SCHOOL PROJECT

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- **Lowell, City Manager's Office**
- **School Building Committee**
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- **Owner's Project Manager -** SKANSKA
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  (team includes 30 engineers & specialty disciplines)

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LOWELL

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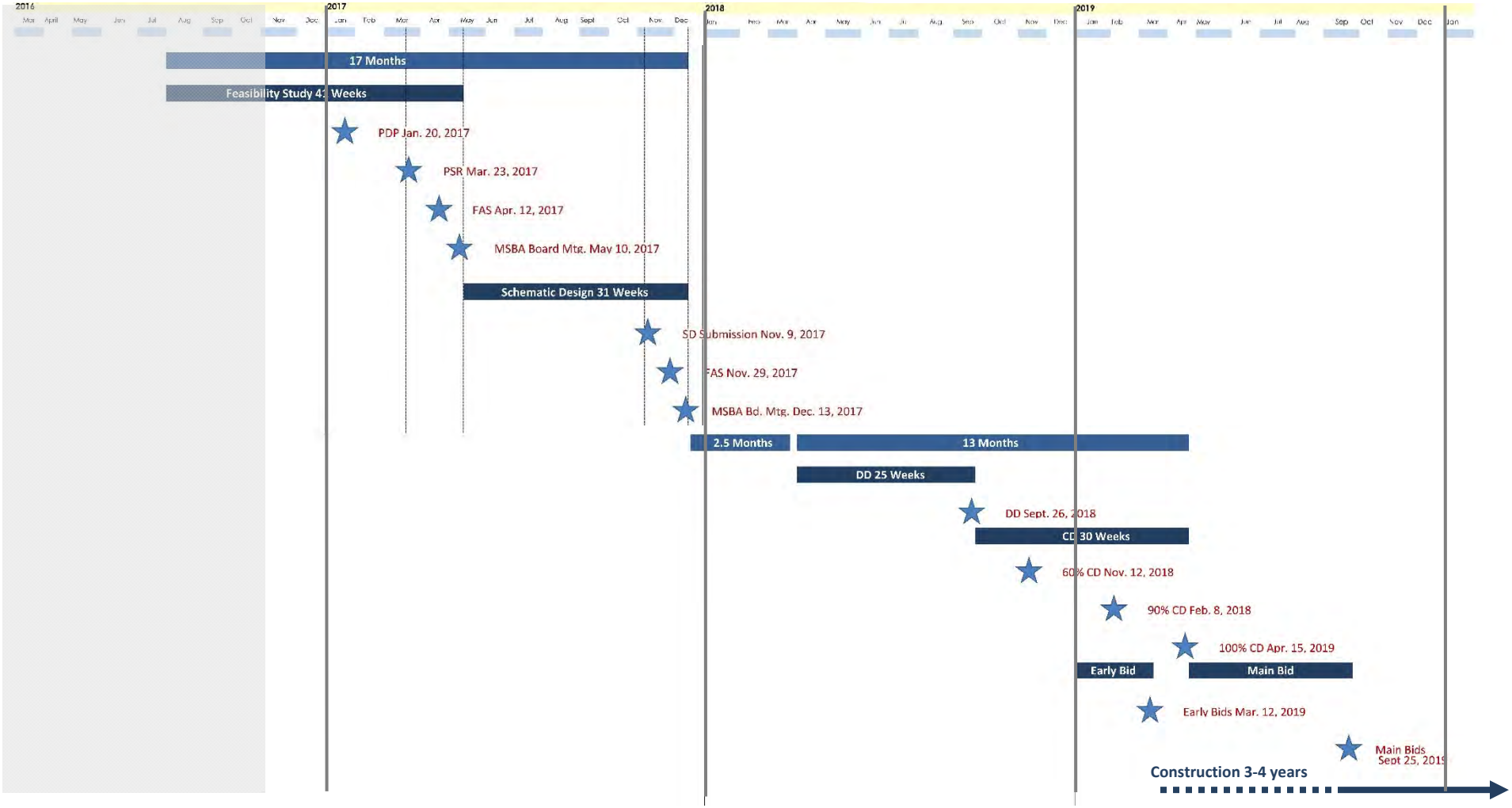

LOWELL

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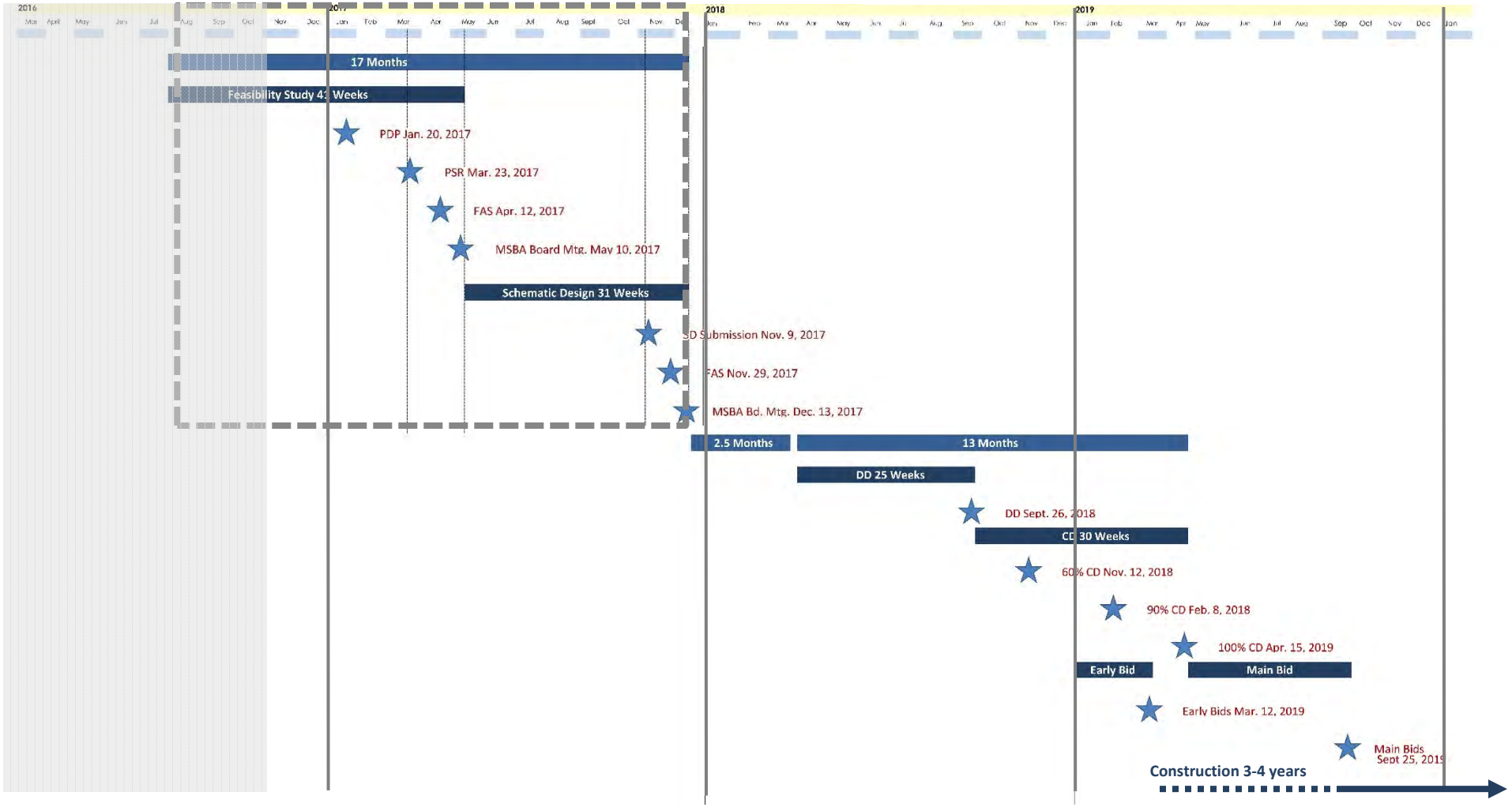

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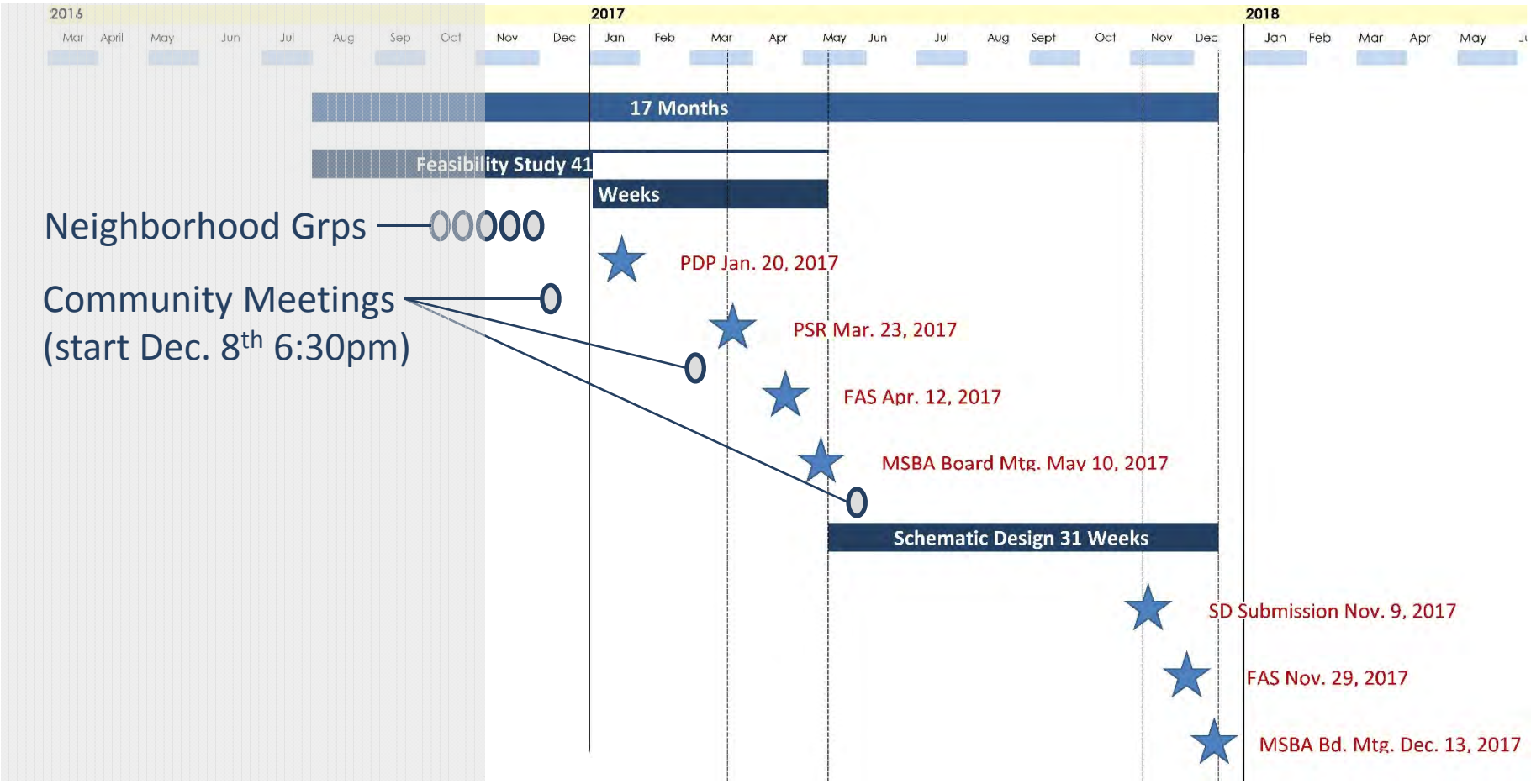

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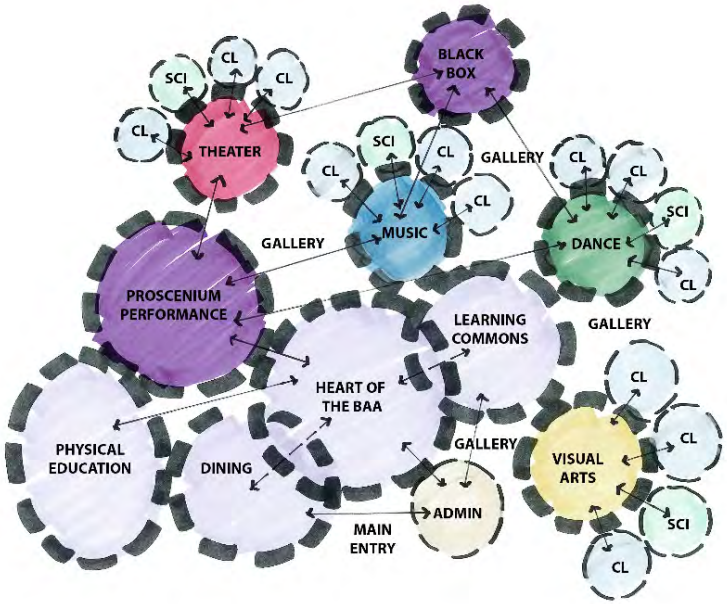




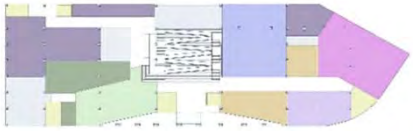
4th Floor Plan



3rd Floor Plan



2nd Floor Plan



1st Floor Plan

EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

LOWELL

LOWELL HIGH SCHOOL PROJECT

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Perkins Eastman | DPC

What We've Learned So Far









LOWELL

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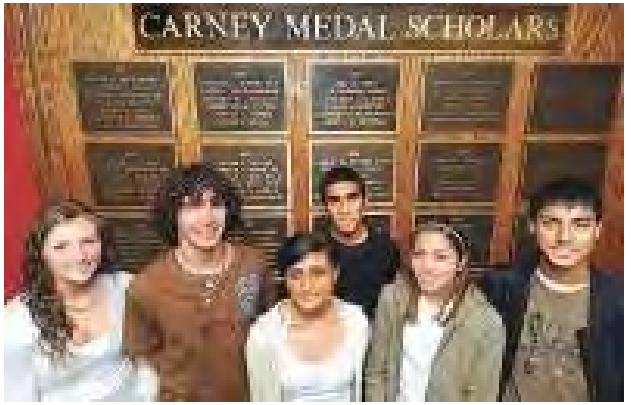

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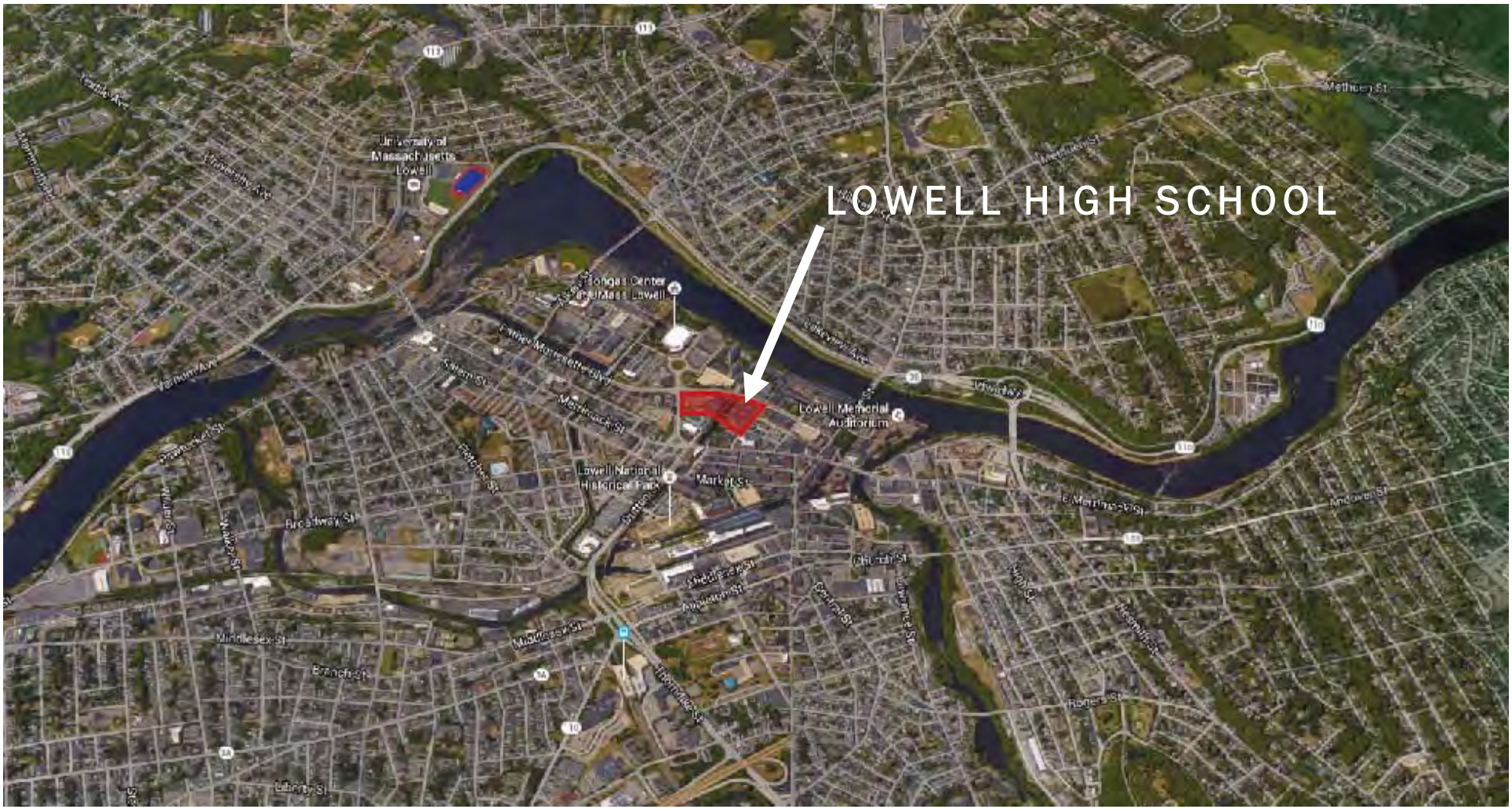
LOWELL **LOWELL HIGH SCHOOL PROJECT** SKANSKA Perkins Eastman | DPC

Existing Conditions at LHS



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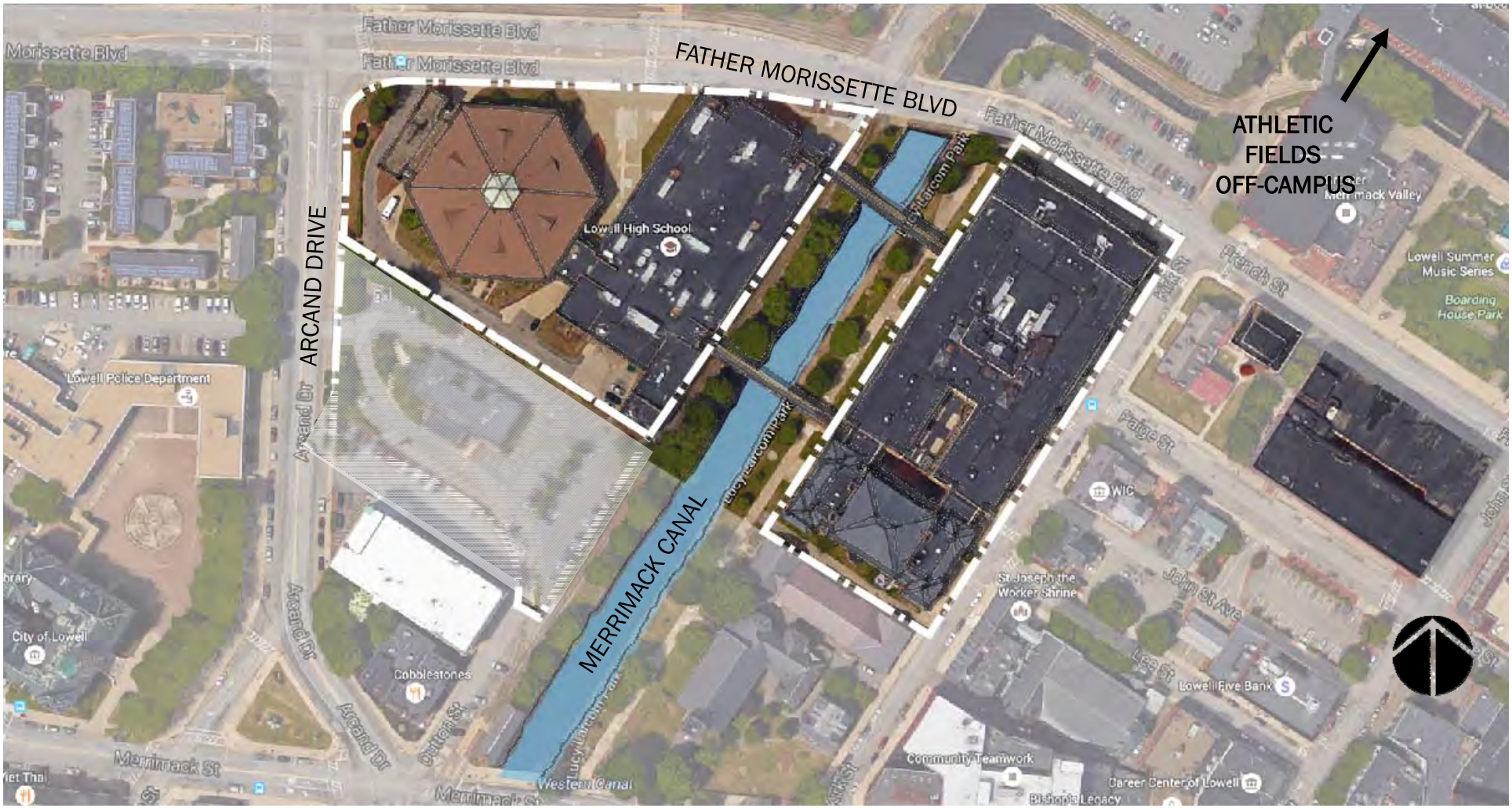

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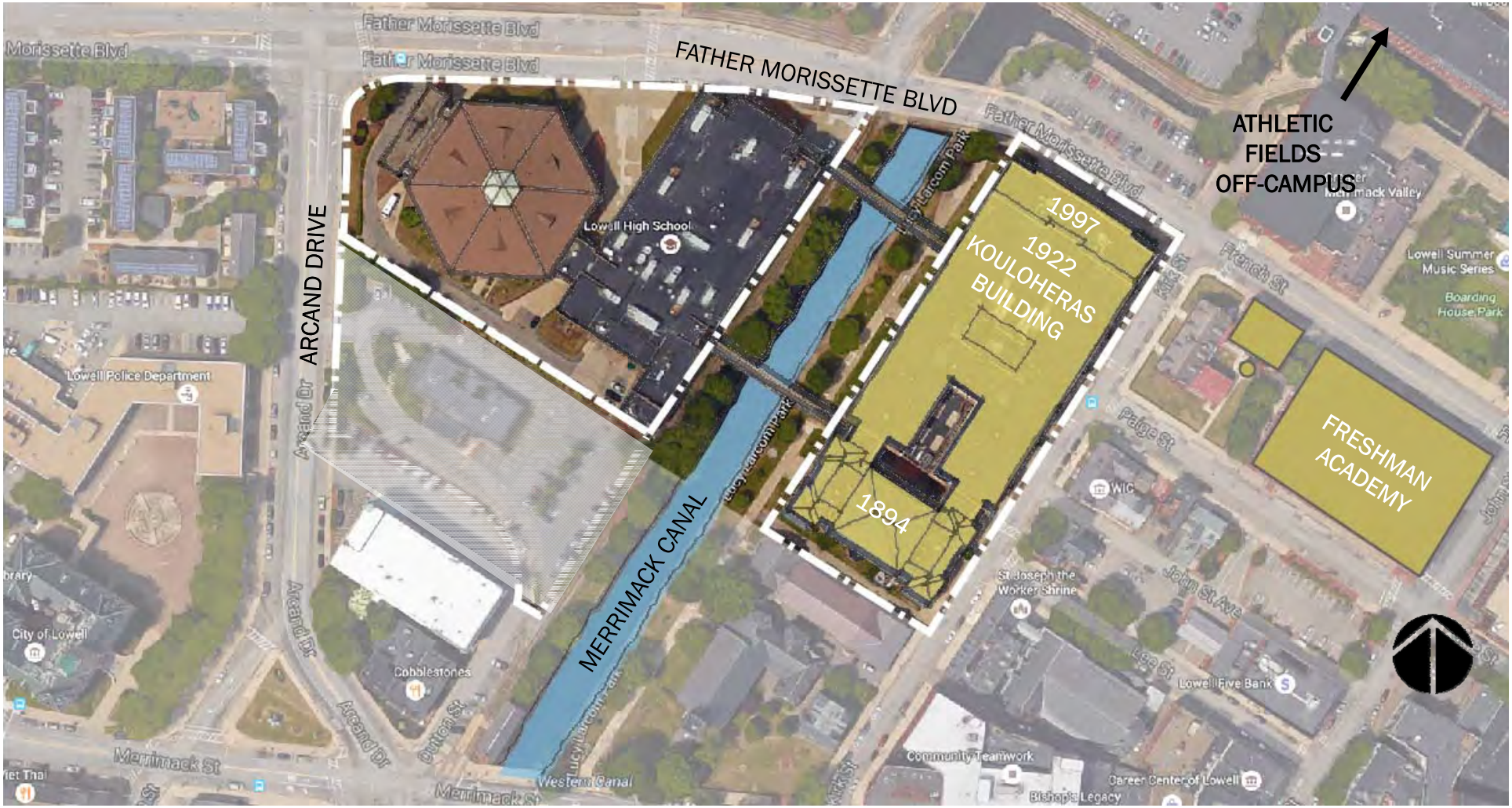

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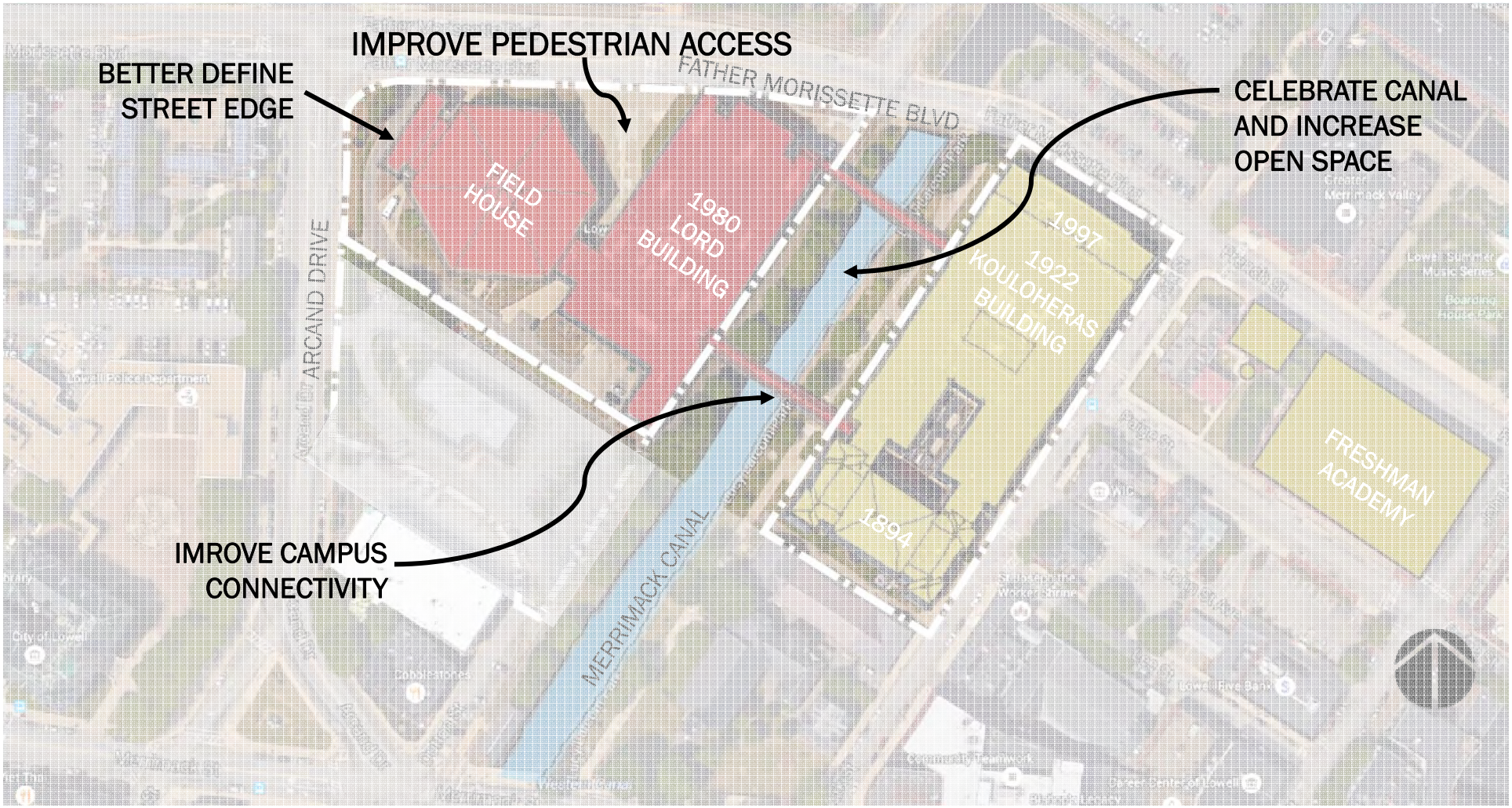

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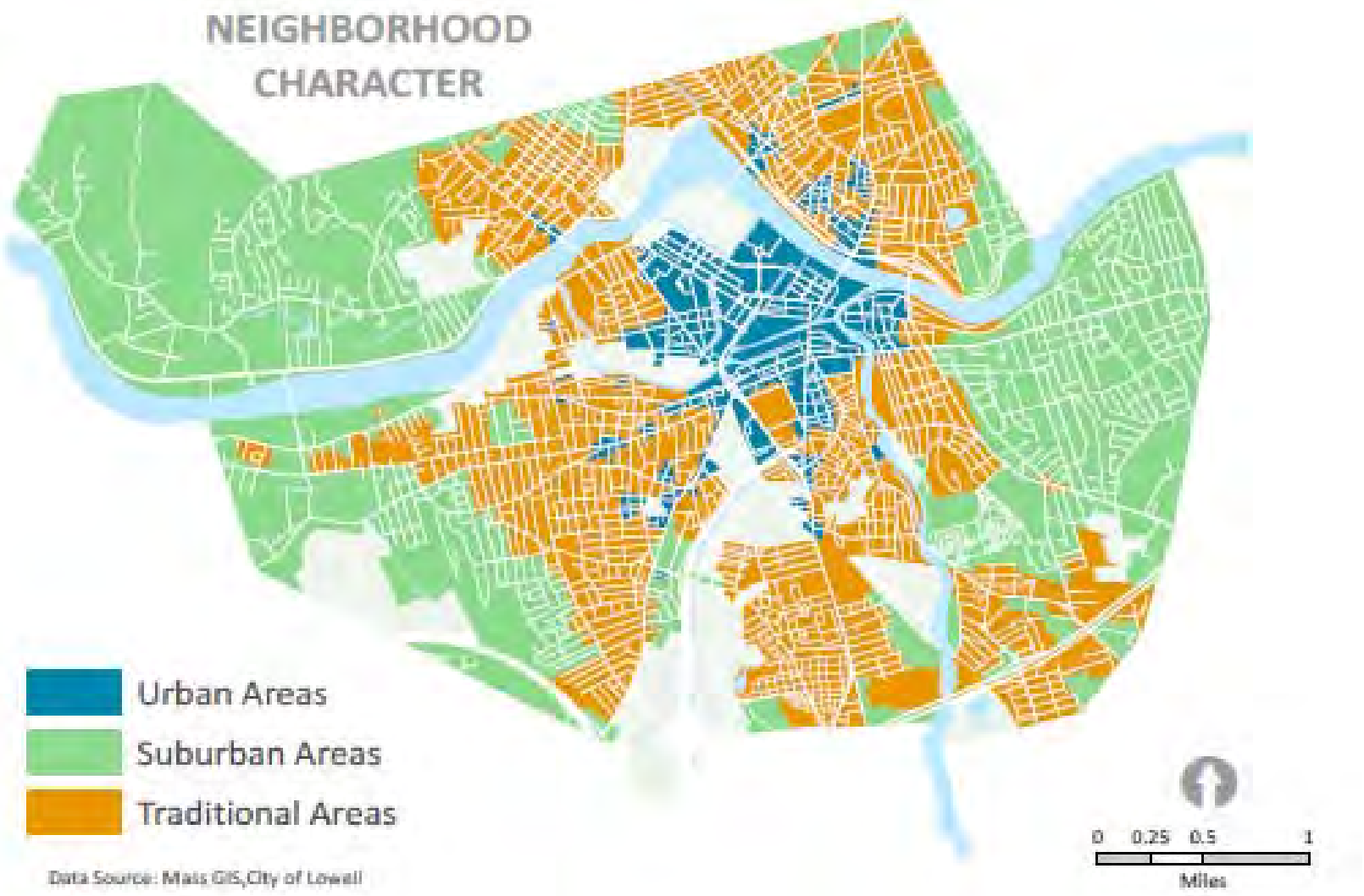

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LOWELL

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The City of LOWELL *Alive. Unique. Inspiring.*

LOWELL HIGH SCHOOL PROJECT

NOVEMBER 28TH 2016

Lowell Dn Town Neighborhood Assoc.
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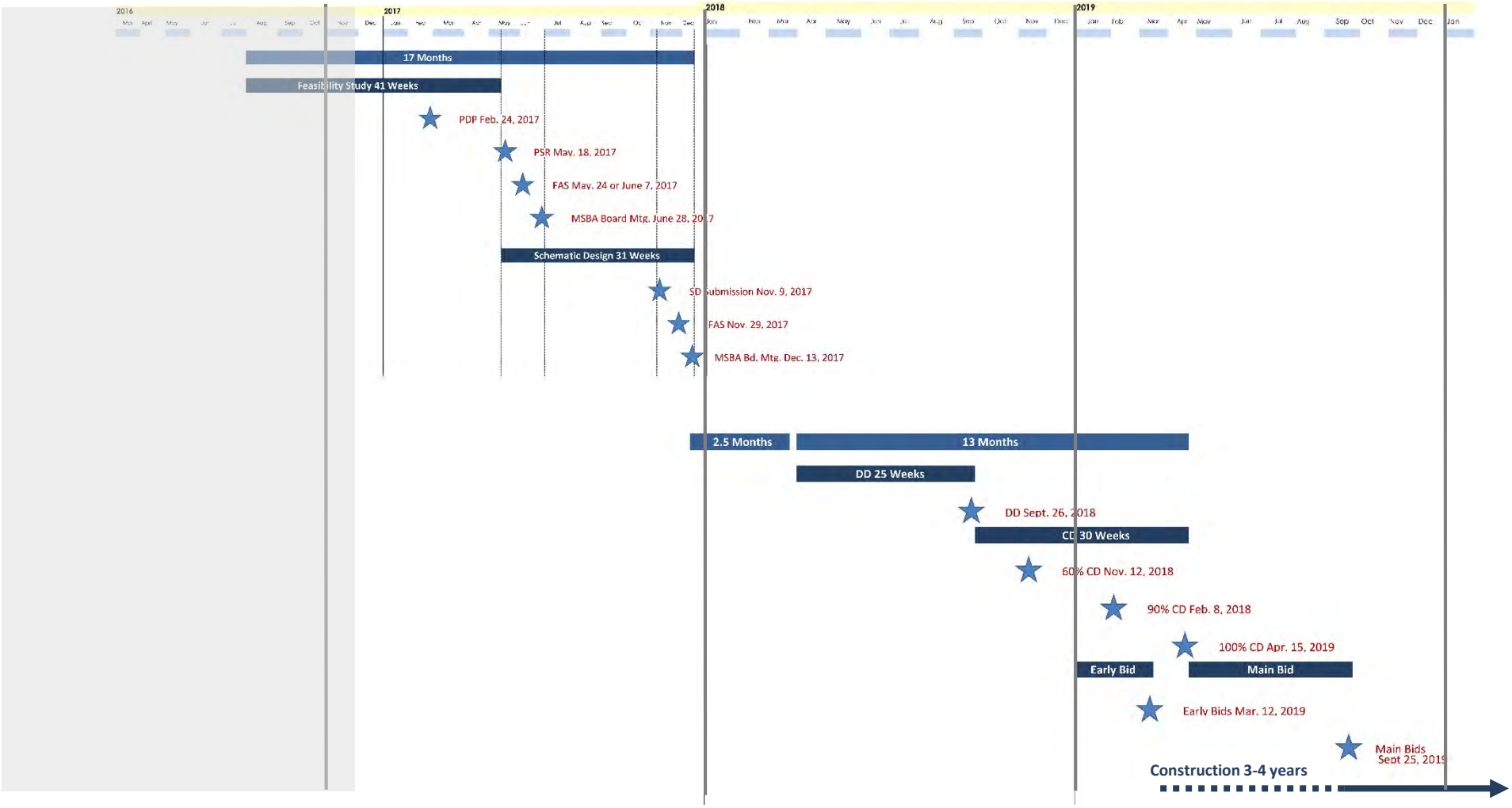

LOWELL

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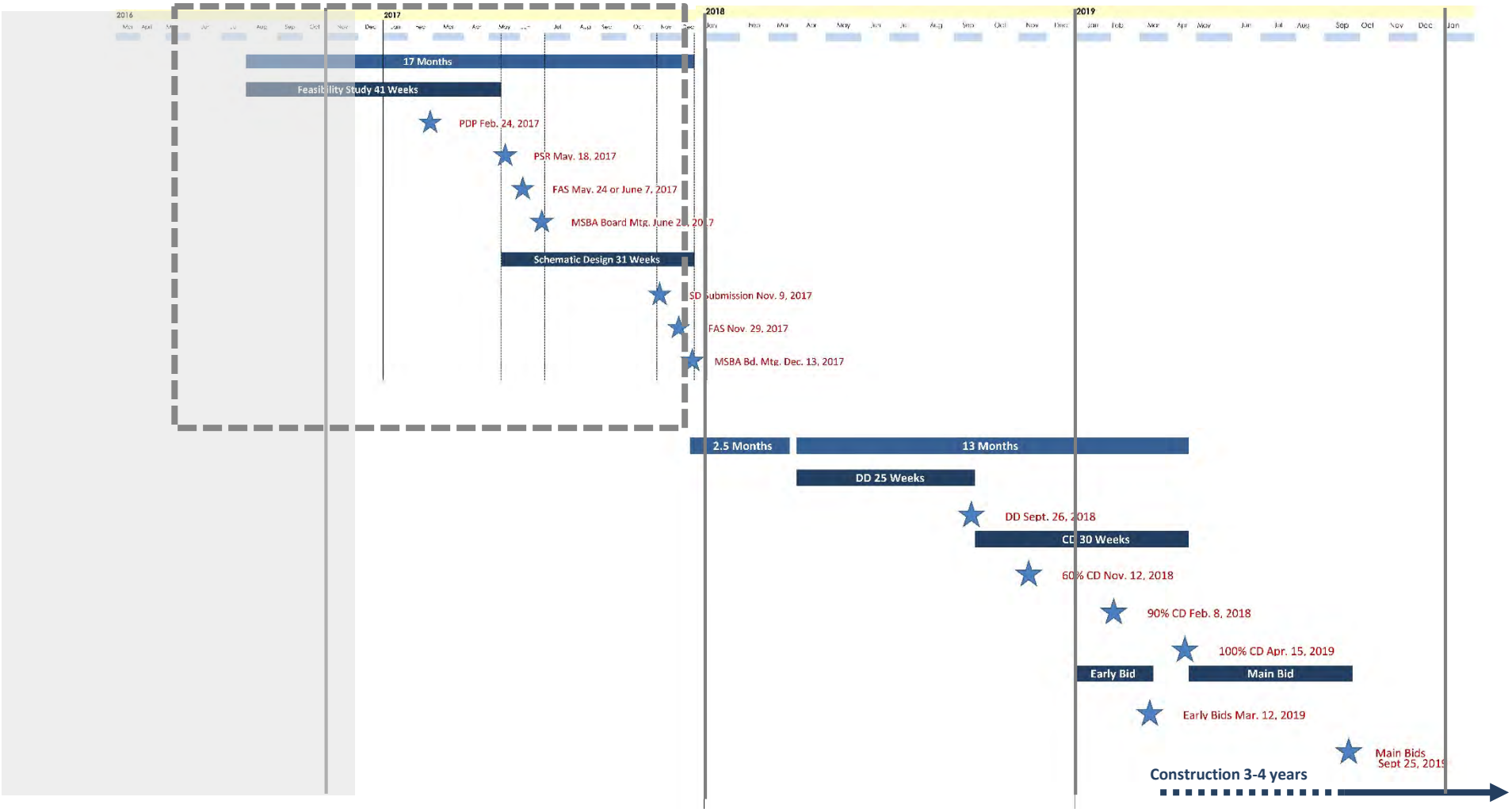

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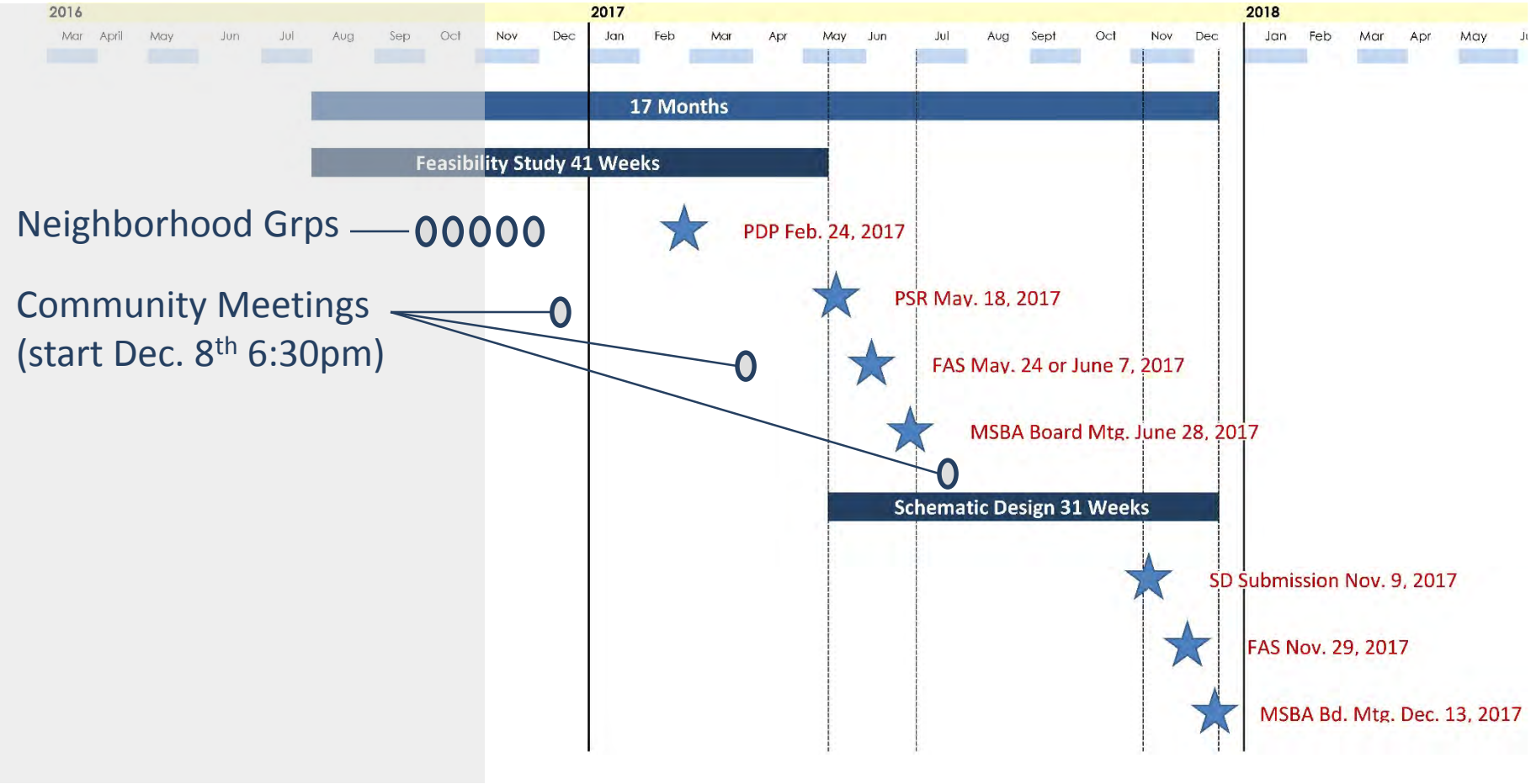

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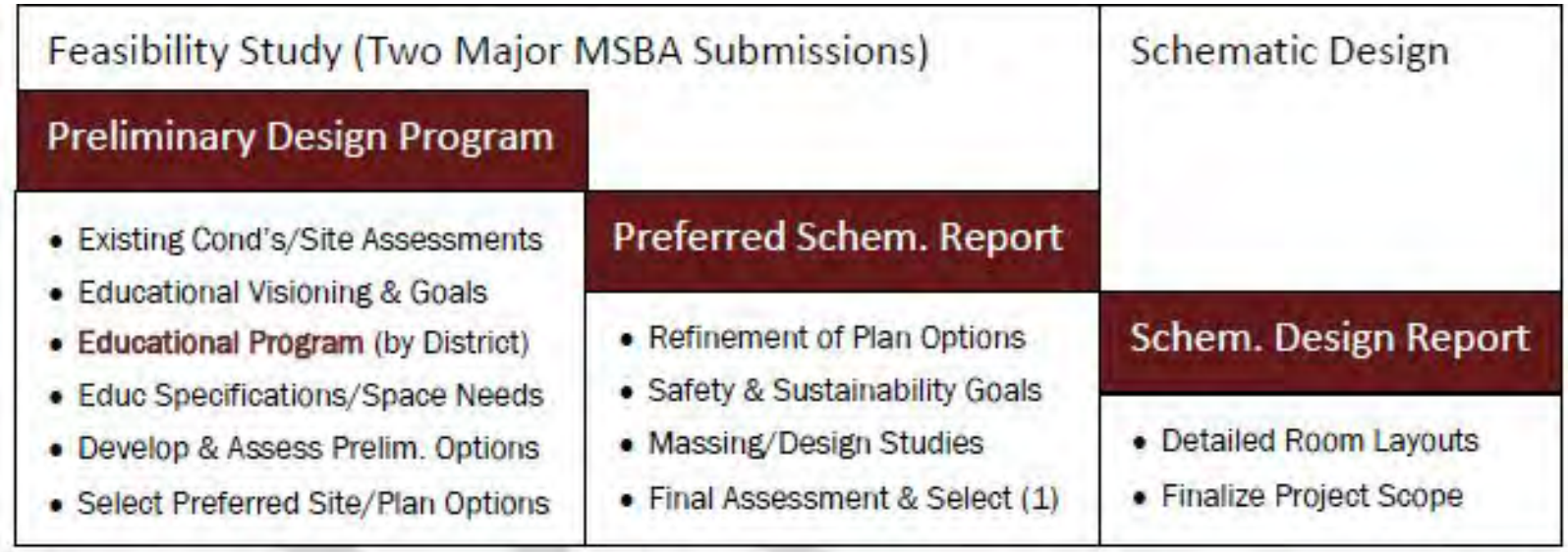
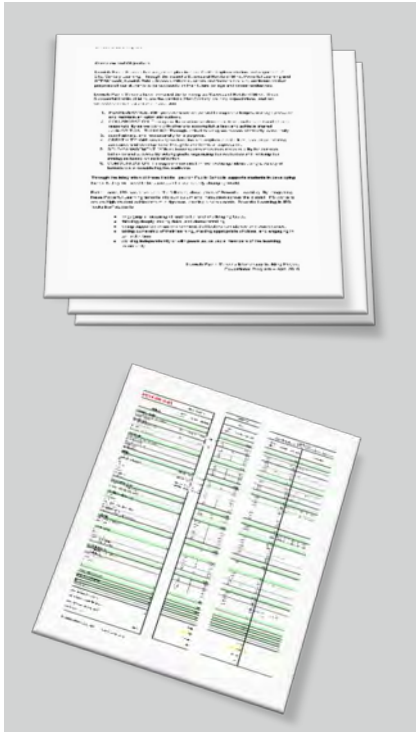
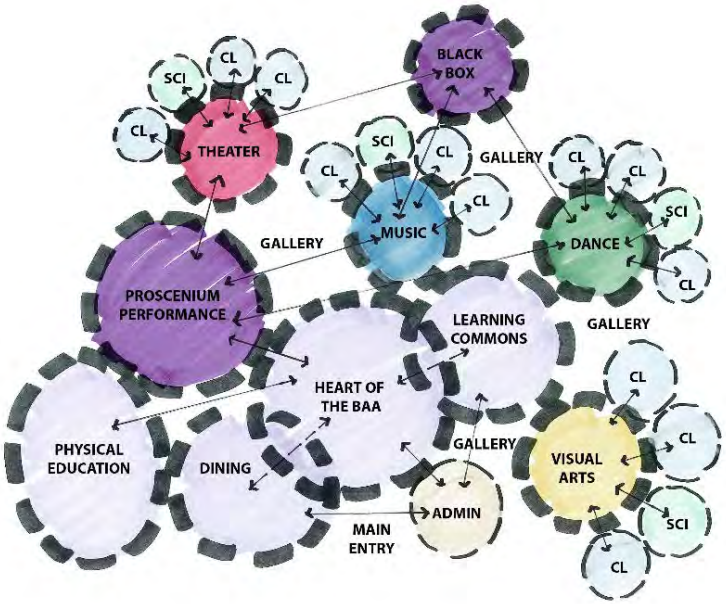


Project Timeline & Decisions







EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

LOWELL

LOWELL HIGH SCHOOL PROJECT

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What We've Learned So Far









What We've Learned So Far

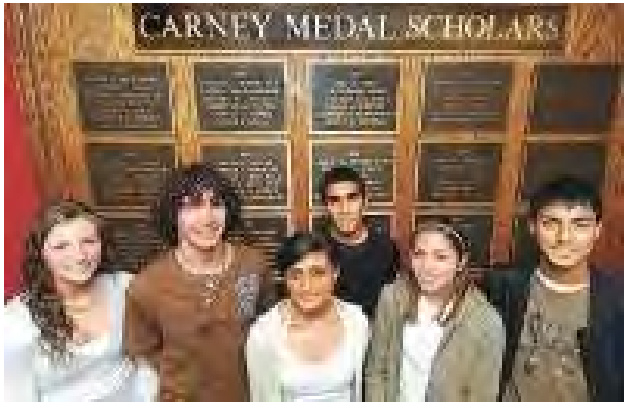
Approximately 3100 Students, Over 40 Countries Represented





What We've Learned So Far



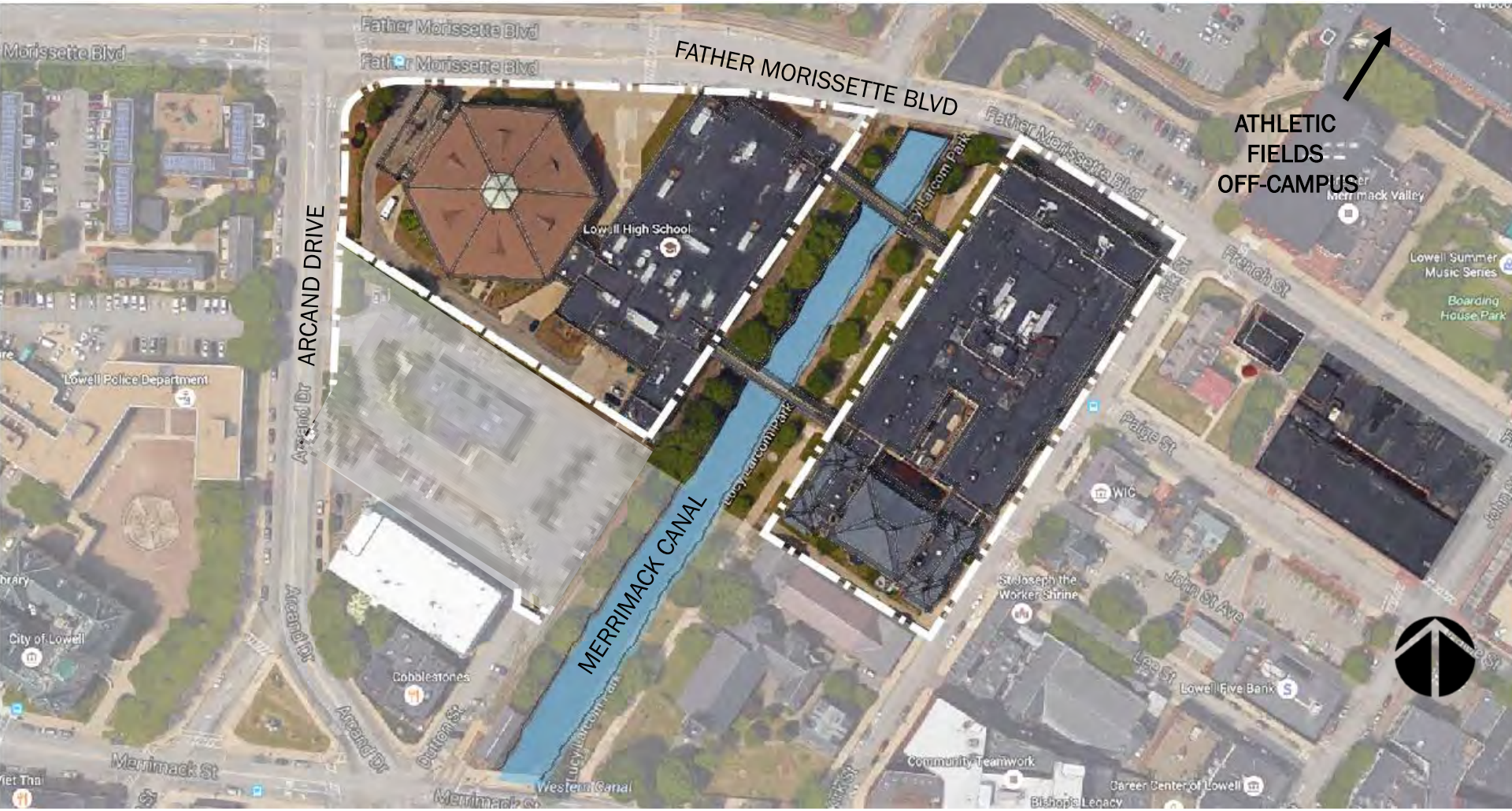


- 1st Co-Ed. HS in US
- ELL Influx (SIFE)
- Career Pathways
- City/History Ties

Existing Conditions at LHS



Existing Conditions at LHS



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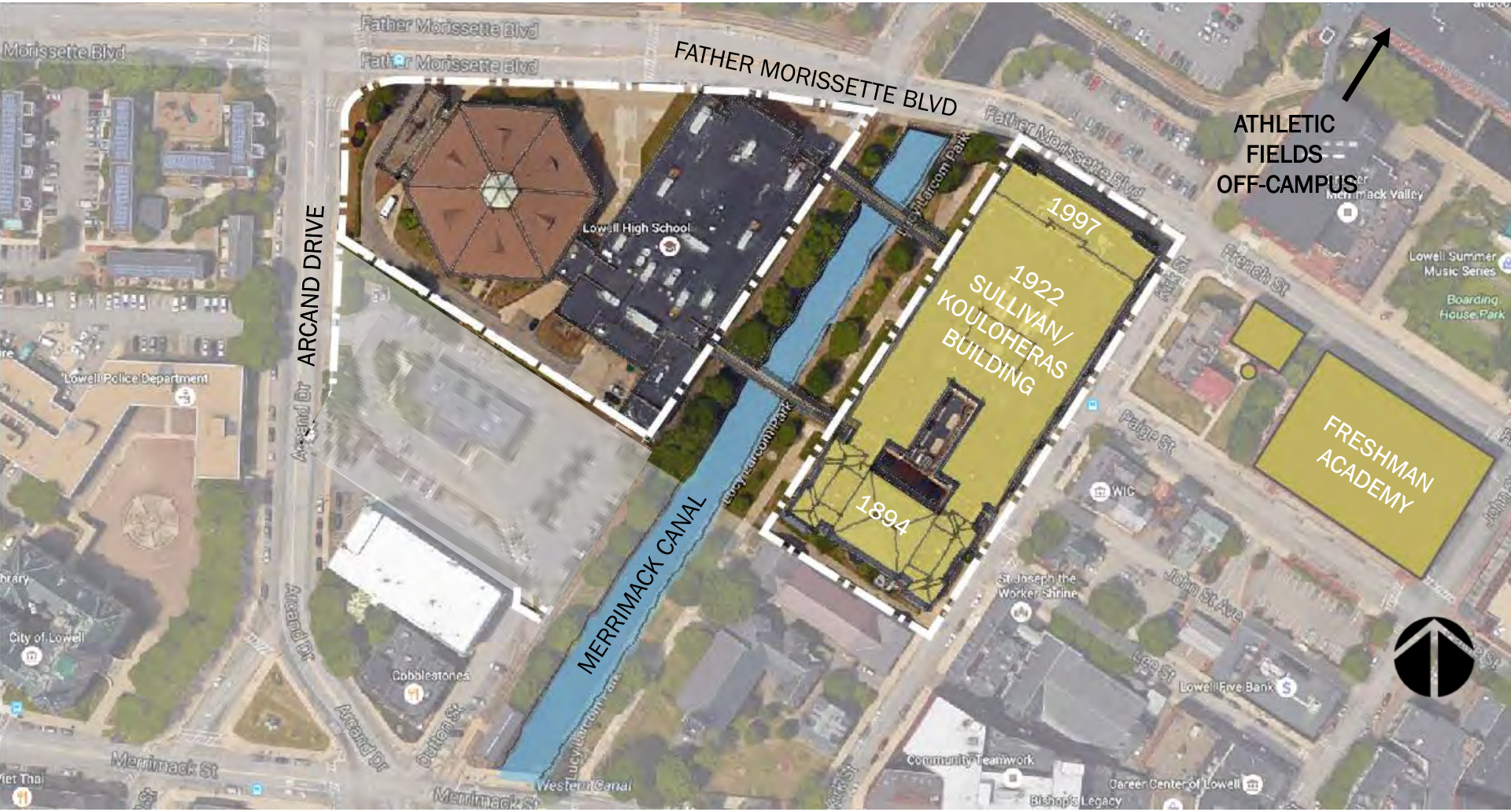
Existing Conditions at LHS



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Existing Conditions at LHS



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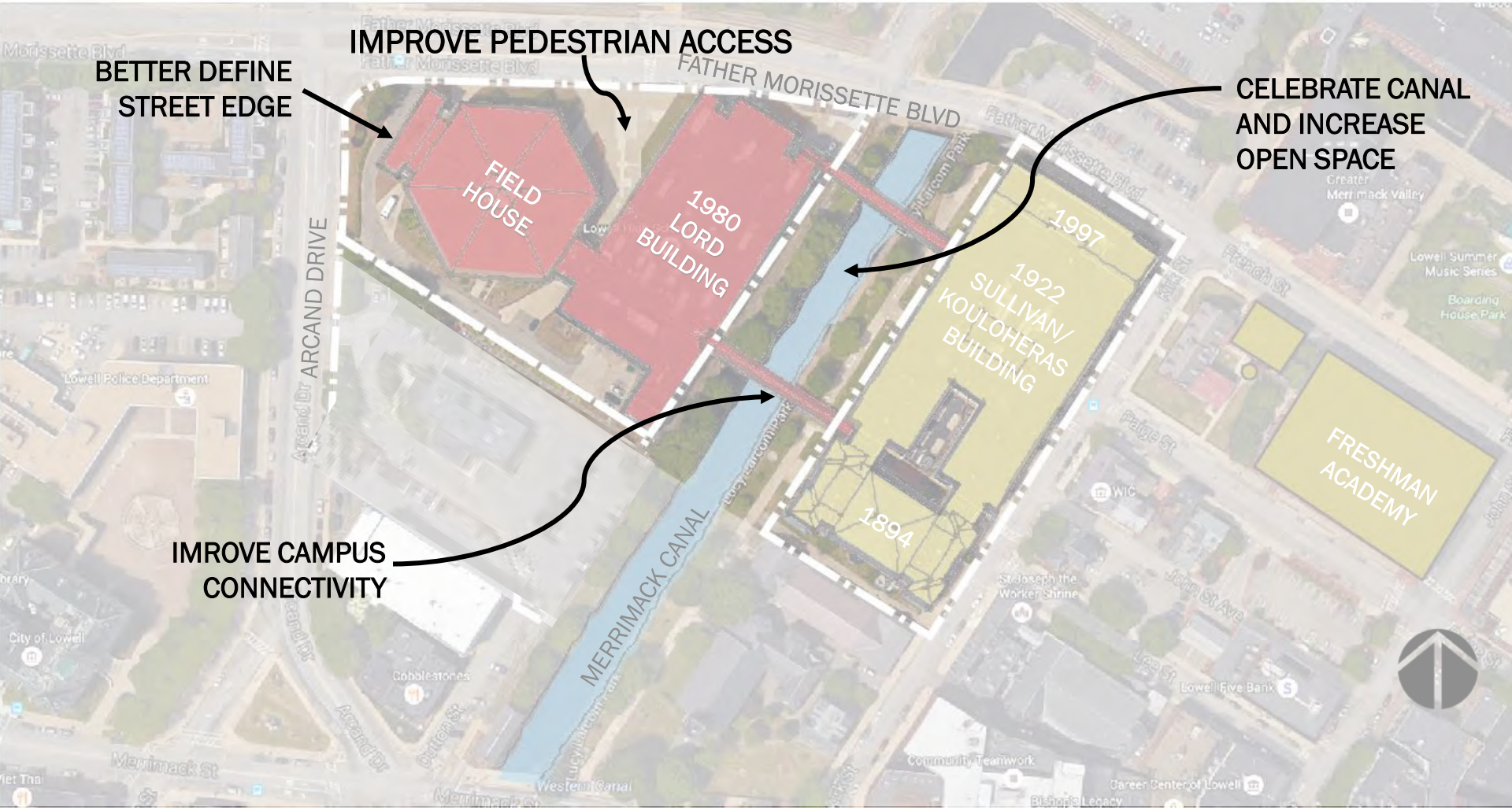
Existing Conditions at LHS



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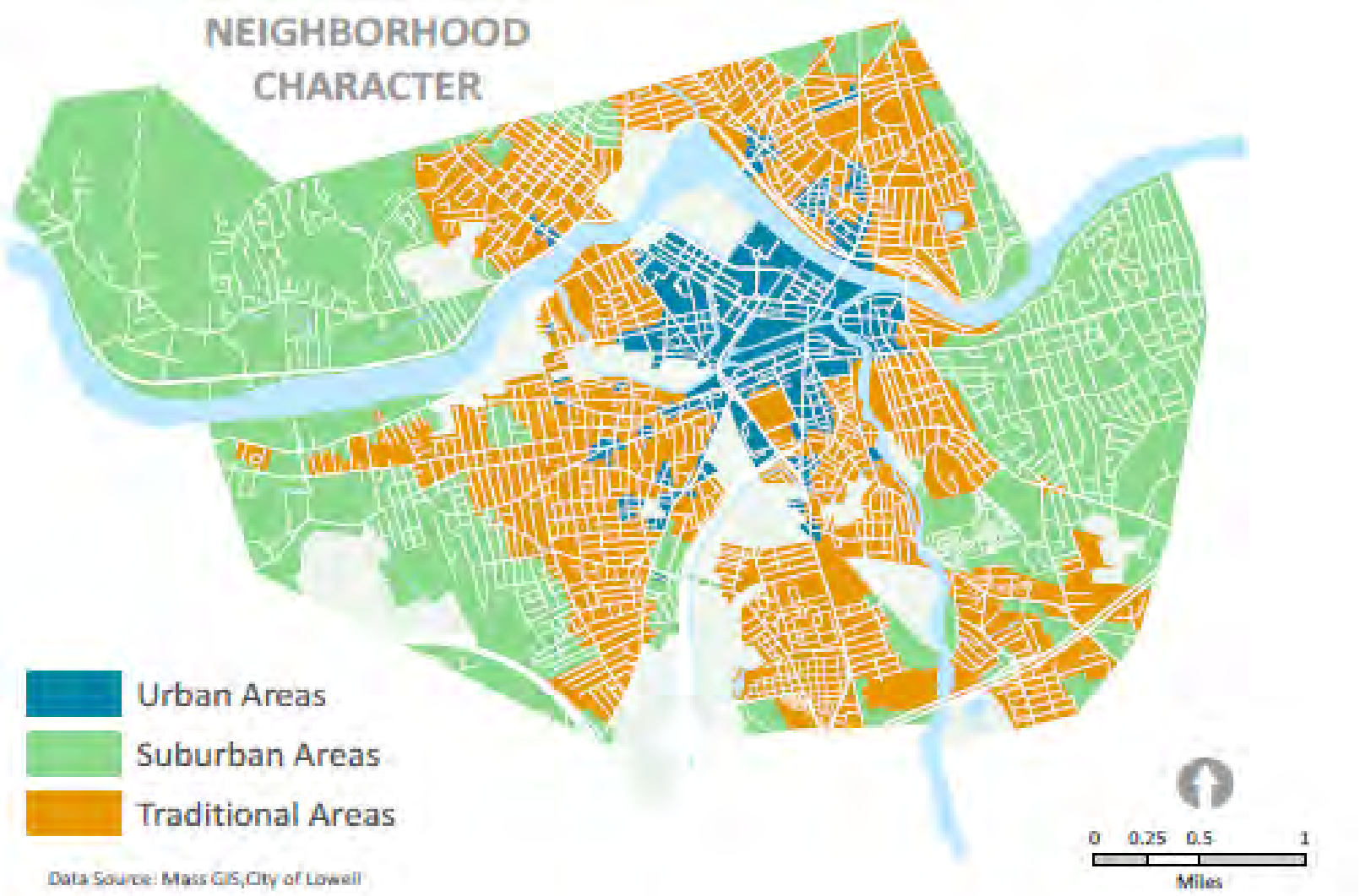
Existing Conditions at LHS

What about the school we have now?

- They Have Exceeded Their Useful Service Lives:
- They waste energy, which costs you money.
- Expensive repairs are needed in the future.
- They don't meet safety or accessibility codes to protect our children.
- They don't meet state and federal regulations.
- They no longer support the academic programs requirements being offered to our students or 21st Century Educational practices.
- They don't allow us to provide a competitive advantage to all of our children.

Community Involvement



Community Involvement

City Council City Manager Mayor's Office Board of Health Emergency Management **Fire**

CH 91 Waterways **Traffic** Conservation Commission Development Services **DPW**

Planning Board **Historic Board** Board of Parks **Engineers** Building Committee

Water Utility Planning and Development Utility Department **Police** ACOE

CH 91 Waterways Recreation National Stormwater Center

MIS Management Systems **School Department**

Pawtucket Citizens Council (**PCC**) Centralville Community Coalition (**CCC**)

Highland Circle Neighborhood Assoc. (**HCNA**) Belvidere Neighborhood Council (**BNC**)

Back Central Neighborhood Assoc. (**BCNA**)

Central Neighborhood Action Group (**CNAG**) Cupples Square Business & Residence Assoc.

Sacred Heart Neighborhood Improvement Group & Riverside Community Council

East Pawtucketville Neighborhood Group (**EPNG**) Lowell Downtown Neighborhood Assoc. (**LDNA**)

Jackson Appleton Middlesex Business Residents Association (**JAMBRA**) Riverside Community Council

Acre Coalition to Improve Our Neighborhood (**ACTION**) Lower Highland Neighborhood Association (**LHNA**)

LOWELL **LOWELL HIGH SCHOOL PROJECT** SKANSKA Perkins Eastman | DPC

Community Involvement

How can I continue to learn more about the project?

As the Feasibility Study evolves, there will be opportunities for community input and engagement.

Information will be posted as it is developed and made available to the public.

Questions may be directed to the City Manager's Office.

Next Community Presentation at Lowell High School Auditorium Thursday, December 8, 2016 at 6:30pm



The City of LOWELL *Alive. Unique. Inspiring.*

LOWELL HIGH SCHOOL PROJECT

NEIGHBORHOOD GROUP MEETING:

10/17 - Centralville Neighb. Action Grp
(with Centralville Community Coalition)

11/7 - Pawtucketville Citizens Council
(with East Pawtucketville Citizens Group)

11/9 - Belvidere Residents Council
(with Sacred Heart Neighborhood Improvement Group, Riverside Comm. Council & Back Central Neighb. Assoc.)

11/14 - Highlands Neighb. Assoc.
(with Lower Highlands Neighb. Group, Cupples Sq. Busn. & Residents Assoc, Friends of Taylor Park

11/28 - Lowell Dn Town Neighb. Assoc
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We Want to Hear From You



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LOWELL HIGH SCHOOL PROJECT

DECEMBER 8TH 2016

Community Meeting

Lowell High School

6:30pm-8:30pm



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LOWELL HIGH SCHOOL PROJECT

MEETING AGENDA 6:30-8:30

- **Project Team & Intro. inc. Neighborhd. Grps.(5 min.)**
- **Overview of the MSBA / Process (5 min.)**
- **Project Timeline & Decisions (5 min.)**
- **Community Involvement/Neighborhd. Mtgs. (5 min.)**
- **Alternative Sites (30 min.)**
- **Visions & Goals (10 min.)**
- **Preliminary Design Options (10 min.)**
- **General Discussion (+/-30-45 min.)**
- **Next Steps (5 min.)**



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LOWELL HIGH SCHOOL PROJECT

PROJECT TEAM

- **Lowell, City Manager's Office**
- **School Building Committee**
- **Lowell High School**
- **Owner's Project Manager -** SKANSKA
- **Architect -** Perkins Eastman/DPC
  (team includes 30 engineers & specialty disciplines)

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

The City's Partner in the School Building Project: Massachusetts School Building Authority (MSBA)

MSBA's mission: Partner with Massachusetts communities to support the design and construction of educationally appropriate, flexible, sustainable, and cost-effective public school facilities.



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

What is the MSBA?

The MSBA is a quasi-independent government authority created in 2004 to replace the former school building assistance program administered by the Dept. of Educ. (now the Dept. of Elementary and Secondary Educ.).

They work with local communities to create affordable, sustainable, educationally effective and efficient schools.



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

The MSBA Provides Significant Reimbursement

The MSBA establishes a base reimbursement rate for each District with potential additional incentive points available, but an overall max rate of 80% (Lowell's base is near 80%)

Reimbursement rates apply only to eligible costs

The MSBA caps costs overall and within individual scopes (caps are not intended to represent market/industry trends, but serve to provide consistent & equitable funds state-wide)



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

The MSBA Establishes Process/Standards

The process is to be inclusive, collaborative and transparent.

The MSBA establishes the target enrollment (3520 for LHS)

The scope of studies must comprise a range of options that include new construction (exploration of alternative sites), new additions/renovations, renovation and basic repair.

Other than basic repair, all options must meet the District's educational plan/program and the MSBA's space standards



Massachusetts School Building Authority

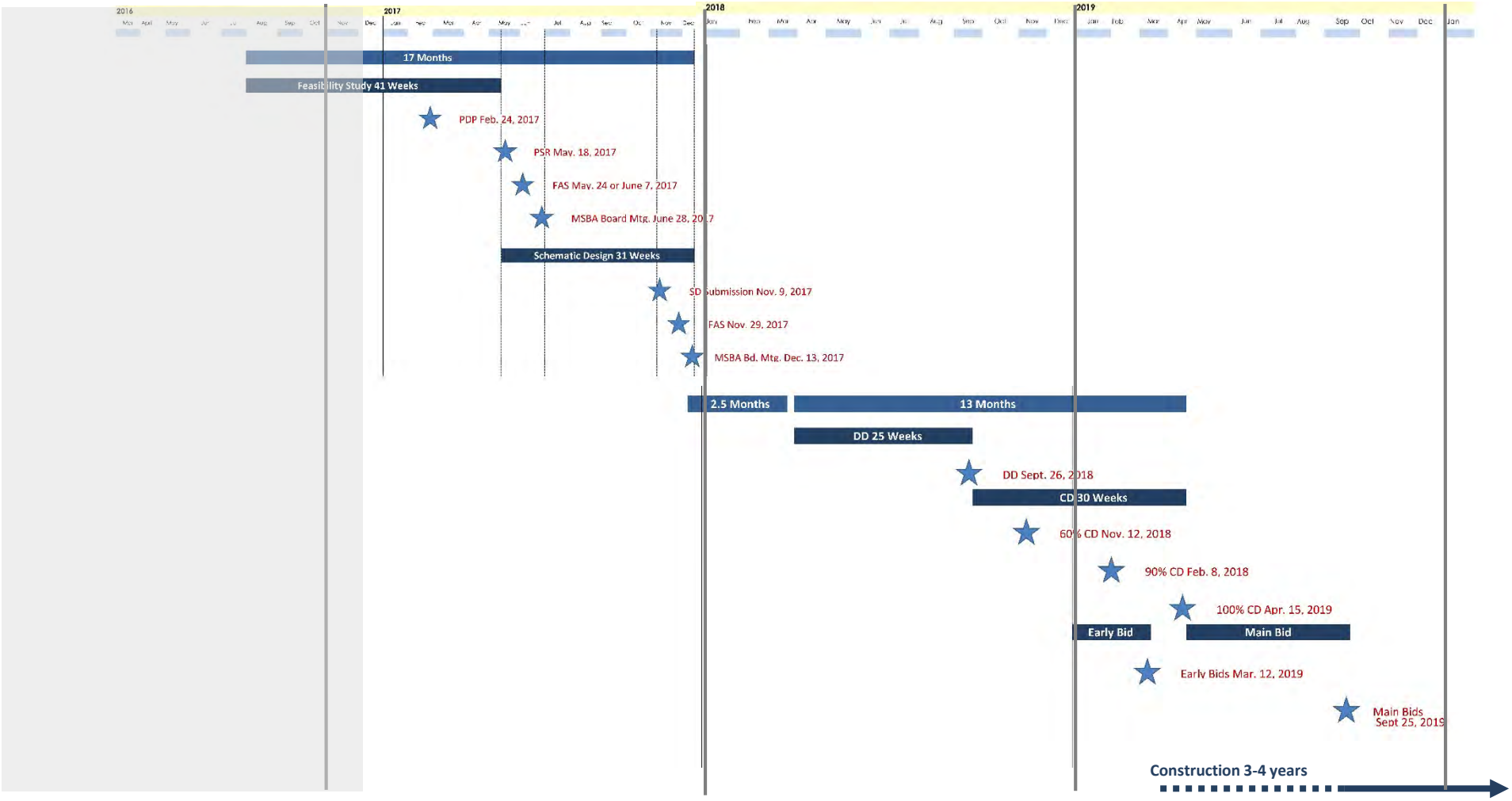
Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

The Feasibility Study (FS) is the earliest and most critical part of the process. It Includes:

- information gathering/investigation
- assessment of current conditions,
- establishment of goals/objectives,
- definition of program and needs,
- development of planning options.

Project Timeline & Decisions

Overall Design Process (will take approx. 3 yrs, + bidding/construction)



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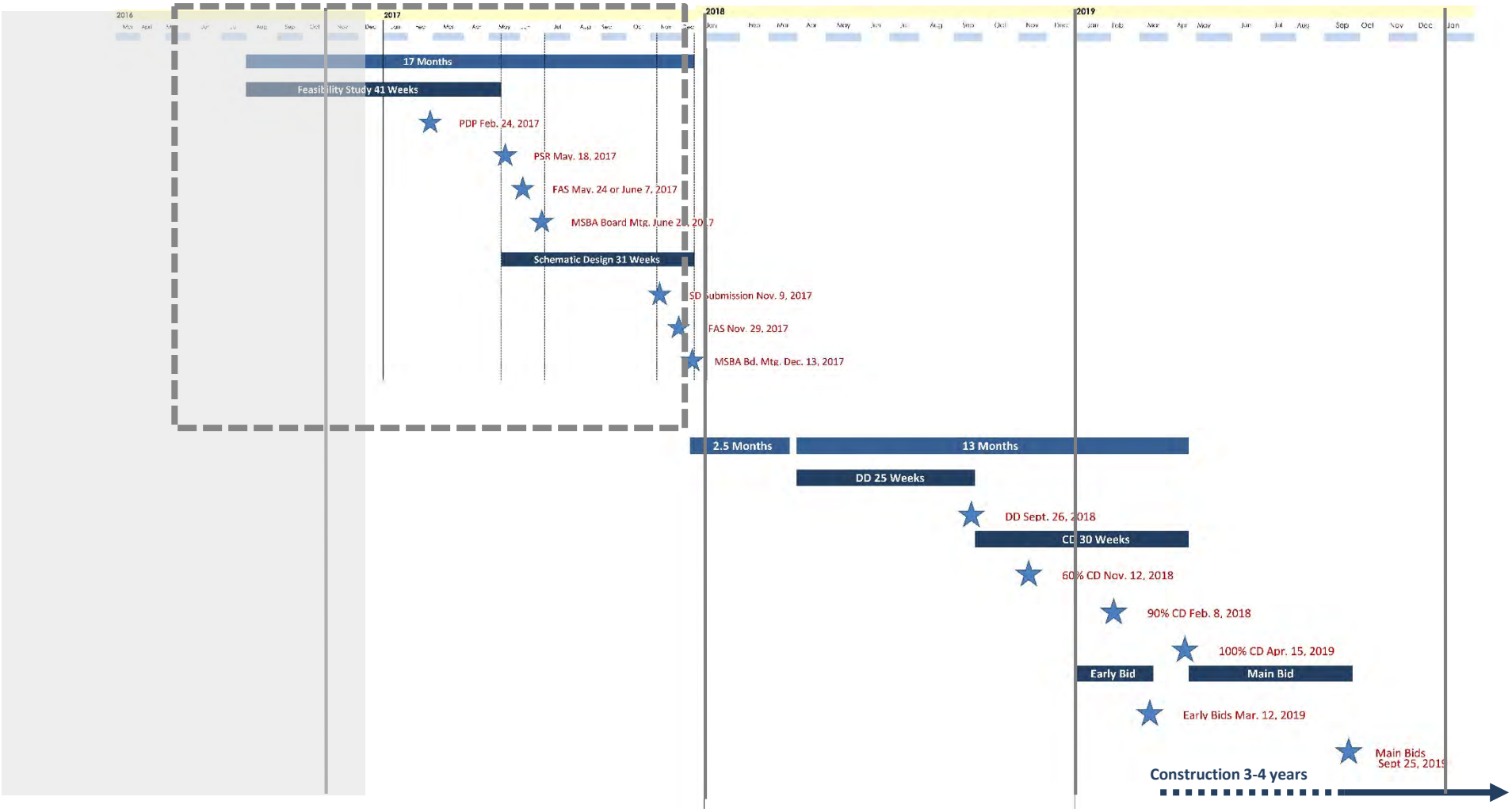
Project Timeline & Decisions

Current Phase (17 mo's from Aug. '16)



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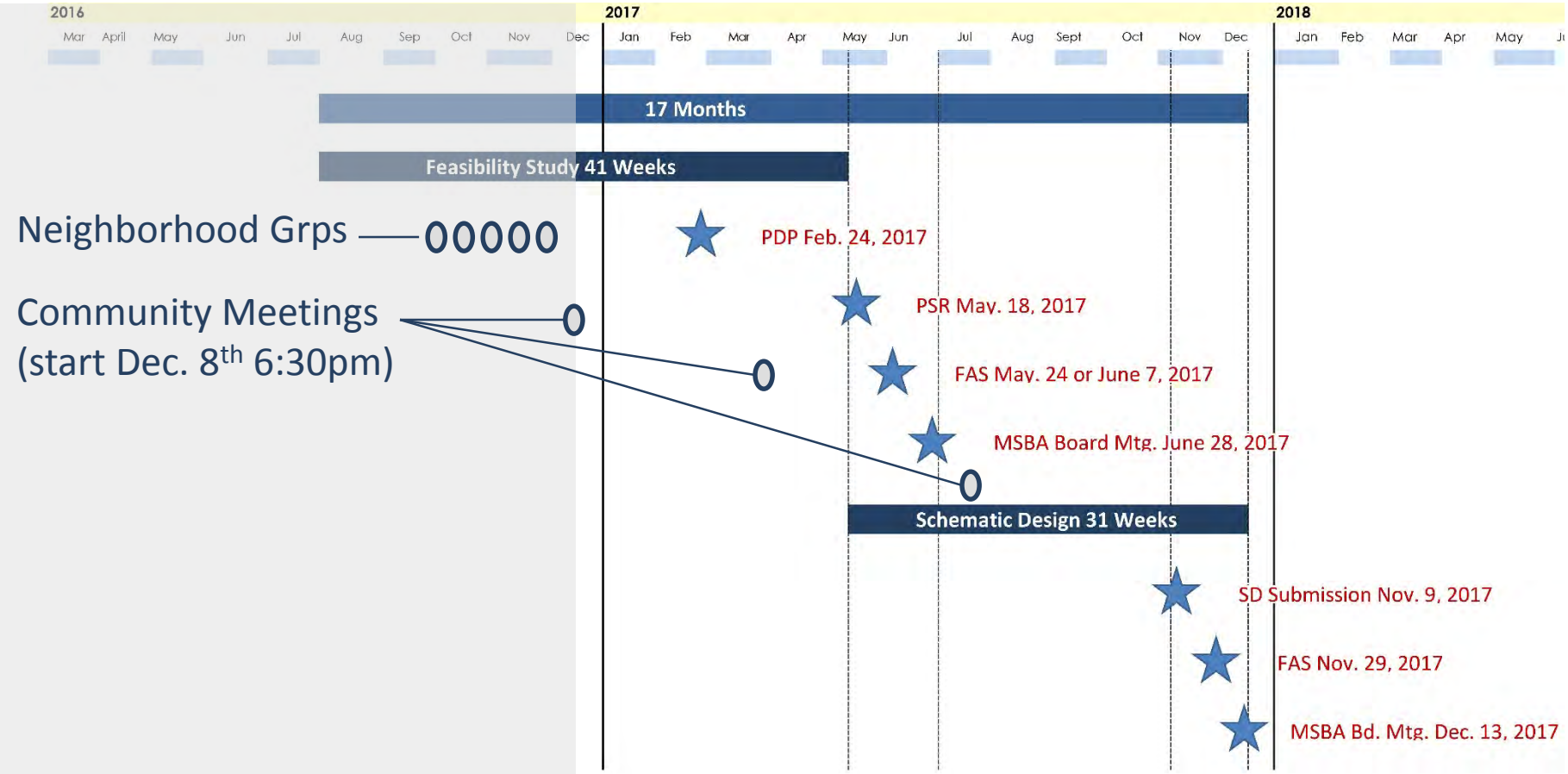
Project Timeline & Decisions

Closer Look at This Year (Most Intense in First 6 Mo's)



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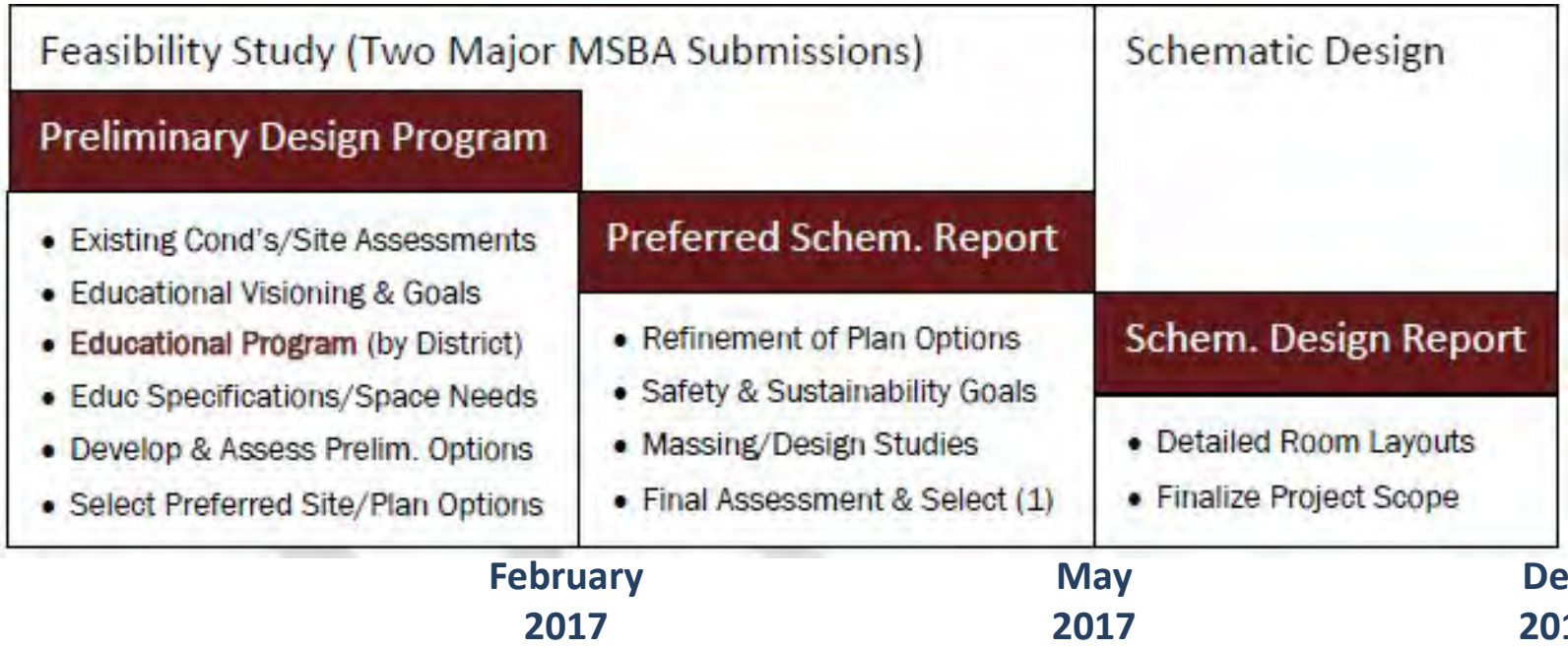

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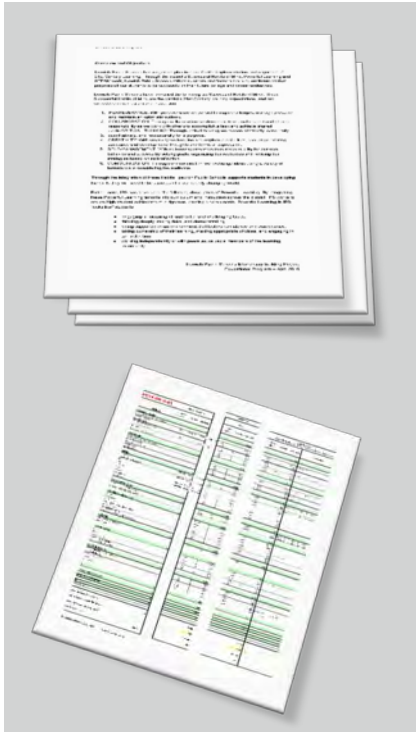

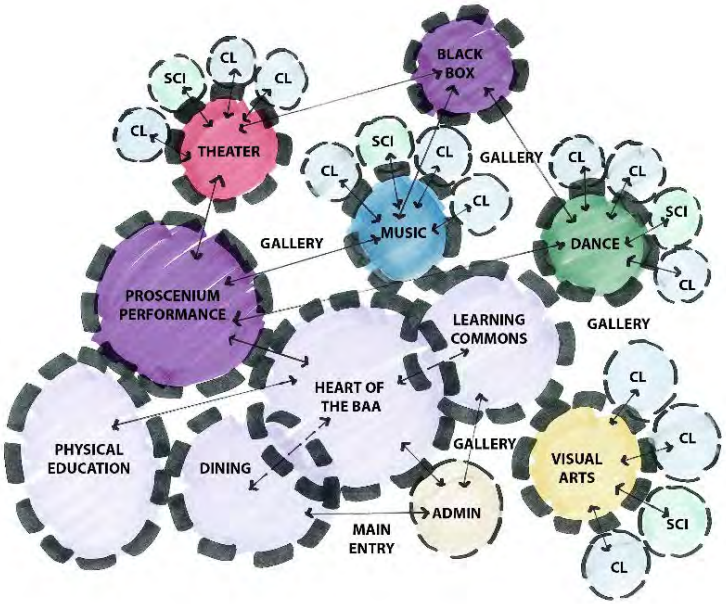



EDUCATIONAL PROGRAM, & VISION → BUBBLE DIAGRAMS & CONCEPTS → PLANS & DESIGNS

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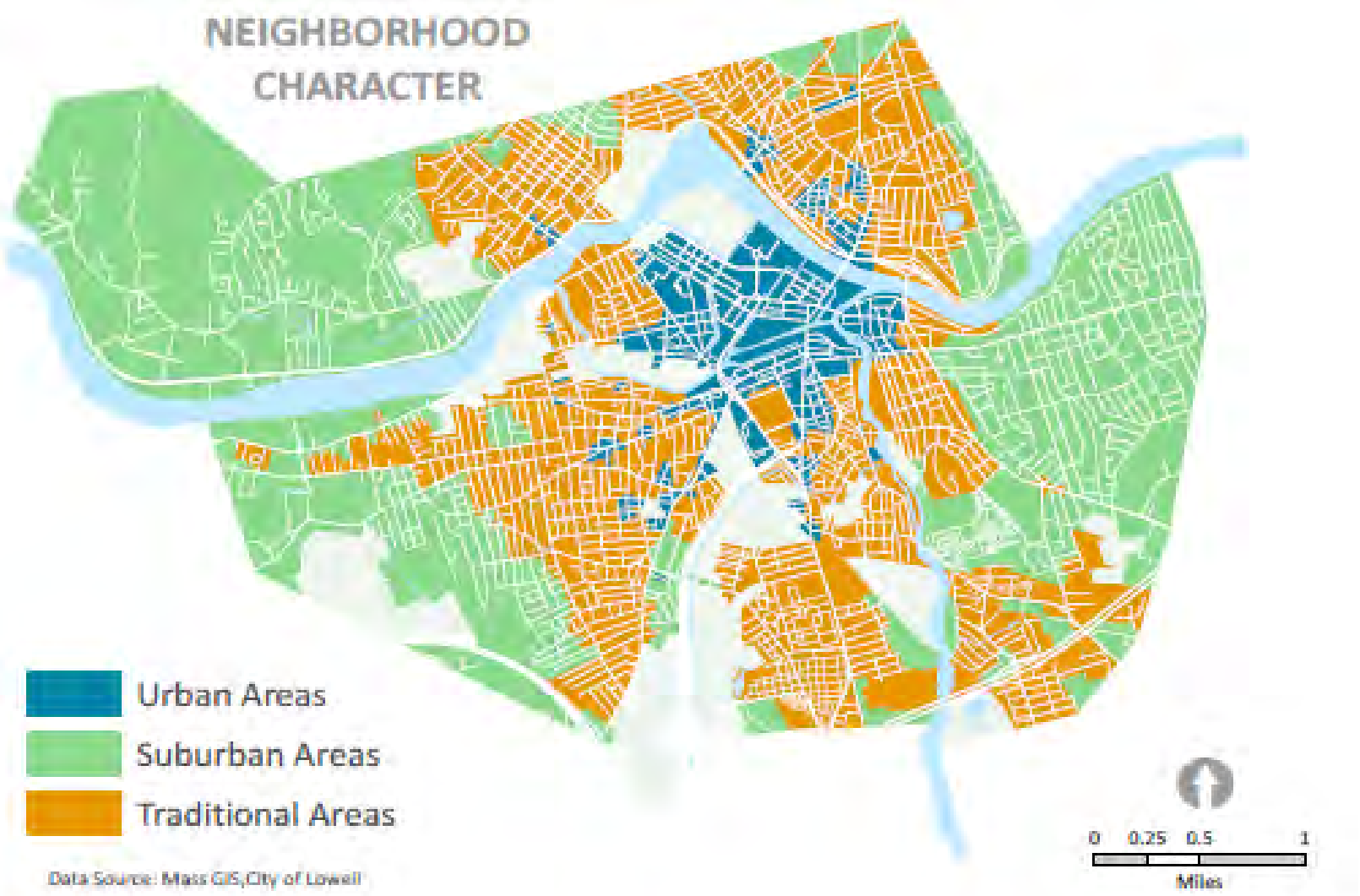
Community Involvement





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LOWELL HIGH SCHOOL PROJECT

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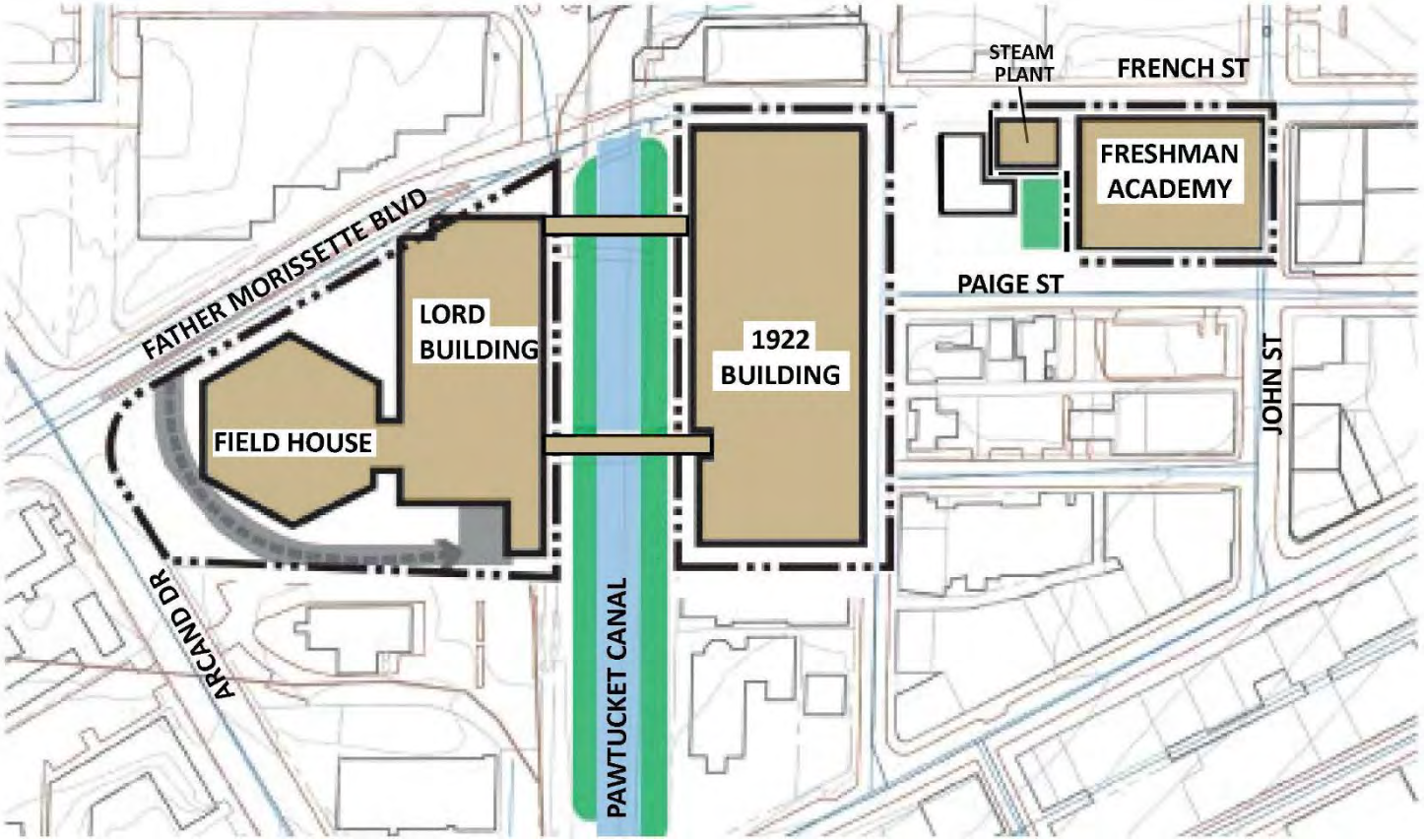
Site Selection Analysis

Most Favorable | Favorable | Less Favorable | Unfavorable | Y=Yes | N=No

Site	Acreage +/-	Usable Acreage +/-	Proximity to Public Transportation	Proximity to Parking and/or Garage	Eminent Domain Required	Utilities Available Y/N	Entirely Within Lowell City Limits	Proximity to Public Services in Miles (50 Arcand Dr.)	Sidewalks	Potential Environmental Issues	Land Use Restrictions	Historical Significance	Wetlands Y/N	Flood Plain	Zoning
Existing HS Location 50 Father Morissette Blvd.	6	6	Central Bus Hub	Ayotte Garage, John St. Garage	N	Y	Y	0	Y	Y	None known	Y	Y	N	Downtown Mixed Use (DMU)
Cawley Stadium 364 Douglas Rd.	45 +/-	30	Local Bus Routes	On Site	N	Y	Portions at Clark Rd. in Tewksbury	2.6	Rogers St.-Yes, Douglas Rd.-No	Potential Endangered Species	Title Review Req'd	Y	Y	Y	Regional Retail & Single Family (RR & SSF)
Wang MS/LeBlanc Park 475 West Meadow Rd.	56	14.7	Local Bus Routes	Limited existing	N	Y	Y	2.3	Y	Former Hospital Site	None known	N	Y	Y	Single Family (SSF)
South Common Park 171 South St.	20	2.3	Bus Routes, Train Terminal	Central & Early Garages, On Site	N	Y	Y	0.9	Y	None known	Article 97 Open Spaces	Y (Public Park)	N	N	Traditional Multi-Family (TMF)
Regatta Field 381 Pawtucket Blvd.	23	19	Local Bus Routes	N	Owned by MassDOT	Y	Y	2.4	Y	None known	None known	Y (Public Greenspace)	Y	Y	Single Family (SSF)
Rollie's Farm 1415 Varnum Ave.	11.18	11.18	Local Bus Routes	N	Y	Y	Y	3.8	Y	Potential Endangered Species	Ch. 61A Farmland Restrict.	N	Y	N	Single Family (SSF)
Carlisle St. 0 Carlisle St. Chelmsford	14	10	Local Bus Routes	N	N	Y	Entire lot in Chelmsford	2.5	N	Potential Endangered Species	None known	N	Y	N	Public Educational & Municipal (P)

Alternative Sites - Existing High School



SCALE: 1"=100'-0

BUILDABLE AREA
= 6 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy)

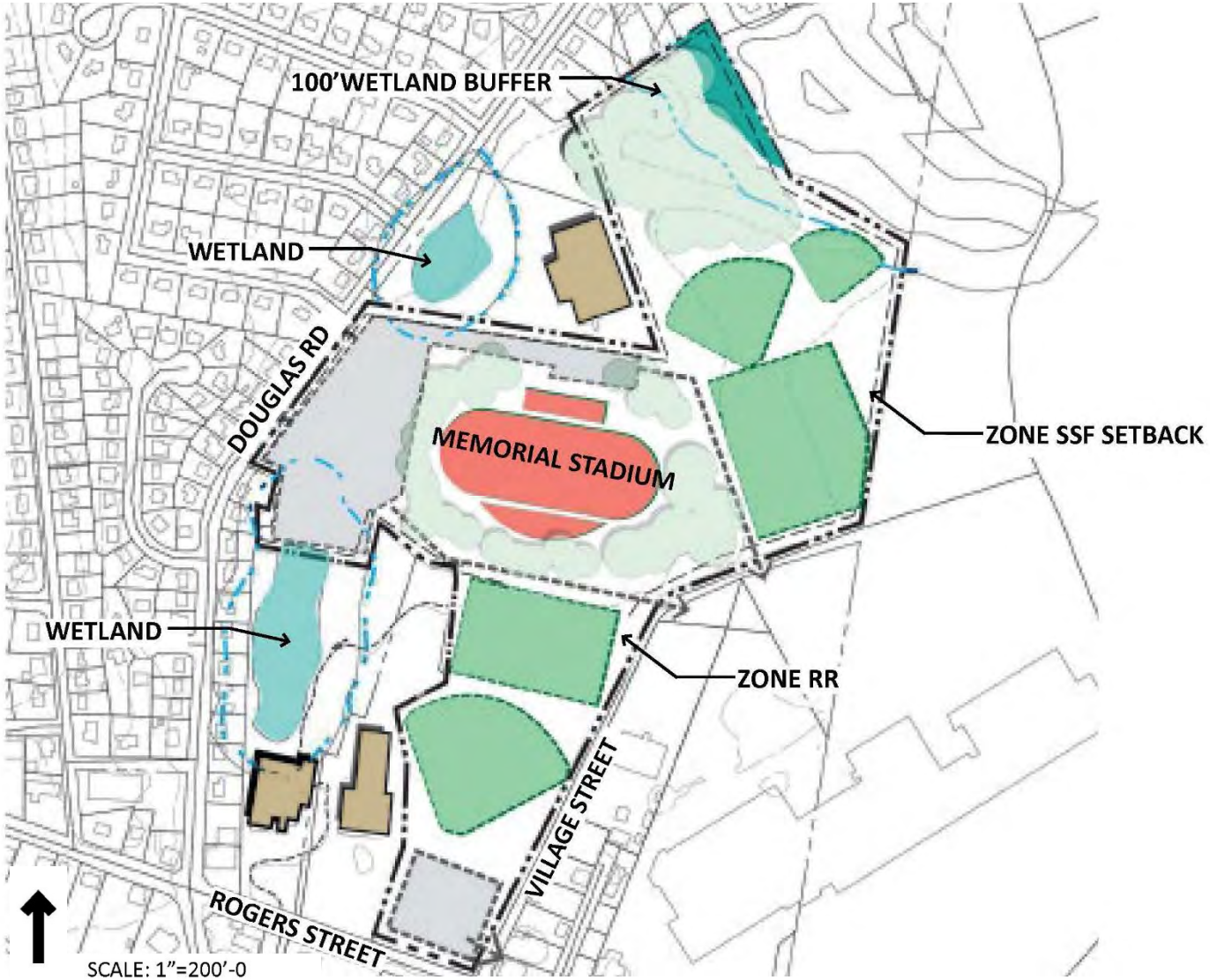
Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs

Alternative Sites - Cawley Stadium



BUILDABLE AREA
= 30 ACRES
(includes Memorial Stadium)

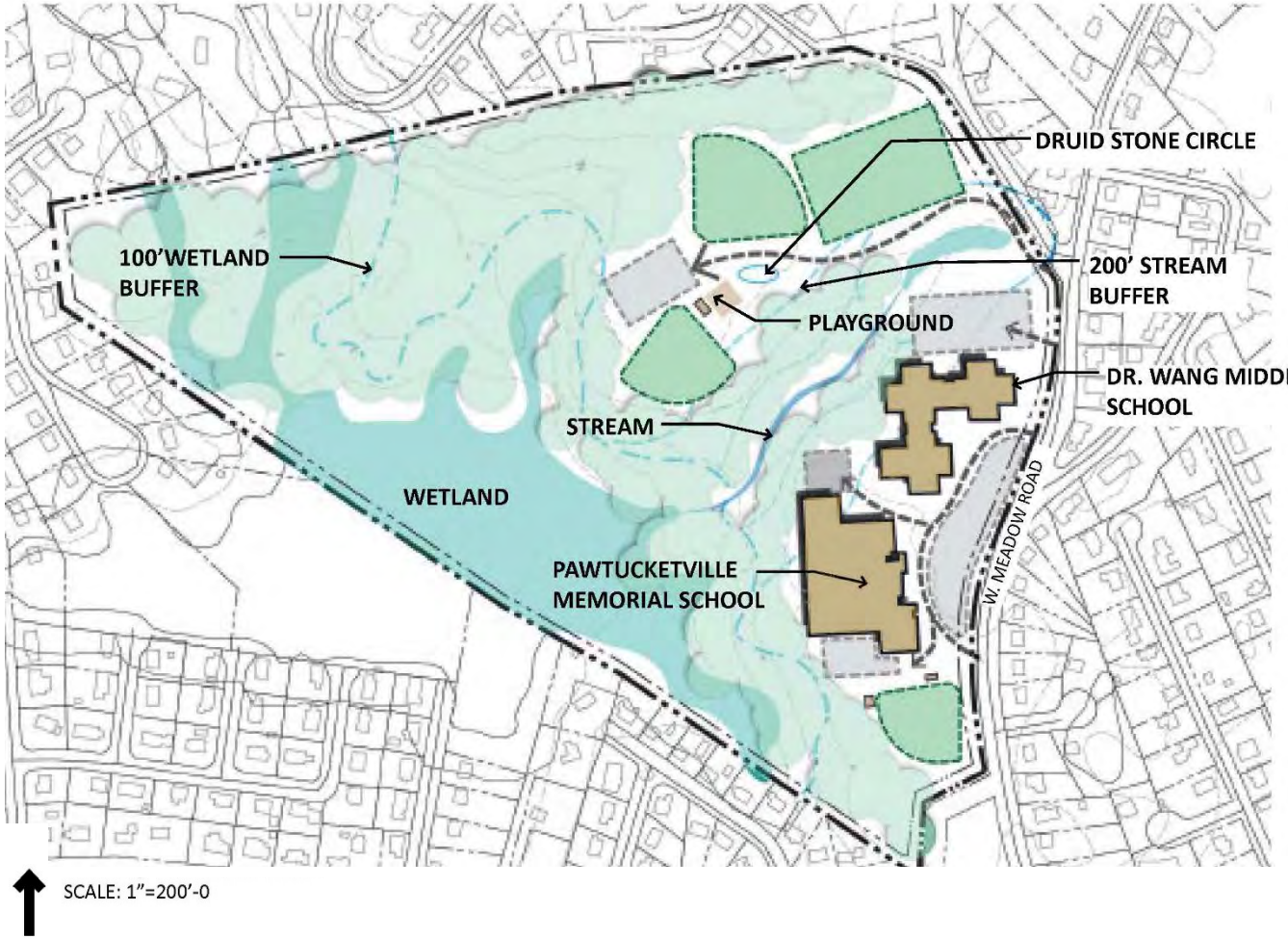
Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Loss of some existing fields
- Non-Reimbursable Site Development Costs

Alternative Sites -Wang/LeBlanc Park



BUILDABLE AREA
= 14.7 ACRES

Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Elementary/MS Students on Same Campus as High School
- Loss of Some Ball Fields

Vision & Goals

The Visioning Process





Vision & Goals

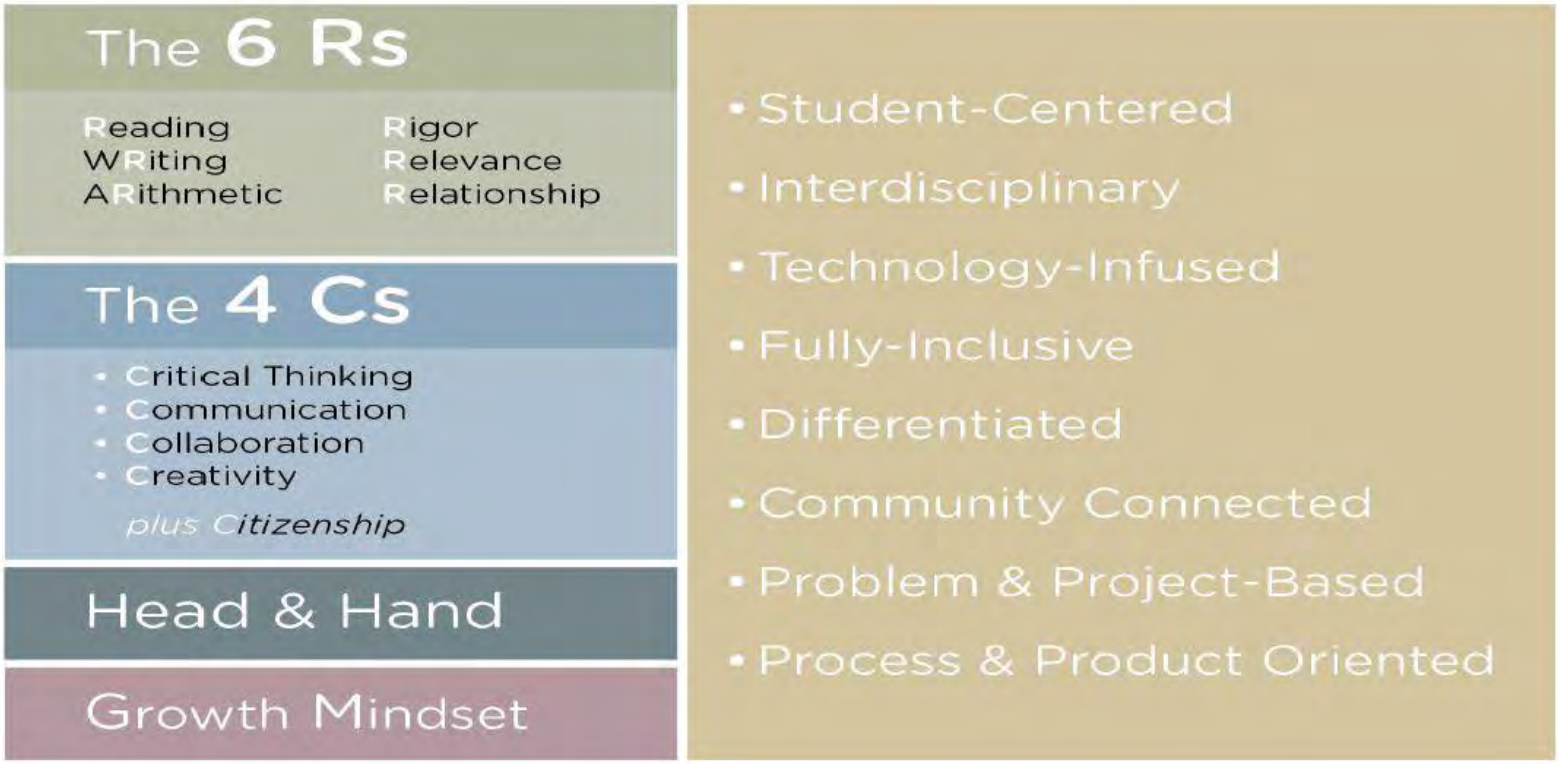
Some LHS Initiatives

- Freshman Academy
- Increasing number of co-taught classrooms
- Extended learning opportunities: internships, field studies, authentic contexts
- Generation Citizen – Action Citizenship
- Engineering – PLTW/STEM
- International Institute – ELL
- Lowell Latin Lyceum
- Fine and Performing Arts



Vision & Goals

21st Century Teaching and Learning



Vision & Goals

Priority Setting / Guiding Principles ☆

- Joyful environment ☆
- Safe and comfortable
- Flexible and adaptable ☆
- Meets needs of whole child ☆
- 21st century learning spaces
- Fosters collaboration and community
- Real-world, project-based and integrated instruction ☆
- Robust, integrated and evolving technology
- Community access and integration ☆
- Historical context

Vision & Goals

New School Design Patterns

Civic Presence



HRBI-Dream Academy Charter School | Harlem, NY – Perkins Eastman

Vision & Goals

New School Design Patterns

Secure and Welcoming



High Tech CV| Chula Vista, CA – Studio E



School Without Walls Senior High | Washington, DC – Perkins Eastman

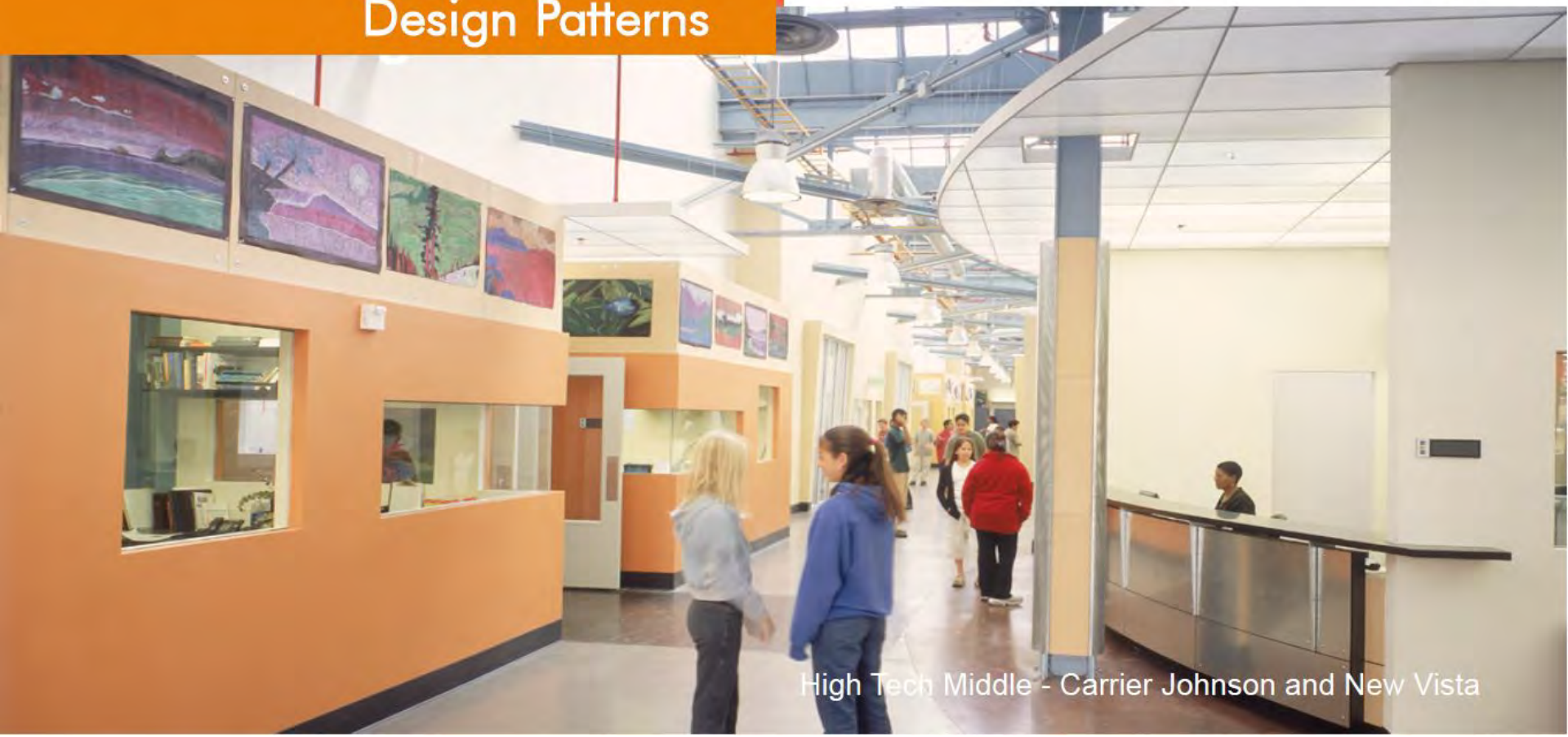


Latin American Montessori | Washington, DC - Perkins Eastman

Vision & Goals

New School
Design Patterns

Wayfinding & Streetscapes



Vision & Goals

New School
Design Patterns

Heart of School



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SKANSKA newvistadesign Envisioning 21st Century Schools
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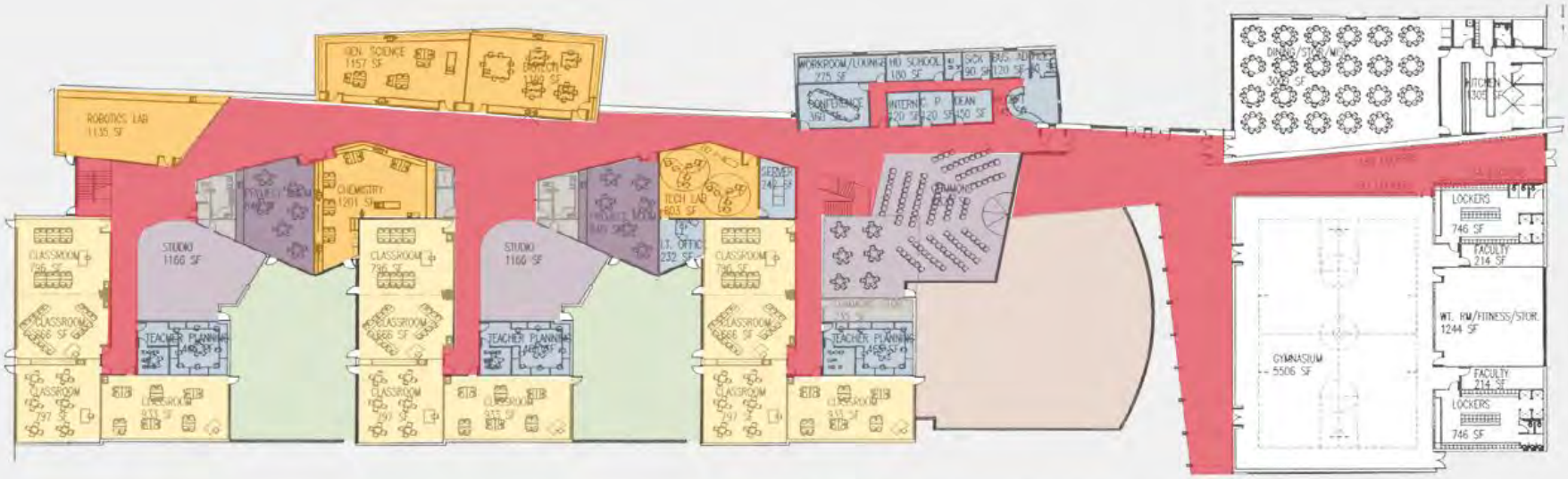
Vision & Goals

New School Design Patterns

Clusters of Learning



DSST - klipp Architects and New Vista

Vision & Goals

New School
Design Patterns



Between Spaces



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Vision & Goals

New School Design Patterns



Outdoor Connections



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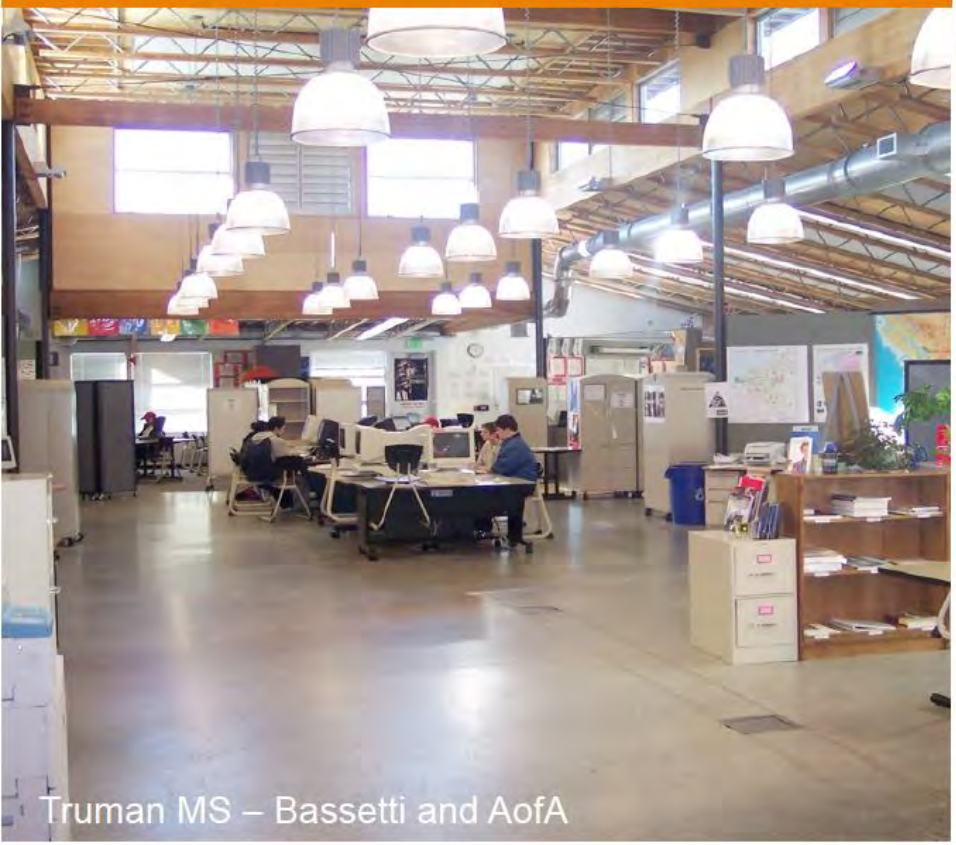
New School Design Patterns



Truman MS – Bassetti and AofA

Building as Teacher



DSST – klipp and New Vista

Preliminary Design Options

- **1. Base Repair** (replace systems past their useful life & code upgrades but does meet Educational Program Objectives)

- **2. Full Renovation w/ Small Addition** (requires creation of Academic swing space)
  - 2A. Renovate available space in nearby buildings(s) for ¼ population?
  - 2B. Create Temporary/Modular CRs using portion of Father Morrissette Blvd?
  - 2C. Create Temporary/Modular CRs via use of upper Garage Level?

- **3. Renovation w/ Rebuild of Freshman Academy, Gym & Portion of Lord Building** (requires temp PE/Athletics)
  - 3A. Temporary Gymnasiums(s) via use of upper Garage Level
  - 3B. PE/Athletic programs off-site for 1 yr. (use nearby Arena, Gyms, Pools?)

- **4. Renovation w/ Rebuild of Freshman Academy, Gym & Full Lord Building** (requires temp PE/Athletics)

- **5. New Construction**
  - Existing Site – New West side of the Canal/Reno East Side (requires swing space)
  - New Site

General Discussion - We Want to Hear From You



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Community Involvement / Next Steps

How can I continue to learn more about the project?

As the Feasibility Study evolves, there will be opportunities for community input and engagement.

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Questions may be directed to the City Manager's Office.

Next Community Presentation – date T.B.D.



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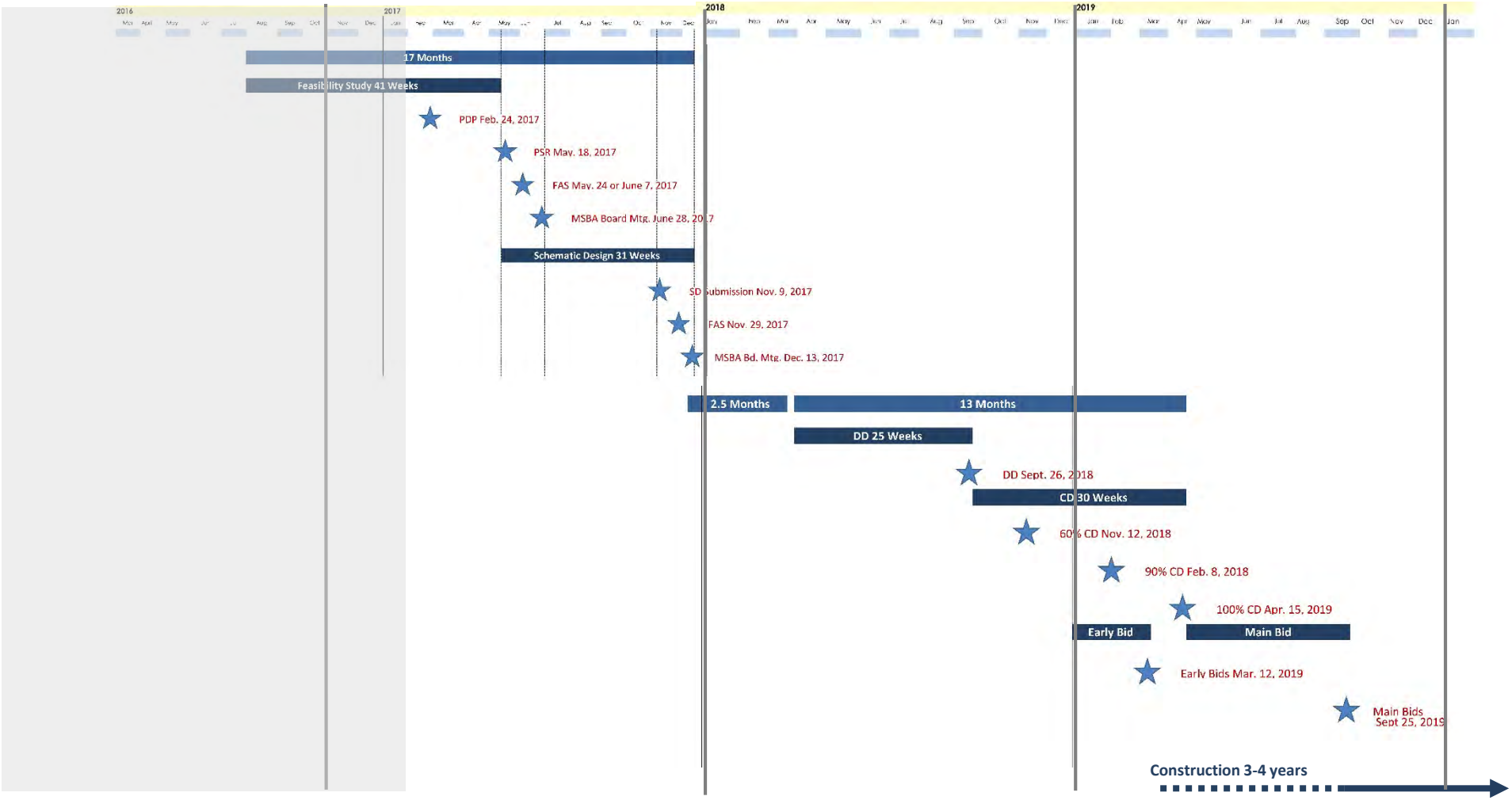
LOWELL HIGH SCHOOL PROJECT

FEBRUARY 2ND 2017

Meeting with City Business Group
(original LSBC presentation 1/1/'17)

Project Timeline & Decisions

Overall Design Process (takes approximately 3 yrs, + bid/construction)



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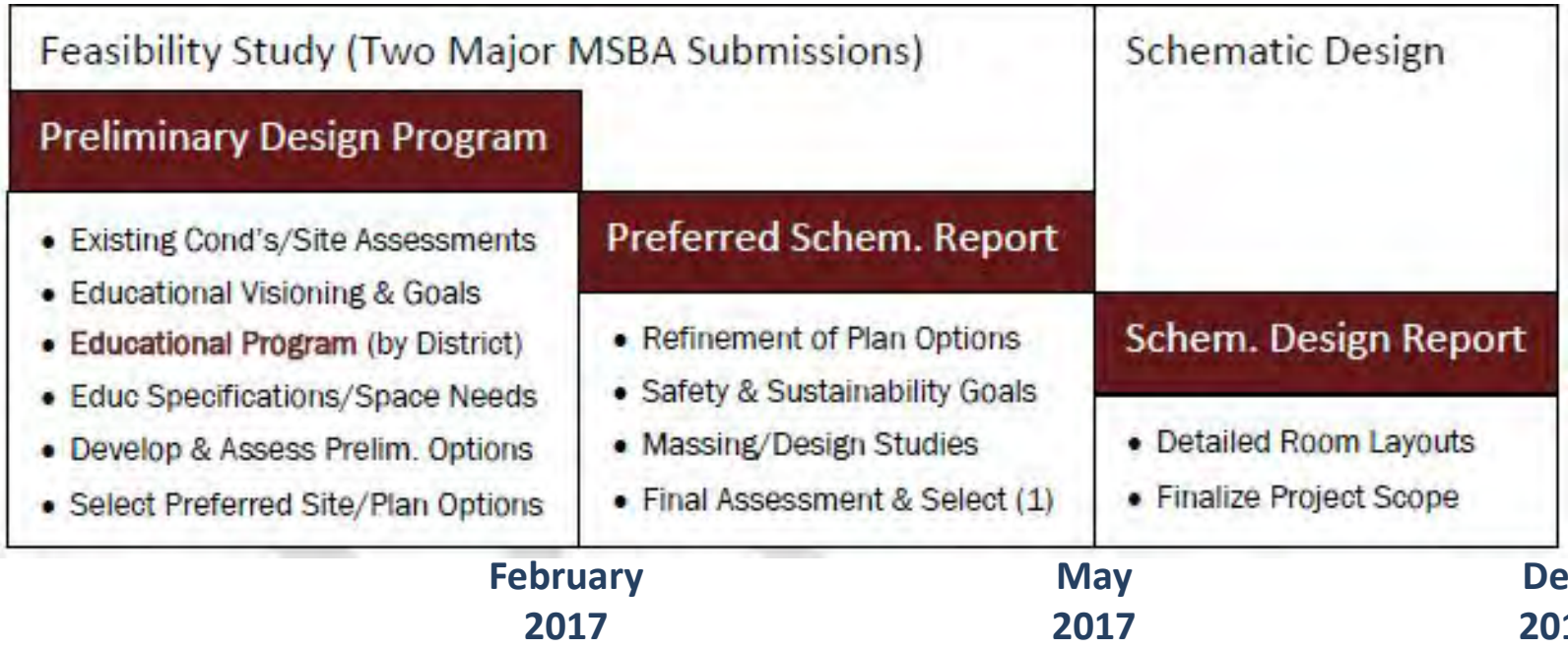


Existing Site - Full Renovation



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6+

BUILDABLE AREA = 6.94 ACRES

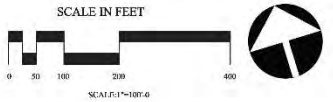
Note: Test fit in progress to determine if program fits on site

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Internal academic spaces w/ no natural light



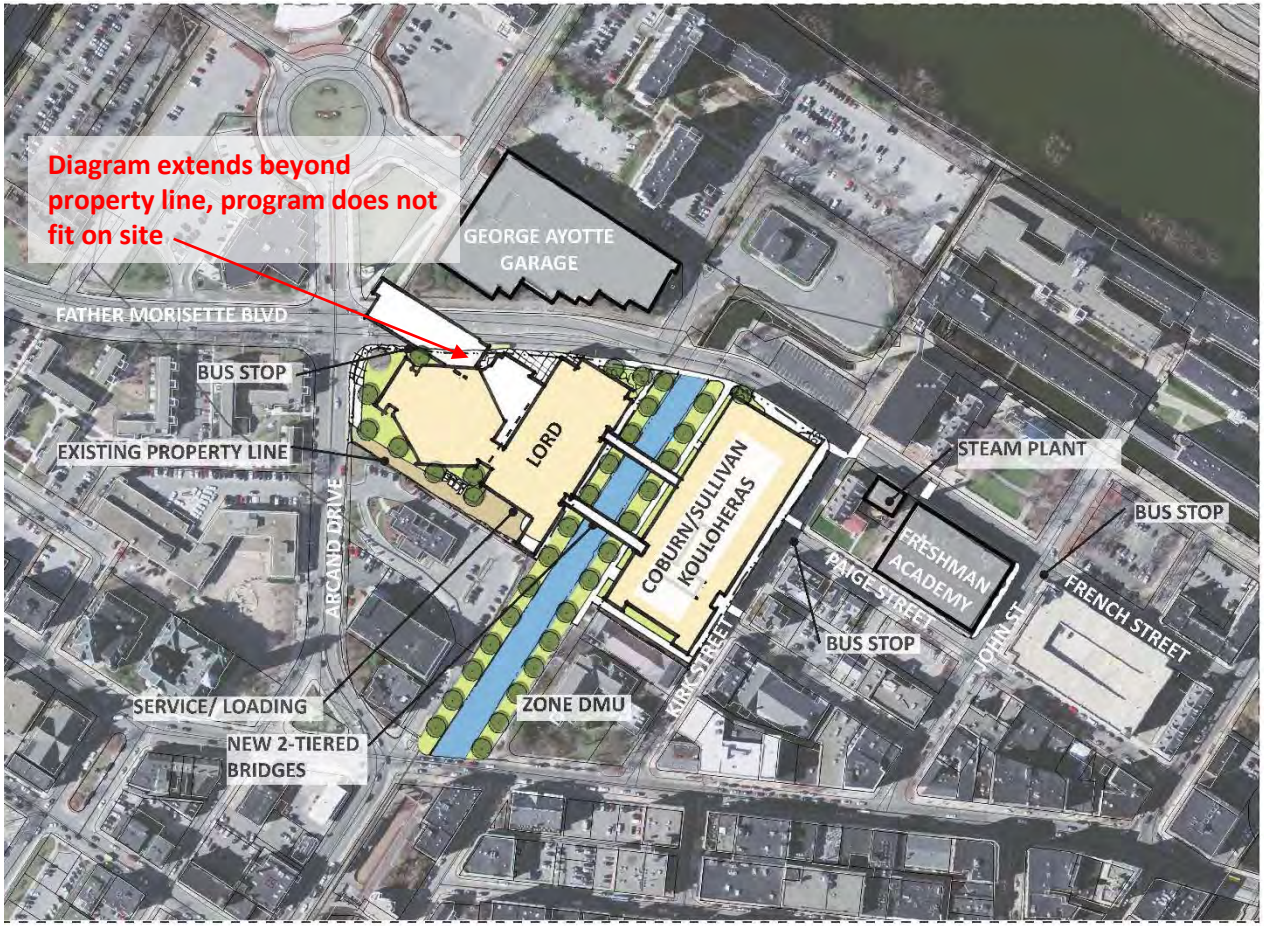
LOWELL

LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Existing Site – Addition/Renovation Option 1



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6+

BUILDABLE AREA = 6 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy) Returns Freshman Academy & Steam Plant to City

Pros:

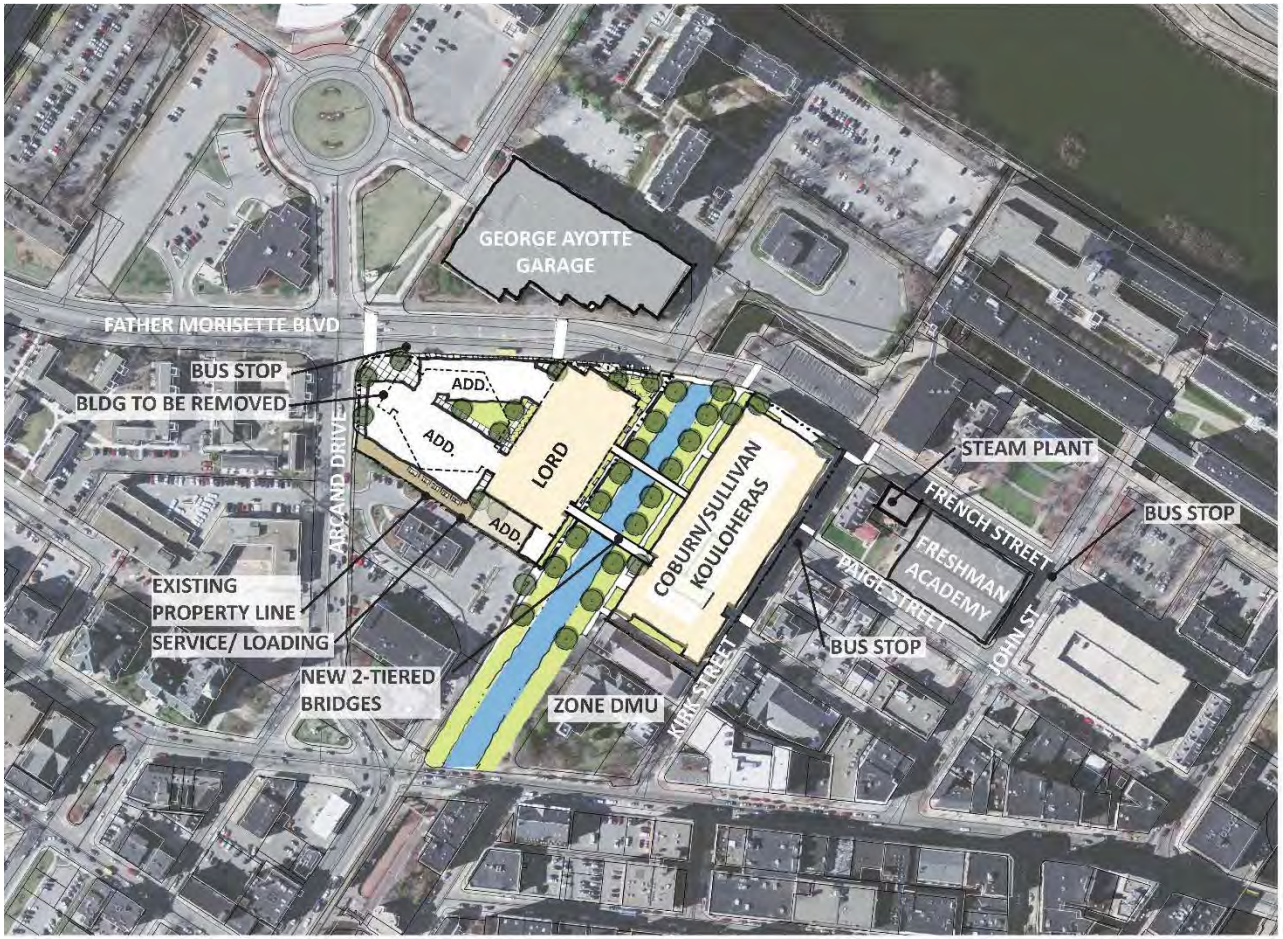
- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Program doesn't fit on site
- Internal academic spaces w/ no natural light
- Less efficient building



Existing Site – Addition/Renovation Option 2



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6

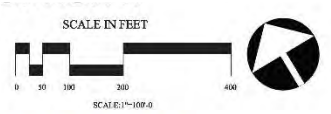
BUILDABLE AREA = 6 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy)
Returns Freshman Academy & Steam Plant to the City

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- Meets the Program

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Internal academic spaces w/ no natural light



LOWELL

LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Expanded Existing Site – Addition/Renovation Option 3



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE (WITH EXPANDED SITE)=8.0
USED ACREAGE=8.0

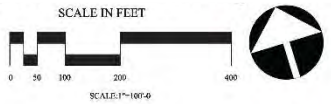
BUILDABLE AREA = 7.4 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy)
Returns Freshman Academy & Steam Plan to the City

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- On campus PE fields
- Improved service/loading area
- Meets the Program
- Natural Light in all Academic Spaces

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs

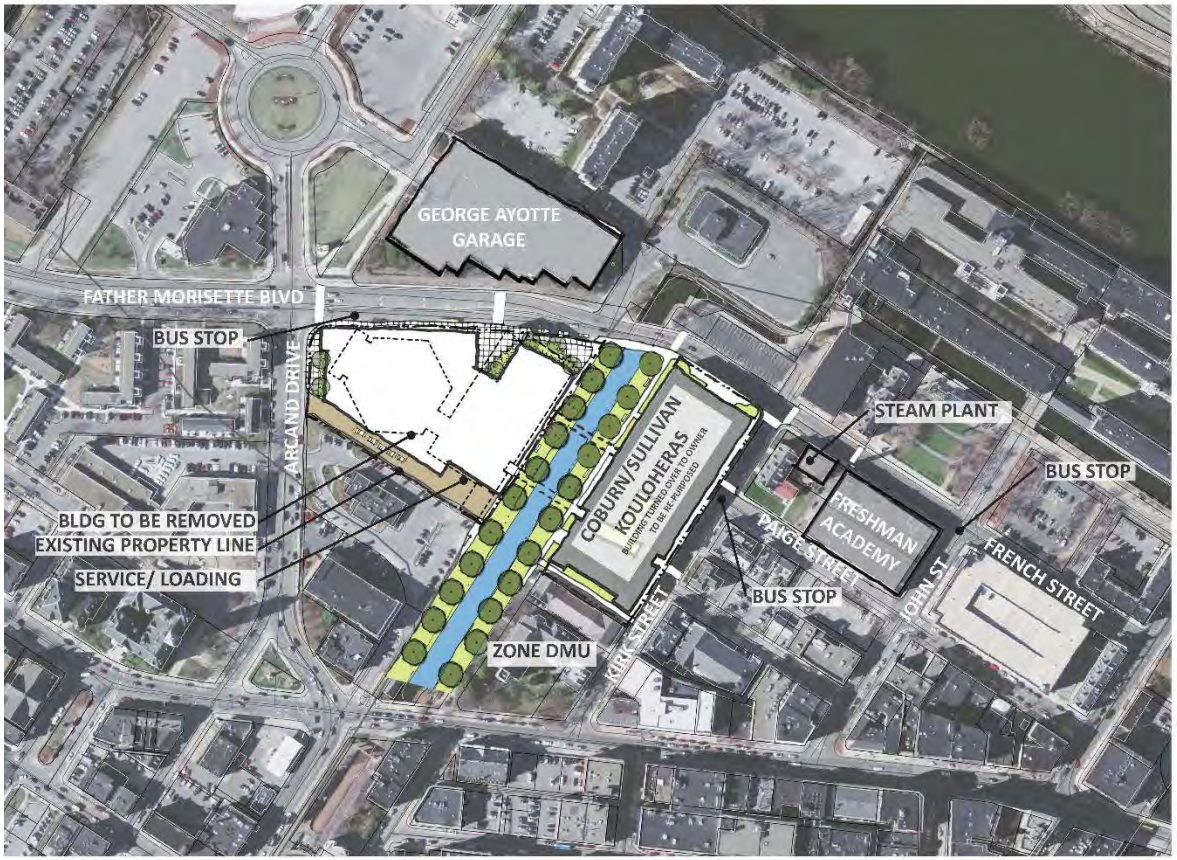


LOWELL

LOWELL HIGH SCHOOL PROJECT

SKANSKA
Perkins Eastman | DPC

New School at Existing Site



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6

BUILDABLE AREA = 2.7 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy & 3.3 acres for Coburn/Sullivan/Kouloheras)
Returns C/S/K, Freshman Academy, Steam Plant to City

Pros:

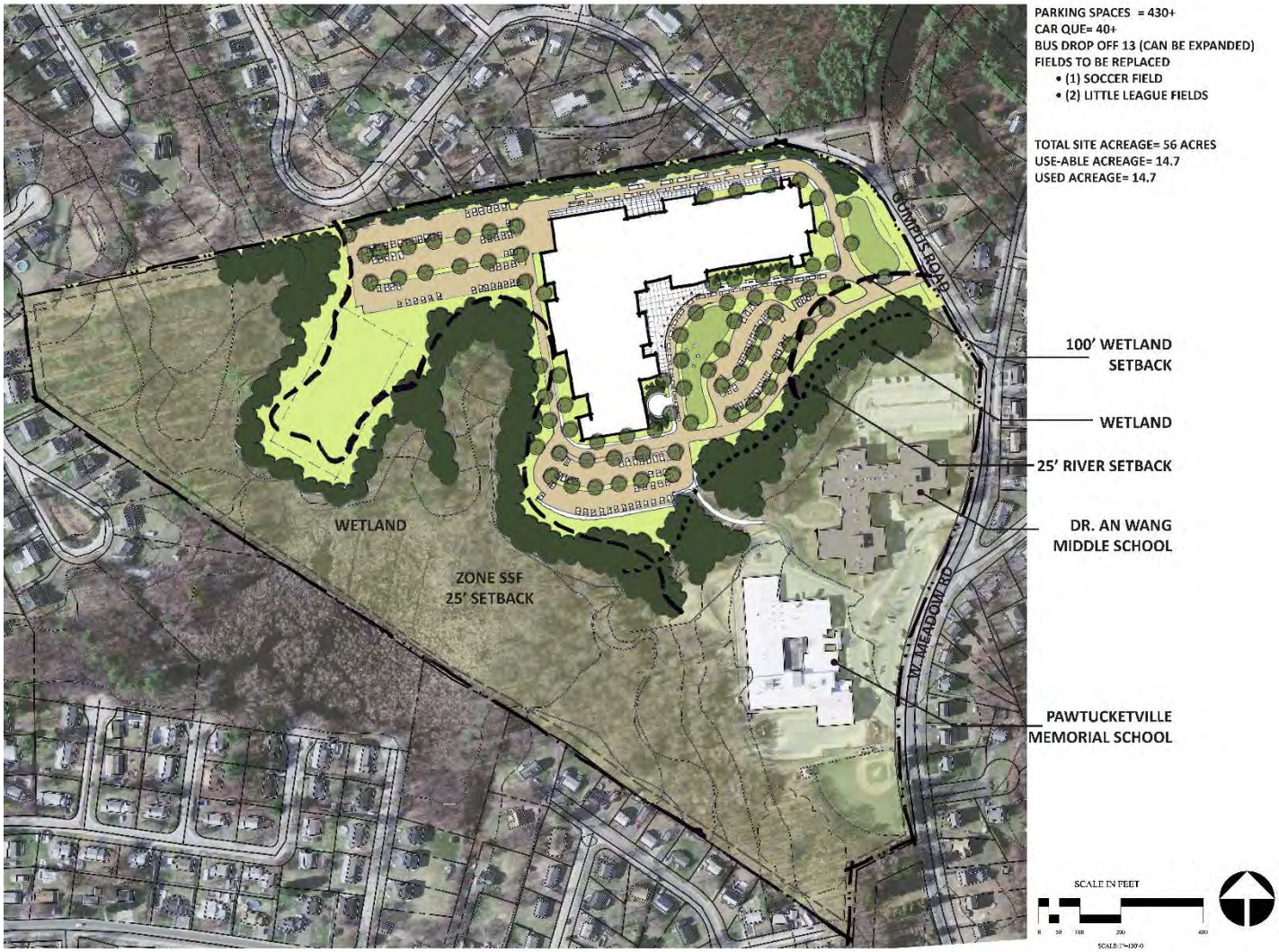
- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- Meets program
- New construction
- More Efficient Building
- Fits all program

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- High rise w/ additional mechanical costs
- Some internal academic spaces w/ no natural light



Wang Site



BUILDABLE AREA = 14.7 ACRES

Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add
- More efficient building
- No phasing
- On-site parking/bus queueing/drop off & pick-up
- On-site PE field

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Elementary/MS Students on Same Campus as High School
- Loss of Some Ball Fields
- Heavy traffic in residential area
- Non-reimbursable site development costs

Cawley Site



BUILDABLE AREA = 30 ACRES
(includes Memorial Stadium)

Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add
- More efficient building
- No phasing
- On-site parking/bus queueing/drop off & pick-up
- On site PE fields

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Loss of some existing fields
- Non-Reimbursable Site Development Costs

Next Steps

- January 6 Send Design Options to Estimators
- February 1 School Committee Vote on Ed. Plan
- February 2 SBC Mtg.? (Ed Plan and draft PDP Submittal review)
- February 7 City Council Meeting
- February 9 SC/ SBC Mtg. (Ed Plan and Approval PDP Submittal Review)
- February 16 SBC Possible Additional Mtg.? (Vote on approval of PDP Submittal)
- February 24 PDP Submittal to MSBA

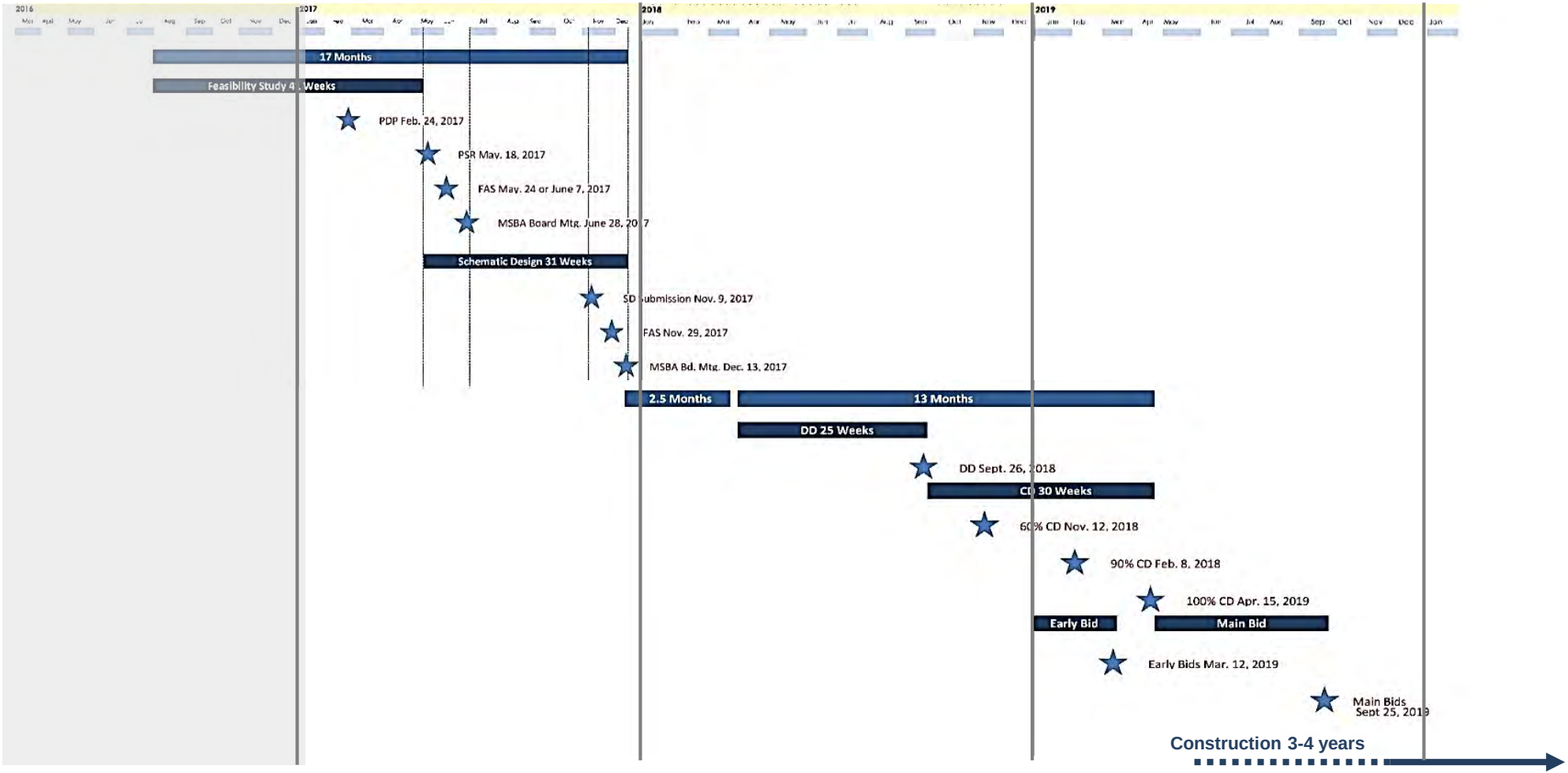


LOWELL HIGH SCHOOL

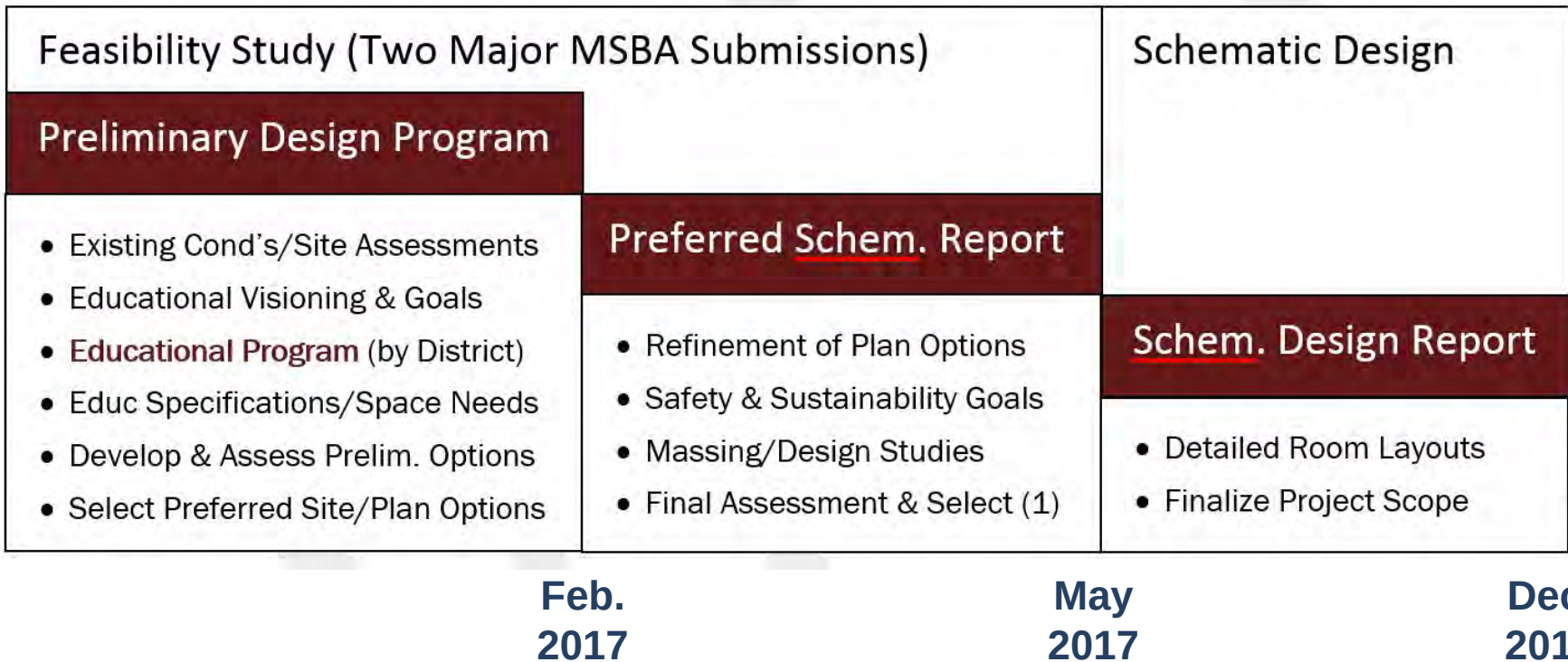
BELVIDERE RESIDENCE COUNCIL

FEBRUARY 8, 2017

Perkins Eastman SKANSKA


2016
2017
2018
2019
17 Months
Feasibility Study 4 Weeks
PDP Feb. 24, 2017
PSR May. 18, 2017
FAS May. 24 or June 7, 2017
MSBA Board Mtg. June 28, 2017
Schematic Design 31 Weeks
SD Submission Nov. 9, 2017
FAS Nov. 29, 2017
MSBA Bd. Mtg. Dec. 13, 2017
2.5 Months
13 Months
DD 25 Weeks
DD Sept. 26, 2018
CD 30 Weeks
60% CD Nov. 12, 2018
90% CD Feb. 8, 2018
100% CD Apr. 15, 2019
Early Bid
Main Bid
Early Bids Mar. 12, 2019
Main Bids Sept 25, 2019
Construction 3-4 years

The current phase of work within the MSBA program occurs in 3 major submission over a 16 month period



EXISTING ACREAGE = 6.6

BUILDING (GSF) = 628,000

EXISTING 2, 3 & 5 STORY

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED
+ BUILDING SYSTEMS REPAIRED / REPLACED AND CODE ISSUES RECTIFIED
- DOES NOT MEET EDUC. PLAN OBJECTIVES
- DOES NOT MEET SPACE NEEDS/STANDARDS
- NOT FUNDED UNDER CURRENT MSBA PRGM
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGH OPERATING COSTS (SIZE+ENV.)

CONSTRUCTION

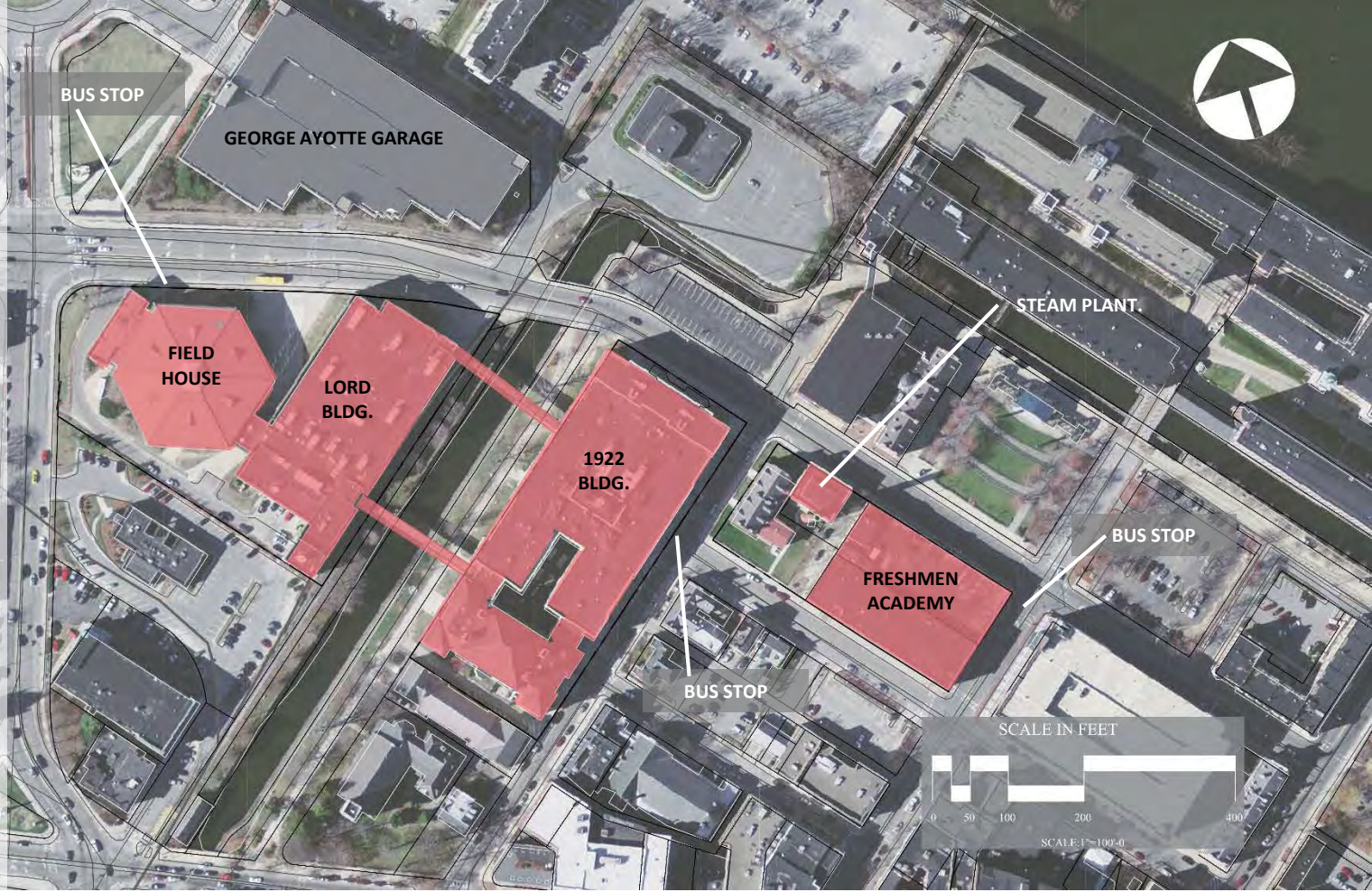
5 YEAR PHASED PROJECT

- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $270,770,322

ESTIMATED CITY'S SHARE = $73,242,815



Lowell High School

BASE REPAIR OF EXISTING

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 6.4

BUILDING (GSF) = 641,600

RENOVATION AREA (GSF) = 623,700

ADDITION/ NEW AREA (GSF) = 17,900

EXISTING 2, 3 & 5 STORY + 2 STORY ADDTN

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ MEETS ALL SPACE NEEDS (COUNT/SIZE)
+/- MEETS SOME EDUC. OBJECTIVES
- COMM./ACTIVITY AREAS SPREAD/SPLIT
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGHER OPERATING COSTS (SIZE+ENV.)

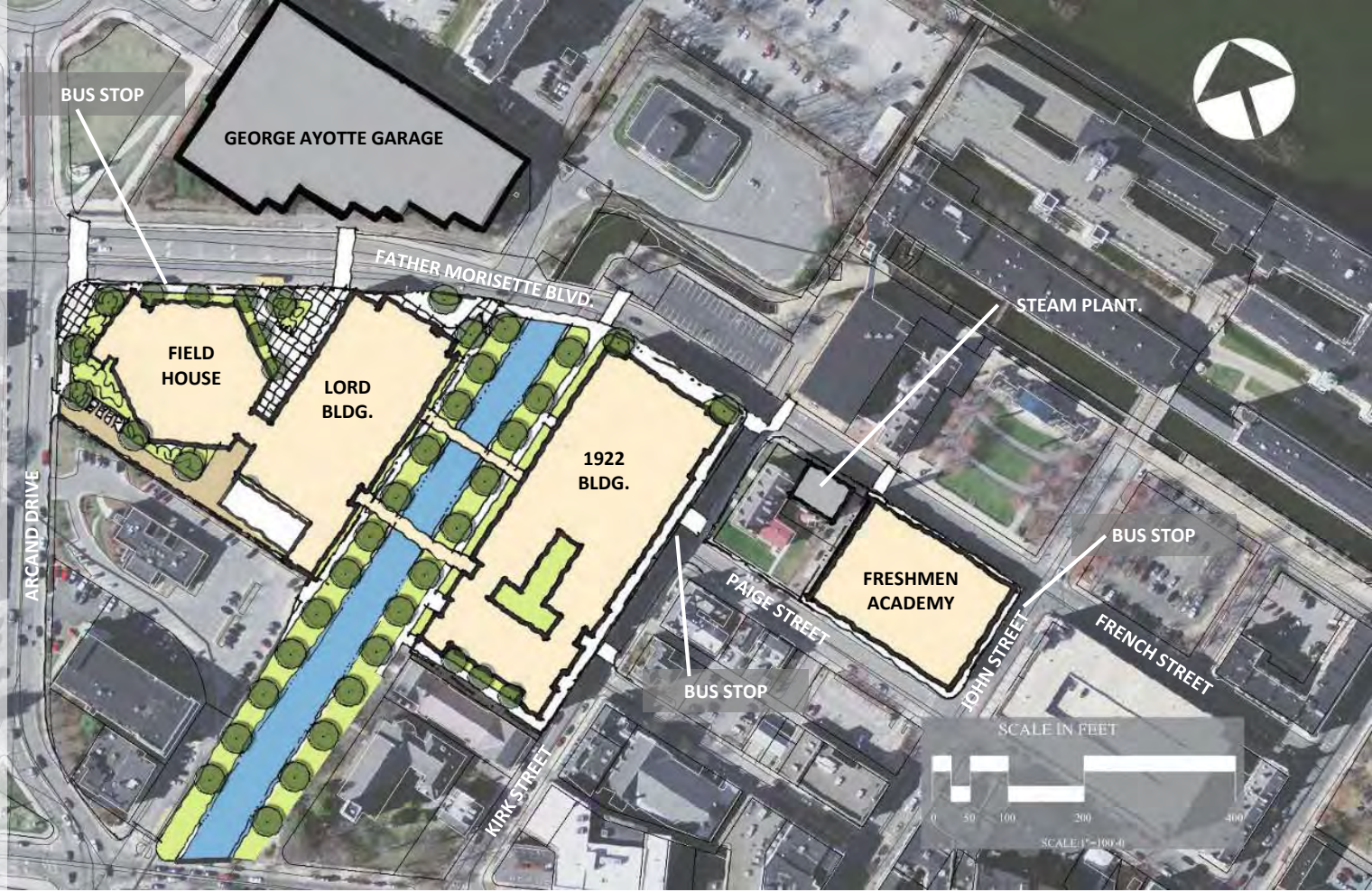
CONSTRUCTION

5 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $331,360,298

ESTIMATED CITY'S SHARE = $116,472,533



Lowell High School | FULL RENOVATION (EXISTING)

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 617,400

RENOVATION AREA (GSF) = 529,100

ADDITION/ NEW AREA (GSF) = 88,300

NEW 2 & 3 STORY ADDITIONS, INCLUDING 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS FULL-RENO, EXCEPT;

+ FRESHMAN RELOCATED ON CAMPUS
+ FORMER BLDG AVAILABLE FOR REUSE
+ NEW ENTRY/FACE TO THE SCHOOL
+ NEW 2-TIER BRIDGES (CIRC./SAFETY)

CONSTRUCTION

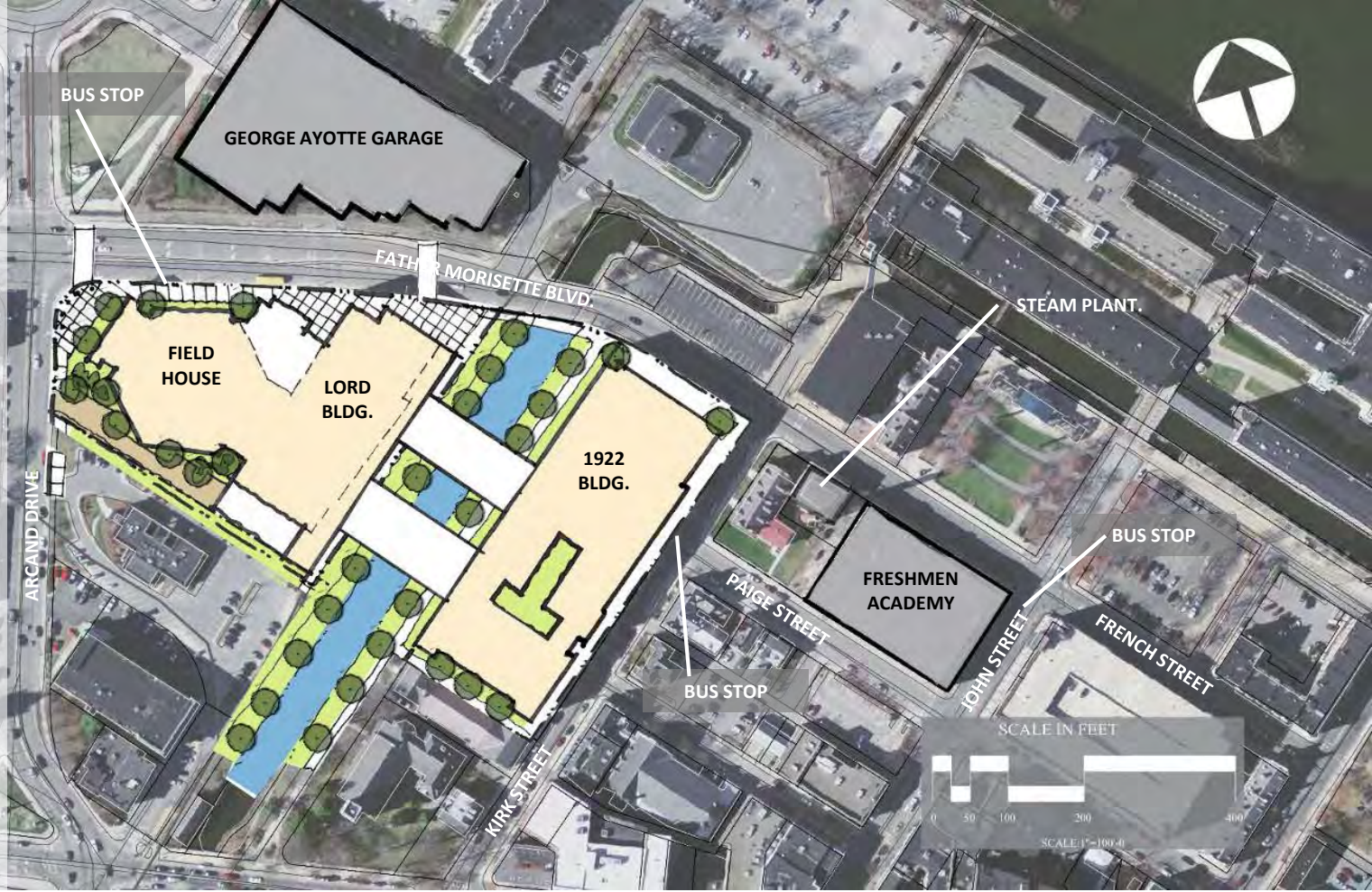
4½ YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $340,980,538

ESTIMATED CITY'S SHARE = $132,448,689



BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 624,100

RENOVATION AREA (GSF) = 454,100

ADDITION/ NEW AREA (GSF) = 170,000

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 1A, EXCEPT;

+ NEW FRESHMAN WING (IDEAL ORG/SUN)
+ NEW FIELD HS (MORE EFFIC./FLEXIBLE)
+ MODEST GREEN SPACE CREATED

CONSTRUCTION

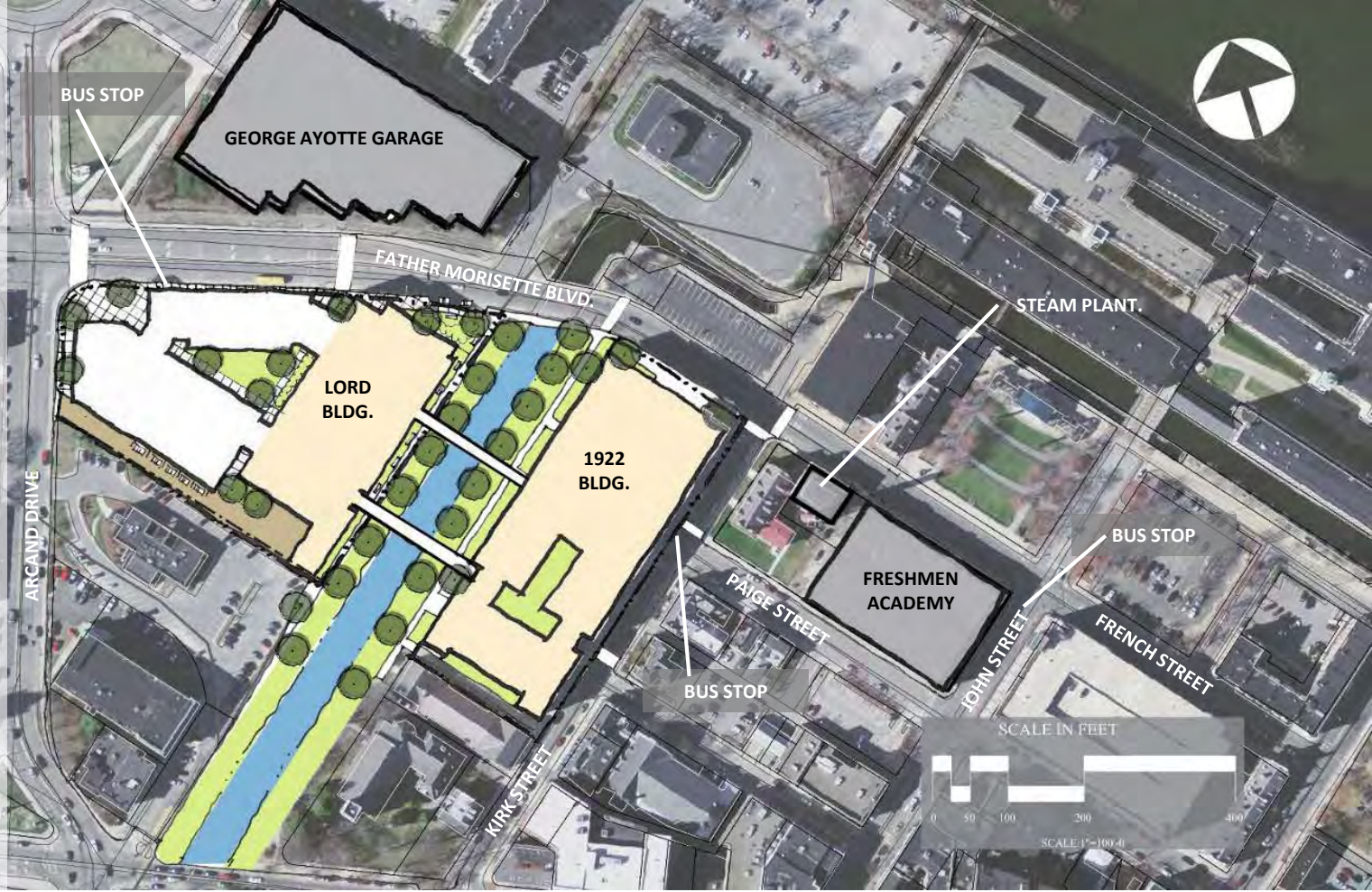
4 YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $344,087,262

ESTIMATED CITY'S SHARE = $135,614,525



BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 638,700

RENOVATION AREA (GSF) = 447,500

ADDITION/ NEW AREA (GSF) = 191,200

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW KITCH./LOADING (BUILT PHASE-1)
+ LIGHT WELLS = NO WINDOWLESS CR'S
+ LARGE GREEN SPACE CREATED

CONSTRUCTION

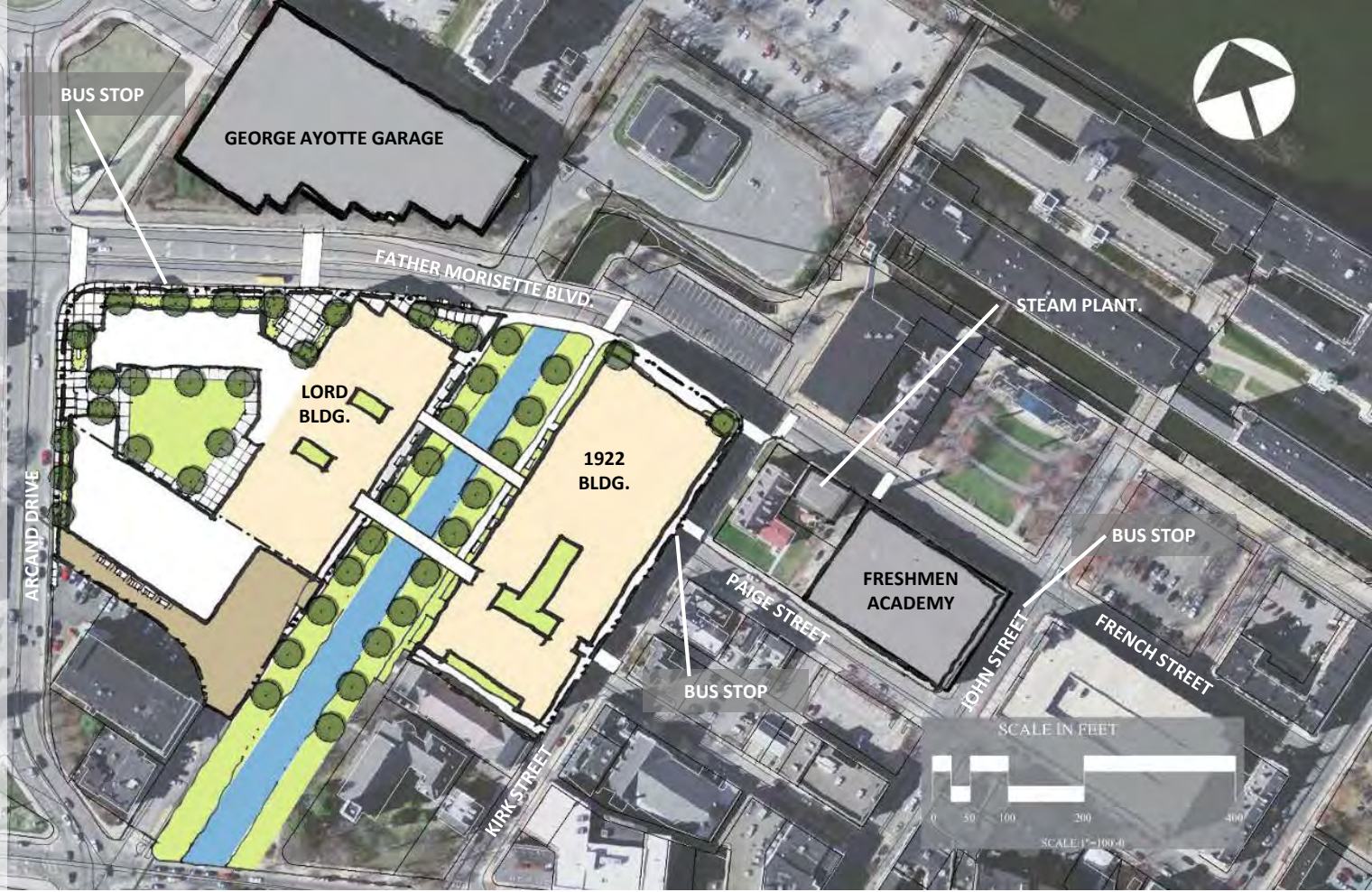
4½ YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D

RELATIVE COSTS

TOTAL PROJECT COST = $334,335,971

ESTIMATED CITY'S SHARE = $126,417,978



BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 619,000

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 306,200

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

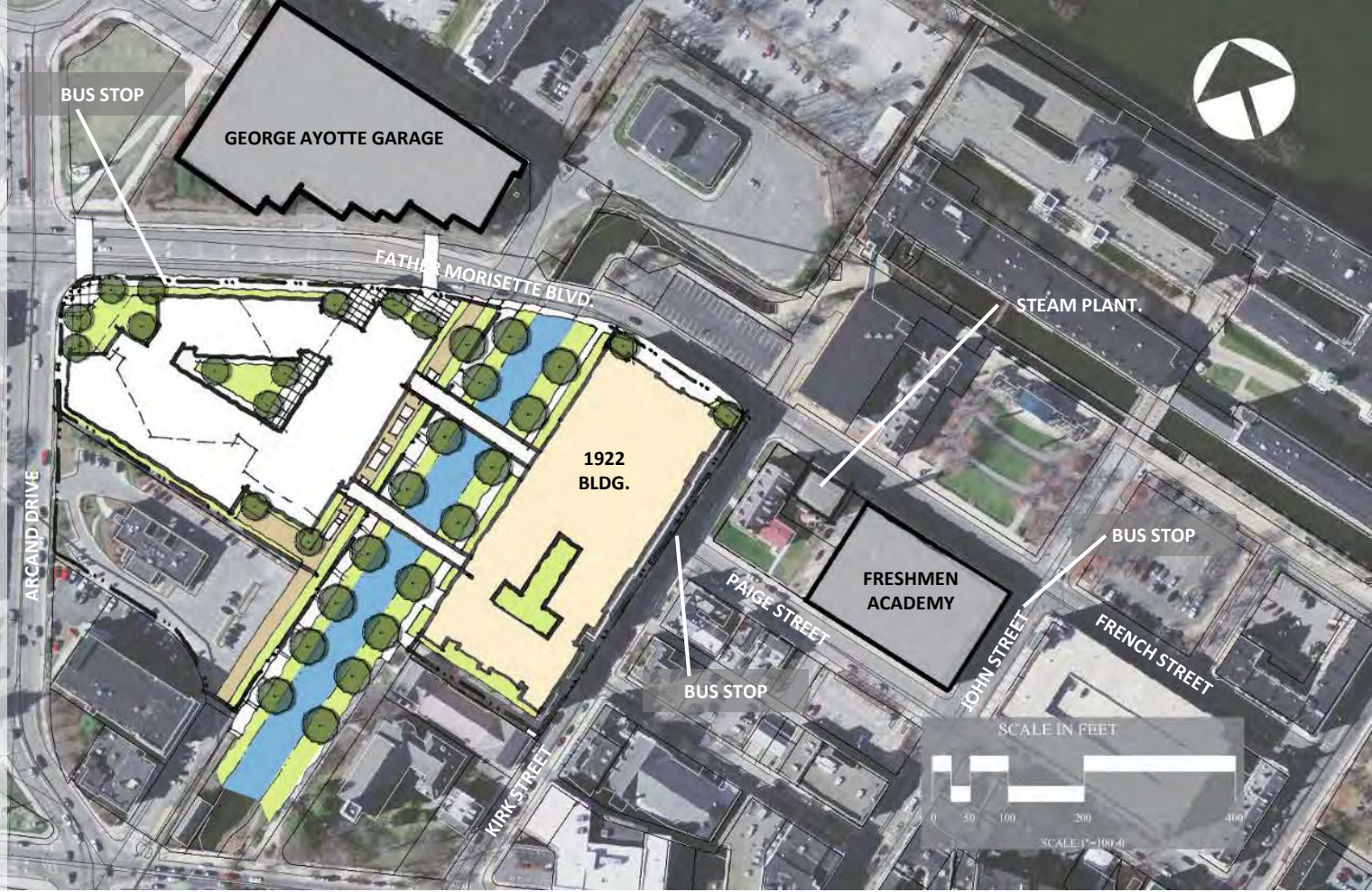
3 YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQUIRED
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $376,371,511

ESTIMATED CITY'S SHARE = $165,786,170



BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 620,900

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 308,100

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 3, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

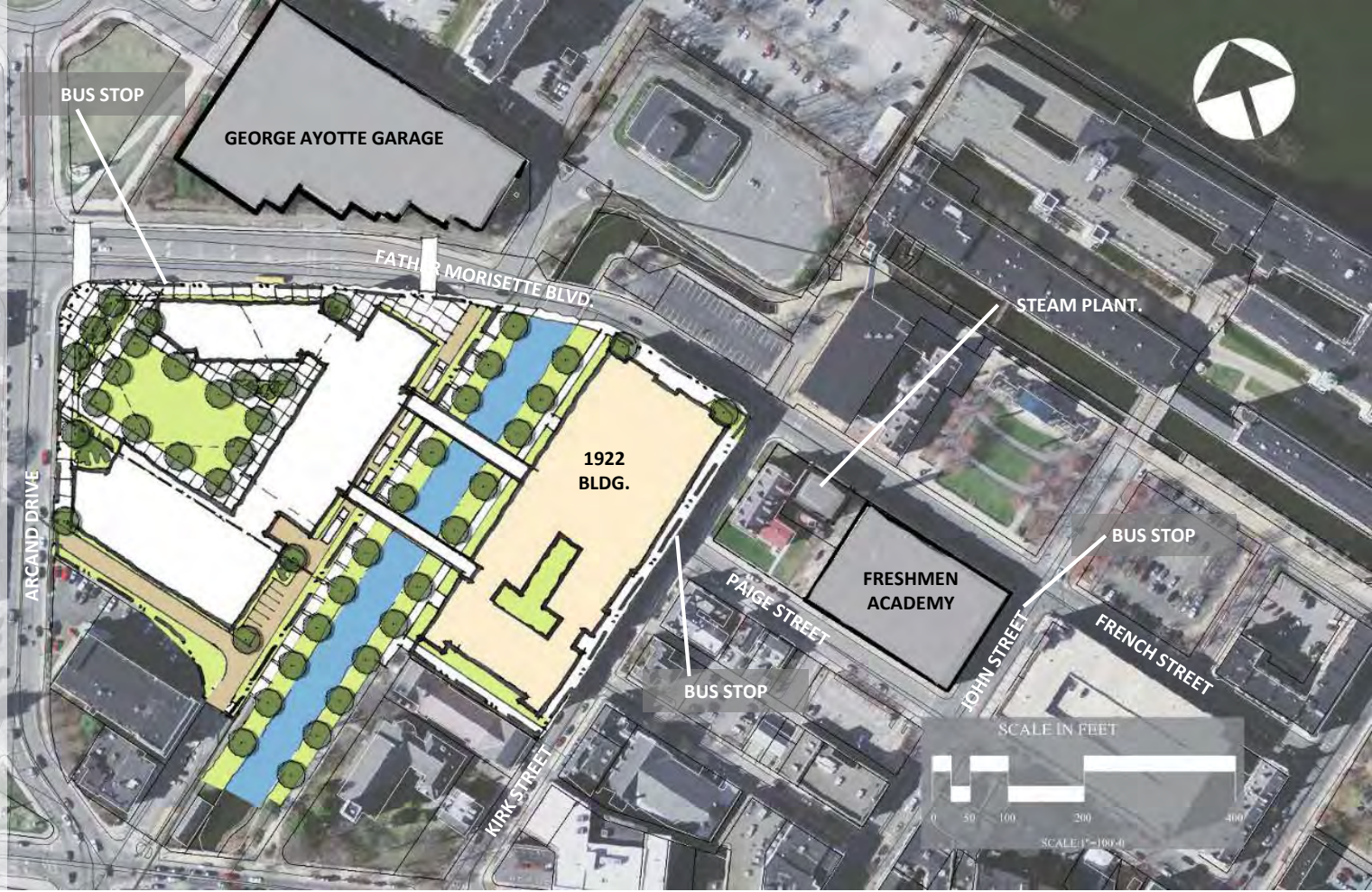
3½ YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $386,376,693

ESTIMATED CITY'S SHARE = $173,976,178



BUILDABLE ACREAGE = 3.3

NEW BUILDING (GSF) = 594,000

NEW 6 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

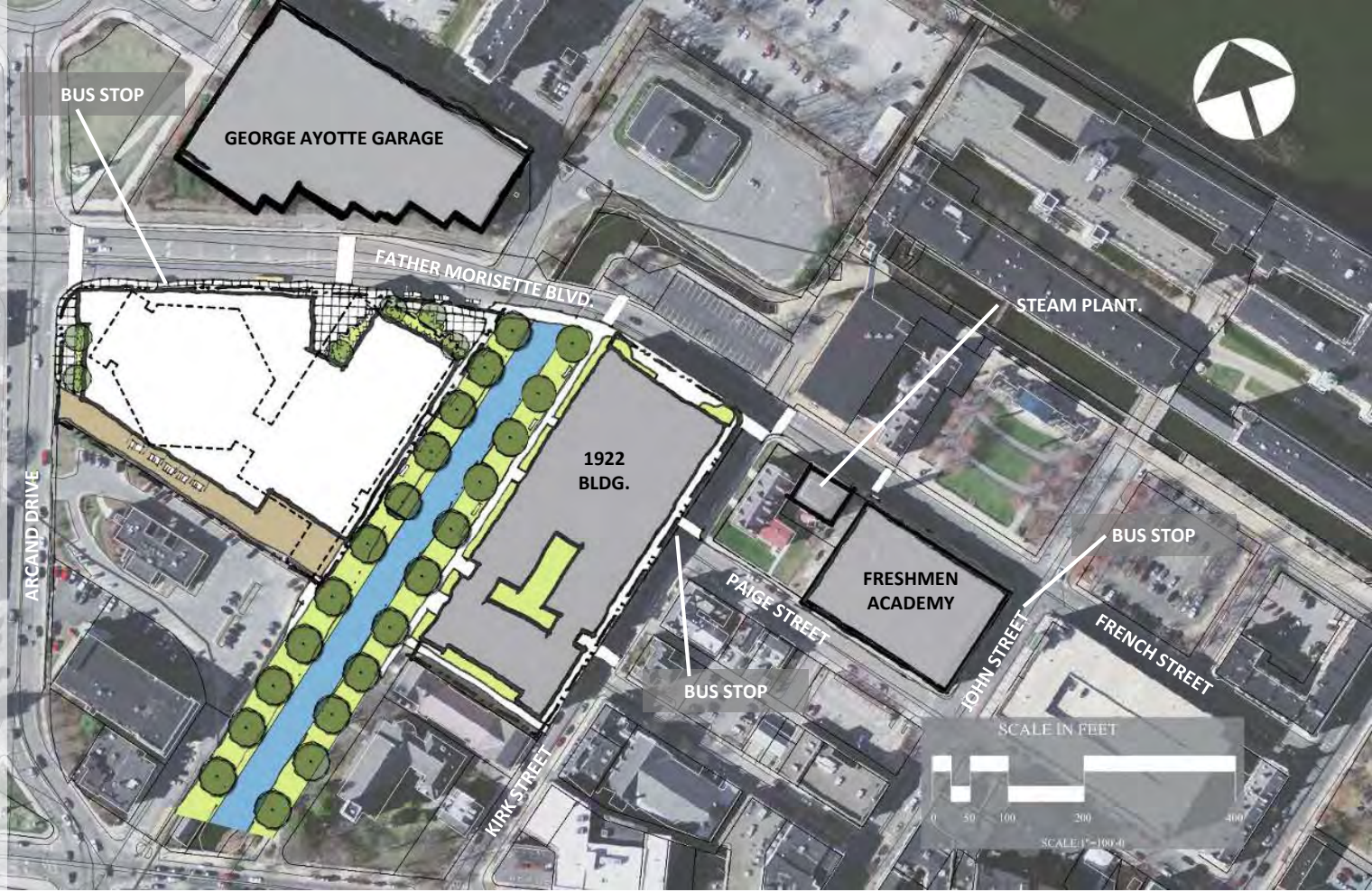
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ BENEFITS OF ALL NEW CONSTRUCTION:
  - ✓ ZONED FOR COMMUNITY/ACTIVITY
  - ✓ MEETS ALL SPACE NEEDS
  - ✓ MEETS MOST ALL EDUC OBJECTIVES
  - ✓ IDEAL FRESHMAN ORG./CLUSTERS
  - ✓ FIELD HS (MORE EFFIC./FLEXIBLE)
  - ✓ MORE EFFICIENT USE/OPERATIONS
+ FORMER FA & 1922 BLDG'S AVAILABLE
- TRIGGERS HIGH RISE CONSTRUCTION
- PUBLIC PROGRAMS ON UPPER FLOORS
- NOT IDEAL NEW ORIENTATION
- WINDOWLESS SCIENCE LABS IN NEW
- LIMITED ACCESS TO GREEN SPACE

CONSTRUCTION

3 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $350,611,505
ESTIMATED CITY'S SHARE = $156,843,060



Lowell High School

NEW SCHOOL - **EXISTING** SITE

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 4.7

NEW BUILDING (GSF) = 576,500

NEW 5 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ DOES NOT TRIGGER HIGH RISE CONSTR.
+ GOOD COMMUNITY/ACTIVITY ZONE
+ GOOD SOLAR ORIENTATION AT ALL CRS
+ NO WINDOWLESS CLASSROOMS
- NO THRU-ROAD

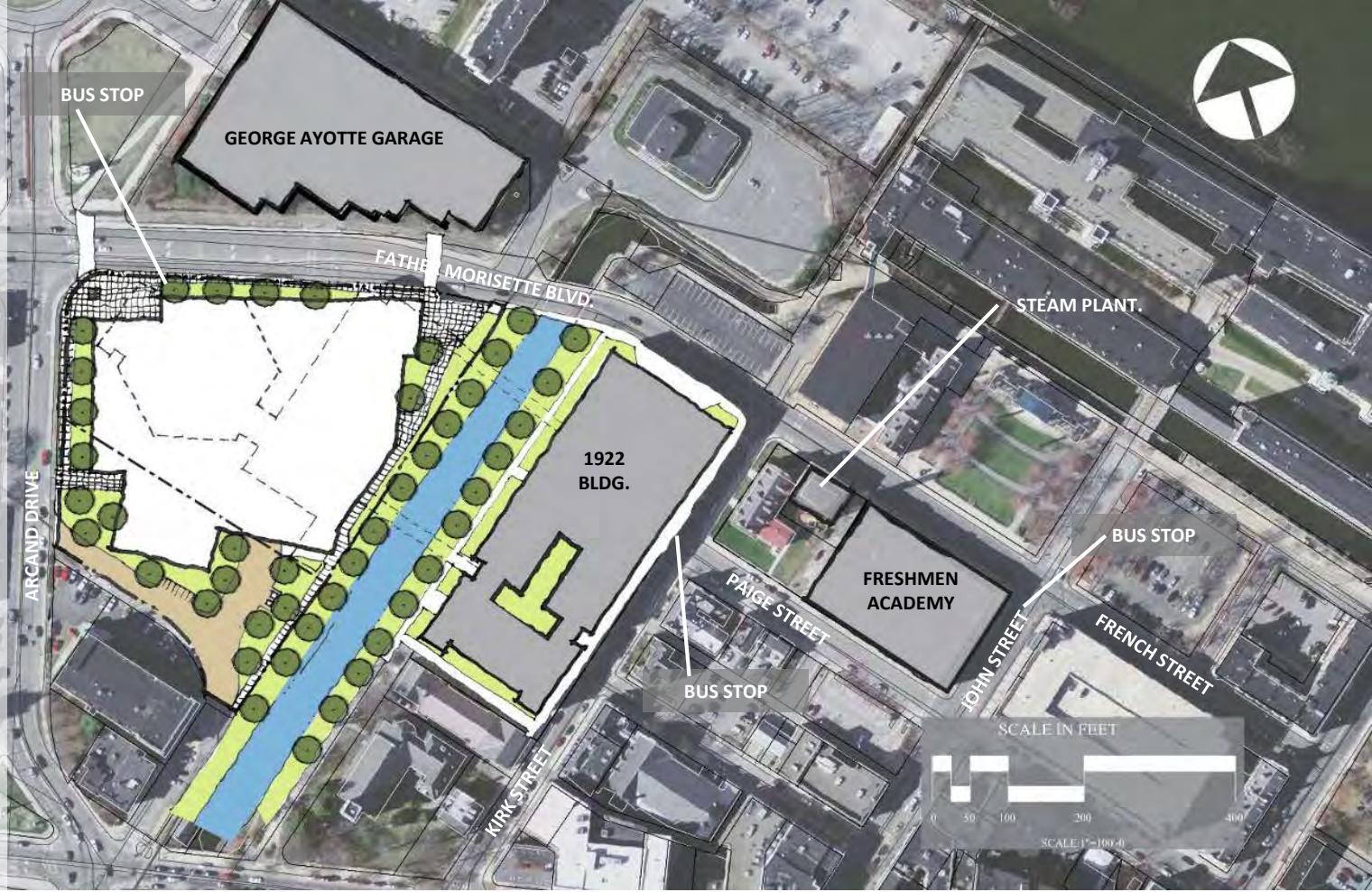
CONSTRUCTION

3½ YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $355,436,809
ESTIMATED CITY'S SHARE = $165,955,019



Lowell High School | NEW SCHOOL – **EXPAND** SITE | Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 14.7

TOTAL SITE ACREAGE = 56.0

NEW BUILDING (GSF) = 571,500

4 STORY BLDG
PARKING = 430 CARS

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ MORE IDEAL 4 STORY CONSTRUCTION
+ AMPLE ACCESS TO GREEN SPACE
+ GOOD SOLAR ORIENTATION FOR ALL
- CO-LOCATED W/ MIDDLE+ELEM. SCHOOL
- LIMITED WALKABILITY /PUBLIC TRANSIT
- NOT CLOSE TO CITY SERVICES
- IN CLOSE PROXIMITY TO RESIDENTIAL AREAS (TRAFFIC + MASSING CONCERNS)

CONSTRUCTION

3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE
- FIELDS TO BE REPLICATED:
(1 SOCCER + 2 LITTLE LEAGUE FIELDS)

RELATIVE COSTS

TOTAL PROJECT COST = $325,679,444
ESTIMATED CITY'S SHARE = $142,245,805



BUILDABLE ACREAGE = 20.0

(16.4 FOR NEW SCHOOL + 3.6 NEW FIELDS)

TOTAL ACREAGE = 34.0 (4 IN TEWKSBURY)

NEW BUILDING (GSF) = 571,500

4 STORY BLDG

PARKING = 608 CARS

PROS/CONS

SAME AS NEW AT WANG, EXCEPT;

+ ADJACENT TO FOOTBALL STADIUM
+ AMPLE ACCESS TO GREEN SPACE
+ NOT CO-LOCATED W/ OTHER SCHOOLS
+/- MORE ACCOMMODATING ACCESS
- SIGNIFICANT FIELD REPLICATION REQ'D: (MARTIN SOFTBALL + PRACTICE INFIELD, FIELD HOCKEY/LAX PRACTICE FIELD, DESMOND FR & MACHADO JV FOOTBALL PRACTICE FIELDS)

CONSTRUCTION

3 YEAR CONSTRUCTION

+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE

RELATIVE COSTS

TOTAL PROJECT COST = $332,458,871

ESTIMATED CITY'S SHARE = $148,341,142



Lowell High School | NEW SCHOOL – **CAWLEY** SITE | Perkins Eastman SKANSKA

Office of the City Manager
City Hall ● 375 Merrimack Street ● Lowell, MA 01852
P: 978.674.4000 ● F: 978.970.4007
www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: Dec 8, 2015
Time: 11:00AM
Location: Mayor's Conference Room

1. - Introductions

Introductions showed 12 present: Kevin Murphy, Mike McGovern, Mike Vaughn, Salah Khelfaoui, Brian Martin, Robert Healy, Conor Baldwin, William Samaras, Brian Curley, Rady Mom, Steve Gendron and George Tsapatsaris.

City Manager, Kevin Murphy, presiding.

The City Manager noted that the MSBA project is the largest development project in Lowell's history. Manager Murphy explained that if the project is completed on or ahead of time, the City could pick up reimbursement rates to increase the overall reimbursement for the project. Fortunately the City is 3 months ahead of schedule so far, and the Manager expressed his wish that the project continue to proceed accordingly.

2. - Recap and Overview to Date

2.1 Description of Modules (Process Steps)

Assistant City Manager, Mike McGovern, reviewed the OMR Report and the Feasibility Study. M. McGovern discussed and passed out a copy of the City Council motion response from June 17th, 2015 regarding the modules and deliverable requirements for the project. Currently the City is in phase 2 of the project, the feasibility study.

3. - Current Module- Module II, Feasibility Study

3.1 Steps, Requirements, and Timeline

M. McGovern addressed the timeline for the next step in the current phase, selecting an OPM.

OPM Panel Meeting date: April 4th, 2016
Advertisement placed in Central Register by: Jan. 26, 2016

Advertisement appears in Central Register and Newspaper: Feb. 3, 2016
Applications due by: Feb. 17, 2016
Applications received by MSBA by: March 9, 2016
Review Committee Meeting: March 21, 2016
Panel member's recommendations due by: March 28, 2016

Brian Martin commented on applicant qualifications, City Manager noted that applicants will be MSBA approved prior to applying.

George Tsapatsaris commented on the position for OPM. City Manager noted that the OPM is responsible for selecting an architect and brings recommendations to School Building Committee for approval.

4. - Vote to Appoint a Certified MCCO (Massachusetts Certified Public Purchasing Official)

City Manager motioned for Mike Vaughn to be appointed Certified Public Purchasing Official, seconded by Robert Healy. So voted.

5. - Appointment of the OPM Selection Sub-Committee- 5 Members

City Manager motioned for: Brian Curley, Robert Healy, George Tsapatsaris, William Samaras and Brian Martin to be appointed to the OPM Selection Sub-Committee. Seconded by Salah Khelfaoui. So voted.

M. Vaughn volunteered to advise the OPM Selection Sub-Committee and assist with scheduling times and delivering applications to members. M. McGovern noted that scoring sheets will be given to members and need to be submitted to the MSBA.

6. - Required Votes

6.1 MSBA requires vote for the Building Committee empowering and authorizing the OPM selection sub-committee to "Prepare and Advertise a Request for Services for an Owner's Project Manager."

R. Healy motioned to vote for the Building Committee empowering and authorizing the OPM selection sub-committee to prepare and advertise a request for service (RFS) for an owner's project manager. Seconded by Rady Mom.

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www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

M. Vaughn discussed the difference RFS and RFP with the different ratings, and how the RFS will use points for the categories listed with maximums for each category.

M. Vaughn also noted the Committee will need a letter of intent from prior City Council agenda for the MSBA on the Lowell High School. Referred to Conor Baldwin.

S. Gendron commented on the application process to determine how many interviews should be held. The City Manager noted that there should be three, but also commented on how the sub-committee should not limit themselves to just three if there are multiple quality applicants. Committee agreed that the sub-committee should conduct interviews and give their recommendations to the School Building Committee for their single top applicant. W. Samaras commented on the top applicant that is recommended by the sub-committee to present to the full committee prior to making a final decision.

M. McGovern cautioned the committee on using dollar figures after attending the MSBA conference call.

W. Samaras commented on the size of the project. The City Manager noted that the High School is to accommodate 3,500 students.

The City Manager commented on the City Council vote to spend $2M without guarantee to be paid back, shows commitment from the City side of the project.

G. Tsapatsaris commented on finding a location for the school. The City Manager noted that the more sites proposed, it will increase cost as well as slow down approval by the MSBA. Manager Murphy also noted that the location and controversy over a new site should be left the feasibility study.

HEATHER VARNEY
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct. 2, 2020

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Kevin J. Murphy
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Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: March 7, 2016
Time: 9:30 AM
Location: Mayor's Conference Room

1. - Introductions

Introductions showed 12 present: Kevin Murphy, Mike McGovern, Mike Vaughn, Brian Martin, Robert Healy, Conor Baldwin, William Samaras, Brian Curley, Rady Mom, Steve Gendron, David Beati, and Jim Cook.

City Manager, Kevin Murphy, presiding.

The City Manager wanted to take a moment to thank the subcommittee for their hard work reviewing the voluminous proposals for OPM. The subcommittee took their time, did the work and deliberated.

M. Vaughn gave an overview of the meeting discussing the RFS, advertisement on the central register, and the process that the subcommittee followed to rank the ten proposals submitted. The subcommittee was unanimous in selecting Skanska.

The City Manager noted that G. Tsapatsaris has not been feeling well and was unable to attend. The Manager wishes to continue to have G. Tsapatsaris on the committee; he has a great wealth of information to offer. The Manager also noted that S. Khelfaoui was also unable to attend due to a conflict in his schedule.

2. - Presentation by Recommended OPM (Skanska)

Skanska representatives included Dale Caldwell (Project Executive), Jim Dowd (Project Director) and Jim Burrows (Project Manager).

D. Caldwell began the presentation with an introduction to the committee. He gave an overview of project including an example of a proposed schedule, choosing a design selection panel, the

project budget, and their previous experience with the Winchester High School project. D. Caldwell disclosed that their presentation did not include a known budget or schedule. D. Caldwell also discussed a possible solution in a phased occupied renovation. The OPM will look at all possibilities and options for the location of the LHS.

The City Manager raised his concern that the OPM discussed looking at the South Common as a potential location when it was unfeasible due to the necessary size of the school. D. Caldwell mentioned that the MSBA is looking for alternative locations and that the OPM must maintain their due diligence in selecting a location.

J. Dowd continued with a proposed phasing process. Skanska will attempt to steer away from modular class rooms because they are not reimbursed by the MSBA. J. Dowd then discussed their most difficult project, Winchester High School. During a phased renovation, like the Winchester project, it is highly important for students and teachers to know which parts of the building are on and off line. The OPM will coordinate scholarly and extracurricular activities. B. Martin mentioned the Tsongas Arena and UML scheduling be included, not just LHS schedule.

D. Caldwell noted that Skanska would find the best fit for Lowell. This included options, costs and working with the Finance department in regards to bonds. Skanska has prior work experience in Lowell, having worked with Middlesex Community College and LTC.

R. Healy wanted the committee to understand that the MSBA will reimburse $299 per square foot for construction costs. The average rate now is $400 per square foot. The MSBA will pay 80% of the $299, while the city will pay the rest. There is also a cap per square foot per student that the MSBA will reimburse the city for. The MSBA will not reimburse a municipality for a pool, yet Skanska included one in their presentation. S. Gendron raised the question that if the pool is not reimbursable, is the rest of the athletic facility? The athletic facility would be reimbursable by the MSBA.

D. Caldwell noted that Skanska are just advisors, the City will decide on alternative sites for the LHS. D. Caldwell mentioned conducting surveys to understand the community response to certain locations.

R. Mom had a question about looking at all alternative sites and if there was a time frame. D. Caldwell referred to the proposed schedule from their presentation.

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M. Vaughn noted that the process for selecting an architect is similar to the OPM selection process. The city receives 3 votes while the MSBA has 13 votes.

S. Gendron asked about the traffic and bus access during renovations. Skanska will work closely with schools and LPD to figure out the logistics of the construction site and traffic flow.

W. Samaras raised his concern that construction at the present site is tight. D. Caldwell noted that workers and students will be isolated, and only certain approved individuals will be granted limited access to the building via escort. D. Caldwell also mentioned that tractor deliveries will be restricted when students arrive/ leave school.

3. - Discussion Regarding Recommended OPM

D. Caldwell, J. Dowd and J. Burrows left the Mayor's Reception Room for the committee to discuss the recommended OPM.

The Manager asked the subcommittee to discuss the applications and why they chose Skanska. The subcommittee includes B. Curley, R. Healy, G. Tsapatsaris, W. Samaras and B. Martin. B. Martin explained that out of the top four applicants, the two that stood out the most had experience MSBA and staff capacity. The experience with Winchester High School seemed to be very similar to the situation in Lowell. W. Samaras commented that the expertise of in house members of Skanska was the final determining factor.

The City Manager expressed his concern that Skanska mentioned the South Common as a potential alternative location, even if it is not feasible. The Manager continued that the committee should keep a short leash on the OPM. There will be a tight budget for the city, and it is not in the city's best interest to waste money on unfeasible sites. The Manager also brought up the fact that the MSBA requires one alternative site to be a new school building. He also mentioned that having twelve alternative sites that are unfeasible is not what the MSBA is looking for.

S. Gendron brought up the fact that a new site may be cheaper, renovating the existing building may be like opening Pandora's Box. B. Martin and R. Healy both agreed that it may be better to renovate the existing building. R. Healy noted that there are no political, cultural, social or economic reasons to split Lowell into two high schools. He also brought up the point that the OPM does have to go through the motions and the possibilities that may not appear feasible.

The City Manager is confident in the subcommittee's recommendation and believes that the firm has what is necessary at this time. B. Curley brought up that the subcommittee agreed on the paper applications that Skanska was the best, and the firm remained the best choice after the interviews were conducted.

B. Martin asked if there was a way to limit the amount of alternative sites, or if they could remove certain sites from the alternatives if they appear unfeasible. The Manager mentioned that the city will use language in the contract with the OPM that give the committee the ability to hold the OPM answerable and accountable. Rodney Conley informed the committee that the Finance team was able to save a current estimate of $360,000 negotiating the price of hourly rate with Skanska. The City Manager also mentioned a city ordinance that businesses make a "best effort" to hire Lowell residents. He hopes that although the number of new hires may be relatively small, that the company makes a best effort to hire Lowell residents.

4. - Vote to Hire OPM

City Manager motioned to vote to hire Skanska as the OPM, seconded by J. Cook and S. Gendron. All committee members present voted in favor of Skanska, none opposed. So voted.

5. - Moving Forward/ Next Steps
5.1 Schedule

March 9- Applications to MSBA
March 21- MSBA (internal) review committee of our OPM application
March 28 – MSBA (internal) documents forwarded to the MSBA OPM panel Committee
April 4 – OPM Panel Review Committee meeting date. Representatives from City and Skanska attend this meeting

5.2 Vote Add Mayor to MSBA committee.

City Manager motioned to vote to add Mayor Kennedy to the MSBA committee, seconded by S. Gendron. So voted.

The City Manager also mentioned asking Martha Howe to join the committee.

6. - Designer Selection Process.
6.1 Target approval date for a designer (architect) – July 2016

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7. - Public Relations

7.1 Introduction of OPM at April 12 City Council meeting

M. McGovern stated that there should be a joint City Council and School Committee public meeting to introduce the OPM. The OPM would give an overview of the project and where the project will go from there. This will give an update to the Council and Committee members as well as the community. The proposed date would be in mid-April, possibly April 12th at the 6:30pm City Council meeting.

7.2 Presentation on the project at future joint Council/ School Committee meeting

7.3 Media Introduction

S. Gendron asked if committee members can discuss the OPM now that the committee has chosen Skanska. The City Manager asked the committee to not talk publicly until after April 4th, when the MSBA approves the committee's selection. He also noted that the MSBA does monitor newspaper articles, and that it is better to give the MSBA due respect until their approval.

8. - Next Meeting

M. McGovern mentioned that in the future there should be MSBA committee meetings every four to six weeks. The committee is currently six months ahead of schedule, and should stay on this track. R. Healy mentioned that the longer the project takes, the more expensive it will be.

The City Manager noted that M. McGovern and R. Conley will be the point of contract for the committee. R. Healy thanked M. McGovern, M. Vaughn and R. Conley for their hard work and keeping the committee on schedule.

HEATHER VARNEY
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct. 2, 2020

Lowell High School Project

School Building Committee

Agenda Items – April 14, 2016

- Overall Project Schedule
- Designer Selection Process
- Designer Selection Timeline
- Designer RFS and Advertisement Approval
- Designer Application Review Subcommittee formation
- Representatives at DSP Discussion
- Education Plan

LEGAL NOTICE

CITY OF LOWELL
LOWELL CITY HALL
375 MERRIMACK STREET
LOWELL, MA 01852

LEGAL NOTICE REQUEST FOR SERVICES

The City of Lowell is soliciting Request for Services for a "Designer" to provide Designer Services for the feasibility study and schematic design phase.

Sealed Proposals will be received at the office of P. Michael Vaughn, Chief Procurement Officer, Lowell City Hall, 375 Merrimack Street, Lowell, MA 01852. Proposals to be considered qualified should be submitted no later than **Wednesday, May 18, 2016 at 2:00 p.m.**

Proposals should be addressed to:

Chief Procurement Officer, P. Michael Vaughn
Lowell City Hall
375 Merrimack Street, Purchasing Department, Room 60
Lowell, MA. 01852

And shall have the words **"Designer Services"** indicated on the LOWER LEFT CORNER of the envelope.

Specifications and Request for Services documents may be obtained from the Chief Procurement Officer on or after May 4, 2016.

The City of Lowell reserves the right to accept or reject any or all Proposals received, as deemed by them to be in the best interest of the Owner, and its decision shall be final.

SPECIAL NOTE: All bidders invited to attend a pre-proposal building tour and conference to be held at the City Hall and the school 10:00 A.M. on Wednesday, May11, 2016.

DATE: April 28, 2016
BY: P. Michael Vaughn, Chief Procurement Officer

SKANSKA

Lowell HS SBC MEETING April 14, 2016

ATTENDESS :

NAME	e-mail	Telephone
Rodney Cooley	RCooley@LowellMA.gov	978 674 1448
Heather Varney	Hvarney@lowellma.gov	978 674 4400
Celine Gettings	Cgettings@lowellMA.gov	978-6744040
JAMES COOK	JCOOK@HOWEHALPHAN.ORG	978-459-9899
DAVID BEATI	AA.Engineering@hotmail.com	978-604-5576
☆ Steve Gendron	stevejgendron@gmail.com	617-901-1496
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☆ GARY FRISCH	gfrisch@Lowell.K12.M.US	978 454-2020
Robert Healy	rhealy@lowellma.gov	
JM VAUGHN	jmvaughne lowellma.gov	978.674.4110
michael McGovern	mmcgovern@Lowellma.gov	978-674-1002
K Murphy	KMurphy@LowellMA.gov	978-674-4400
CONOR BALDWIN	CBaldwin@lowellma.gov	978-674-4400
Jim Dowd	jim.dowd@skanska.com	617-593-9352
Mary Ann Williams	maryann.williams@skanska.com	617-293-6869
DAVE CADWELL	DAVE.CADWELL@SKANSKA	617-201-0976

City of Lowell
Purchasing Department
City Hall
375 Merrimack Street, Room 60
Lowell, Massachusetts 01852

Project Name: **Request for Designer Services for Lowell High School**

RFS No.: **16-91**
Date: **May 4, 2016**
Buyer: **P. Michael Vaughn**
Tel. No.: **978-674-4110**
Fax No.: **978-970-4114**
Email: **pmvaughn@lowellma.gov**

Introduction

The City of Lowell ("Owner") is seeking the services of a qualified "Designer" within the meaning of M.G.L. Chapter 7C, Section 44, to provide professional design and construction administration services for the Lowell High School in Lowell, Massachusetts ("Project"). Selection of a Designer will be made by the Designer Selection Panel of the Massachusetts School Building Authority ("MSBA") in accordance with the MSBA's Designer Selection Procedures.

DUE DATE

Sealed Responses to the Requests for Services for Owner's Project Manager Services must be clearly labeled "RFS 16-91 Request for Designer Services for Lowell High School and delivered to: **May 18, 2016** at City Hall in the Purchasing Department, Room 60, 375 Merrimack Street, Lowell, MA 01852, at **11:00 AM**, EST/EDST, for the work described herein. RESPONDENTS ARE REQUIRED TO SUBMIT A COMPLETE RESPONSE INCLUDING ALL REQUIRED CERTIFICATION (ATTACHED) FORMS CONTAINED IN THIS PACKAGE. DO NOT REMOVE PAGES.

INFORMATIONAL MEETING AND SITE INSPECTION

A voluntary informational meeting and site inspection will be held: May 11, 2016. The Meeting will be held at Lowell City Hall in the Mayor's Reception Room, 2nd Floor, 375 Merrimack Street, Lowell, MA 01852, at 10:00 AM, EST/EDST with the site inspection immediately following.

CLARIFICATION REQUESTS

Any request for clarification must be submitted in writing (email is acceptable) to the attention of Chief Procurement Officer, P. Michael Vaughn at City Hall in the Purchasing Department, Room 60, 375 Merrimack Street, Lowell, MA 01852 no later than May 12, 2016 at 5pm.

Should the City make changes to any specification, stipulation, requirement, or procedure, notification will be made to all Respondents in the form of written Addenda. No officer, agent, or employee of the City is authorized to amend any provision contained in this RFS, unless such amendment is issued as an Addendum and sent to all Respondents in accordance with this Section (Clarification Requests). Respondent is required to acknowledge all addenda. (Attached is addenda form).

Invitation: The ***City*** of Lowell ("Owner") is seeking the services of a qualified "Designer" within the meaning of M.G.L. Chapter 7C, Section 44 to provide professional design and construction administration services for the Lowell High School in Lowell, Massachusetts. Selection of a Designer will be made by the Designer Selection Panel of the Massachusetts School Building Authority ("MSBA") in accordance with the MSBA's Designer Selection Procedures.

The Owner is seeking design services to conduct a Feasibility Study which will include the development and evaluation of potential alternative solutions and continue through the Schematic Design Phase of the preferred alternative initially. Subject to the approval of a Project by the MSBA and further subject to adequate funding authorized by the Owner, the contract between the Owner and the Designer may be amended to include continued designer services through design development, construction contract documents, bidding, award of construction contract(s), construction administration, final closeout and warranty period of the potential Project. A potential Project may include a renovation of the existing school, a renovation of and addition to the existing school and/or new construction.

The estimated total project budget for a potential Project may range from ***$142,000,000 to $190,000,000*** depending upon the solution that is agreed upon by the Owner and the MSBA and that is ultimately approved by a vote of the MSBA's Board of Directors. The Fee for Basic Services will be negotiated.

Pursuant to M.G.L. Chapter 7C, Section 6, the Designer must agree to contract with minority and women-owned businesses as certified by the Supplier Diversity Office (SDO) formerly known as the State Office of Minority and Women Business Assistance (SOMWBA). The amount of participation that shall be reserved for such enterprises shall not be less than seventeen and nine tenths percent (17.9%) of the contract price for combined minority business enterprises (MBE) and women-owned business enterprises (WBE). Applicants must include a reasonable representation of both MBE and WBE firms that meets or exceeds the combined goal. Proposed MBE/WBE participation plans that include solely MBE or solely WBE participation, or do not include a reasonable amount of participation by both MBE and WBE firms to meet the combined goal, will not be considered responsive. Applications from MBE and WBE firms as prime designers are encouraged. Where the prime Designer is an SDO certified MBE or WBE, the Designer must bring a reasonable amount of participation by a firm or firms that hold the certification which is not held by the prime Designer on the project.

The minority and women-owned business enterprises must be selected from those categories of work identified in Item F of this RFS or be assigned to tasks required under Basic Services as specifically set forth in the Contract for Designer Services as amended. Applicants are strongly encouraged to utilize multiple disciplines and firms to meet their MBE/WBE goals. Consultants to the prime Designer can team within their disciplines in order to meet the MBE/WBE goals but must state this relationship on the organizational chart (Section 6 of the application form).

For additional information on Designer qualifications see Sections E. and F. in this RFS.

A. Background:

Lowell, incorporated in 1826, is the fourth-largest city in the Commonwealth of Massachusetts, with an estimated population of over 108,000. The City has a total area of 14.5 square miles and eight distinct neighborhoods: the Acre, Back Central, Belvidere, Centralville, Downtown, Highlands, Pawtucketville, and South Lowell.

The City of Lowell conducted a collaborative analysis with the Massachusetts School Building Authority of enrollment projections and space capacity needs for the proposed Lowell High School Project. The City hereby acknowledges and agrees that the design shall be based on an enrollment of no more than 3,520 students in grades 9 -12. The MSBA shall determine the square feet per student space allowance and total square footage for a high school serving 3,520 students in grades 9 – 12. Lowell High School is listed on the National and State Registers of Historic Places through its inclusion within both the Lowell National Historical Park & Preservation District and the City Hall Historic District. This applies to the two buildings on Kirk Street including Colburn Hall (1892) and an addition built between 1920 -1922. The 1981 section of Lowell High School is not within either district, nor would be eligible for listing and is not historically significant. Three nearby buildings also associated with the high school, the former Lowell Trade School (1900) at 68 John Street, the Lowell High School Annex (1939) at 55 French Street as well as the powerhouse and associated smokestack on French Street are also listed on the National and State Registers of Historic Places through their inclusion within both the Lowell National Historical Park & Preservation District and the City Hall Historic District.

B. Project Goals and General Scope:

On or about***April 12*, 2014**, the Owner submitted a Statement of Interest (Attachment A) to the MSBA for Lowell High SchoolThe MSBA is an independent public authority that administers and funds a program for grants to eligible cities, towns, and regional school districts for school construction and renovation projects. The MSBA's grant program is discretionary, and no city, town, or regional school district has any entitlement to any funds from the MSBA. At the **November 18, 2015** Board of Directors meeting, the MSBA Board voted to issue an invitation to the Owner to conduct a feasibility study for this Statement of Interest to identify and study possible solutions and, through a collaborative process with the MSBA, reach a mutually-agreed upon solution. The MSBA has not approved a Project and the results of this feasibility study may or may not result in a Project approved by the MSBA.

It is anticipated that the feasibility study will review the problems identified in the Statement of Interest at the The Lowell High School facilities are comprised of multiple buildings, the original 1892 was added to in 1922 and renovated in 1971 and 1997 (minor). The 1980 facility was also renovated in 1997. These two buildings, the 1892/1922 and the 1980, are connected by two enclosed, glazed bridges which span across the canal and park below. The Freshman Academy, a completely separate structure, built in 1900, added on in 1939 and renovated in 1986 is one block away. It is anticipated that the feasibility study will review the problems identified in the Statement of Interest at Lowell High School. Prevention of severe overcrowding expected to result from increased enrollments. Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.

The Feasibility Study shall include a study of all alternatives and contain all information required by 963 CMR 2.10(8) and any other applicable rules, regulations, policies, guidelines and directives of the Authority, including, but not limited to, a final design program, space summary, budget statement for educational objectives, and a proposed total project budget. The Schematic Design shall include, but not be limited to, the information required by the Authority's Feasibility Study Guidelines, including, but not limited to, a site development plan, environmental assessment, geotechnical assessment, geotechnical analysis, code analysis, utility analysis, schematic building floor plans, schematic exterior building elevations, narrative building systems descriptions, MA-CHPS or LEED-S scorecard, outline specifications, cost estimates, project schedule and proposed total project budget.

Project objectives under consideration by the Owner include: The Feasibility Study includes review of the Lowell Public Schools Comprehensive Assessment – OMR Architects 2014;

- Review of School Department policies and objectives;
- Identification of community concerns that may impact study options;
- Identification of specific milestone requirements and/or constraints of the District . e.g. Local approval and votes, classroom size, enrollment; swing space, occupancy issues; Swing space would be an issue if the ultimate solution is a renovation or addition/renovation at the current site. It would not be an issue if the ultimate decision is to build a new School at new location as the students could remain in their current location until the new school is built
- Provide learning environments designed for current and future educational programs with appropriate lighting, work space, noise controls, and ventilation
- Develop a design that is high in quality, energy efficient, cost-effective, and meets the needs of the educational program
- Develop a design that conforms to the Massachusetts High Performance Green Schools Guidelines (MA-CHPS or LEED for Schools Guidelines);
- Conduct an educational visioning study and develop the educational specifications, alternative conceptual designs, and construction phasing plans
- Ensure that the School meets the Massachusetts Architectural Access Board requirements and ADA regulations
- Develop accurate and complete cost estimates, including life cycle costs of operating the school as it relates to future operational and capital budgets
- Identify community concerns that may impact study options, including septic disposal, conservation and environmental considerations
- Determine the merits of whether to proceed with the CM-at-Risk Delivery Method
- School provides career and workforce education by achieving sustainable results through the use of strategies that focus on providing innovative, data driven, best practices

  Our Pathway Programs provide opportunities for all students and their different abilities, interests and talents. Whether a student is planning to work immediately after high school, or will continue learning by attending a training program, a technical institute, a college or university, there are courses in our Pathway Programs that are right for every student.. Our Pathway Programs use an applied, hands-on/minds-on approach to learning that is connected to real-world work experiences.

  LHS PATHWAYS:
  Air Force Junior ROTC
  Business Marketing & Finance
  Communications
  Culinary Arts
  Engineering
  Fine Arts
  Health & Bioscience
  Public Service & Civic Engagement

- Increase productivity and cost effectiveness by providing a balance of academic environments and applied learning laboratories and shop areas that mirror the workplace and facilitate current instructional technologies.
- Utilize the latest Green technologies, strategies, materials and approaches to create an integrated heating, cooling and ventilation system that delivers both superior air quality and occupant comfort minimizing energy consumption and resulting in significant improvements in the teaching and learning environments supporting a professional learning community
- Correct flawed design flow approaches and provide students and the general public with an experience that creates and nurtures a desire for a continuing partnership with a 21st Century educational training facilityr.

C. Scope of Services:

The required scope of services is set forth in the MSBA's standard Contract for Designer Services (Contract), a copy of which is attached hereto and incorporated herein by reference. If the Owner decides to proceed with the Project beyond the Schematic Design Phase and when the project delivery method is decided (Design/Bid/Build or Construction Manager at Risk), the Contract will be amended accordingly. Copies of Designer Services Contract Amendments for Design/Bid/Build and Construction Manager at Risk are also attached hereto and incorporated herein by reference. Unless specifically excluded, the Designer's Basic Services consist of the tasks described in the Contract for Designer Services as amended and this RFS including all investigative work (to the extent provided for in the Contract), feasibility study, schematic design, and, at the Owner's option, design work, preparation of construction documents, bidding period administration, construction administration, and other related work reasonably inferred in the opinion of the Owner and the Authority as being necessary to meet the project's stated scope and goals.

This RFS will be appended to and become part of the Contract for Designer Services. Any Designer selected as a result of this RFS will be required to execute the Contract for Designer Services and applicable amendment that are attached hereto.

Basic Services include, but are not limited to, verification of existing record information including building dimensions, details and general existing conditions, cost estimating, architecture, civil, sanitary, mechanical, electrical, plumbing, fire protection, structural, site planning and landscape architecture, basic environmental permitting, graphics, lighting design, acoustics, data and communication, educational consultants, any specialty consultants for sustainable design (LEED/MA-CHPS), laboratory, library/media center and kitchen space, code consultants, accessibility, energy evaluations, detailed cost estimates; preparation of construction documents; bidding and administering the Construction Contract Documents and other design and consulting services incidental and required to fulfill the project goals. Please refer to the Contract and amendments for a complete summary of Basic Services.

Extra and reimbursable expenses are defined in Articles 8 and 9 of the Contract in Attachment B.

D. Project Phases and Work Plan:

Work under this RFS is divided into the Project Phases as listed in Article 7 of the Contract as amended and as may be augmented in this RFS. Each Project Phase will consist of one or more required submissions, and may include site visits, meetings with the Owner, Owner's Project Manager, the Authority and others, and other tasks as described.

The estimated total duration of the Contract for Designer Services from Feasibility Study through the approval of Schematic Design, inclusive of review and approval time, is estimated to be *78 weeks* as follows:

(The District should provide the estimated schedule for the preliminary program and the schematic design phase based on the project specifics.)

Preliminary Program through Final Design Program	*35*	weeks
Schematic Design Phase	*43*	weeks
Design Development through 100% CD	*TBD*	
Bidding	*TBD*	
Construction Administration Phase	*TBD*	weeks

Estimated Total Duration (Exclusive of Completion Phase)	***TBD*** **weeks**

The durations for the Bidding and Construction Administration Phases are estimates only. Actual durations may vary depending upon the agreed upon solution, the extent of required document revisions, the time required for regulatory approvals, and the construction contractor's performance.

1. Feasibility Study/Schematic Design Phase; 20 -24 months

2. Design Development/Construction Documents/Bidding Phase; 10- 12 months

3. Construction Phase. 24 - 36 months

Such variances in estimated time will not, in and of themselves, constitute a justification for an increased Fee for BasicServices, nor are they a substitute for the performance time requirements shown below.

The Designer performance times listed in the table below are requirements, not estimates. The Owner, through the Owner's Project Manager will review each submission and, if acceptable, provide notice to the Designer to proceed to the next phase.

The Designer's adherence to the performance times listed below will be part of the Owner's performance evaluation of the Designer's work, which will be conducted at the end of the Project.

	Within/Weeks	
• **Attend a "Kick-Off" meeting**	*2*	Execution of a contract with the Owner
• **Preliminary Program**	*4*	Execution of a contract with the Owner
• **Development of Alternatives**	*6*	Execution of a contract with the Owner
• **Preliminary Evaluation of Alternatives**	*4*	Approval of Alternatives
• **Final Evaluation of Alternatives**	*4*	Approval of Preliminary Evaluation
• **Recommendation of Preferred Solution**	*2*	Approval of Final Evaluation
• **Final Design Program**	*2*	Approval of Preferred Solution
• **Schematic Design**	*12*	Approval of the Final Design Program
• **Design Development**	***TBD***	Approval of the Schematic Design
• **60% Construction Documents**	***TBD***	Approval of Design Development
• **100% Construction Documents**	***TBD***	Approval of Design Development

E. Minimum qualifications:

Selection will be made by the MSBA Designer Selection Panel in accordance with the Authority's Designer Selection Procedures, attached hereto as Attachment E. The Respondent must certify in its cover letter that

it meets the following minimum requirements. Any Respondent that fails to include such certification in its response, demonstrating that these criteria have been met, will be rejected without further consideration. To be eligible for selection, the Designer must meet **all** of the following qualifications.

1. Be a qualified Designer within the meaning of M.G.L. Chapter 7C, Section 44, employing a Massachusetts registered ***architect*** responsible for and being in control of the services to be provided pursuant to the Contract.
2. The Massachusetts registered ***architect*** responsible for and in control of the services to be provided has successfully completed the Massachusetts Certified Public Purchasing Official Program seminar "Certification for School Project Designers and Owner's Project Managers" as administered by the Office of the Inspector General of the Commonwealth of Massachusetts, and must maintain certification by completing the "Recertification for School Project Designers and Owner's Project Managers" seminar every three years thereafter. Proof of recertification or registration in the next recertification seminar for which space is available must be provided.
3. Pursuant to M.G.L. Chapter 7C, Section 6, the Designer must agree to contract with minority and women-owned businesses as certified by the Supplier Diversity Office (SDO) formerly known as the State Office of Minority and Women Business Assistance (SOMWBA). The amount of participation that shall be reserved for such enterprises shall not be less than seventeen and nine tenths percent (17.9%) of the design contract price for combined minority business enterprises and women-owned business enterprises. Applicants must include a reasonable representation of both MBE and WBE firms that meets or exceeds the combined goal.

F. Selection Criteria:

In evaluating proposals, the Owner and Designer Selection Panel will consider the members of the proposed design team. Identify those member(s) of the proposed design team who will be responsible for the following categories of work: (Firm's name, individual's name and professional registration or license number, as applicable, must be listed in the application for each category of work, as well as whether the firm is SDO certified as an MBE and/or WBE).

1. ***Architecture***
2. ***Educational Programming***
3. ***Civil Engineering***
4. ***Landscape Architecture***
5. ***Structural Engineering***
6. ***Fire Protection Engineering***
7. ***Plumbing Engineering***
8. ***HVAC Engineering***
9. ***Electrical/Lighting***
10. ***Data/Communications***
11. ***Environmental Permitting***
12. ***Geotechnical Engineering***
13. ***Geoenvironmental Engineering***
14. ***Hazardous Materials***
15. ***Cost Estimating***
16. ***Kitchen/Food Service Consultant***
17. ***Laboratory Consultant***
18. ***Acoustical Consultant***
19. ***Specifications Consultant***
20. ***Library/Media***
21. ***Technology Consultant/Audio Visual Consultant***

22. *Theatrical Consultant*
23. *Sustainable/Green Design/Renewable Energy Consultant*
24. *Code Consultant*
25. *Accessibility Consultant*
26. *Traffic Consultant*
27. *Furniture, Fixtures and Equipment Consultant*
28. *Site Surveying*
29. *Security Consultant*

** N.B. –

Applicants must address each category of work listed above in their application whether it is to be performed by in-house staff or by sub-consultant(s).

The members of the team for each of the categories of work listed above must be identified including the firm's name, individual's name and professional registration or license number, as applicable, as well as whether the firm is SDO certified as an MBE and/or WBE.

Failure to address <u>each</u> category may result in the elimination of the applicant from consideration on this project.

Applicants should not list any consultants other than those for the categories of work listed above.

The minority and women-owned business enterprises must be selected to perform services addressing the categories of work listed above or be assigned to tasks required under Basic Services as specifically set forth in the Contract for Designer Services as amended. Consultants other than those proposed for the categories of work listed above or required to perform Basic Services may not be used for purposes of meeting M/WBE requirements. Applicants are strongly encouraged to utilize multiple disciplines and firms to meet their MBE/WBE goals. Consultants to the prime Designer can team within their disciplines in order to meet the MBE/WBE goals but must state this relationship on the organizational chart (Section 6 of the application form).

The Owner and Designer Selection Panel will consider the following additional criteria in evaluating proposals:

1. Prior similar experience best illustrating current qualifications for the specific project.
2. Past performance of the firm, if any with regard to public, private, DOE-funded, and MSBA funded projects across the Commonwealth, with respect to:
    a. Quality of project design.
    b. Quality, clarity, completeness and accuracy of plans and contract documents.
    c. Ability to meet established program requirements within allotted budget.
    d. Ability to meet schedules including submission of design and contract documents, processing of shop drawings, contractor requisitions and change orders.
    e. Coordination and management of consultants.
    f. Working relationship with contractors, subcontractors, local awarding authority and MSBA staff and local officials.
3. Current workload and ability to undertake the contract based on the number and scope of projects for which the firm is currently under contract.
4. The identity and qualifications of the consultants who will work on the project.
5. The financial stability of the firm.
6. The qualifications of the personnel to be assigned to the project.
7. Geographical proximity of the firm to the project site or willingness of the firm to make site visits and attend local meetings as required by the client.
8. Additional criteria that the MSBA Designer Selection Panel considers relevant to the project.

G. Proposal requirements

Persons or firms interested in applying must meet the following requirements:

1. **Applicants must have an up-to-date Master File Brochure on file at the Massachusetts School Building Authority.**

2. Applications shall be on "Standard Designer Application Form for Municipalities and Public Agencies not within DSB Jurisdiction (Updated May 2014)" as developed by the Designer Selection Board of the Commonwealth of Massachusetts. **Applications (one original, twenty (20) hard copies, and two (2) digital copies in PDF format on separate compact disks) must be received on or before 2:00 PM , _May 18, 2016.** Applications should be printed double-side and bound in such a manner that the pages lie and remain flat when opened. The specific organization and orientation of the proposal is at the applicant's discretion, but it is recommended that the proposal be laid out in such a manner that the reader doesn't need to be constantly rotating the proposal. Applications should not be provided with acetate covers.

3. Applications must be accompanied by a concise cover letter that is a maximum of two pages in length. A copy of the cover letter should be attached to each copy of the application. The cover letter must include the certifications as noted in Section E of this RFS. (A copy of the MCPPO certification should be attached to the cover letter as well as any SDO letters.)

4. Applicants may supplement this proposal with graphic materials and photographs that best demonstrate design capabilities of the team proposed for this project **subject to the page limitations as set forth in the Standard Designer Application Form.**

5. Proposals shall be addressed to:

Name	P. Michael Vaughn, Chief Procurement Officer
Address	Lowell City Hall 375 Merrimack Street, Purchasing Department, Room 60 Lowell, MA 01852
Phone Number	978-674-4110
Email	pmvaughn@lowellma.gov

6. Proposals must be clearly identified by marking the package or envelope with the following:

   "Designer Services for Lowell High School" and "Name of Applicant"

7. All questions regarding this RFS should be addressed exclusively in writing to:

Name	P. Michael Vaughn, Chief Procurement Officer
Address	Lowell City Hall 375 Merrimack Street, Purchasing Department, Room 60 Lowell, MA 01852
Phone Number	978-674-4110
Email	pmvaughn@lowellma.gov

H. Pre-Proposal Meeting

All interested parties should attend a briefing session at Lowell High School scheduled for **May 11, 2016** at **10:00 AM.**

I. Withdrawal

Applicants may withdraw an application as long as the written request to withdraw is received by the Owner prior to the time and date of the proposal opening.

J. Public Record

All responses and information submitted in response to this RFS are subject to the Massachusetts Public Records Law, M.G.L. c. 66, § 10 and c. 4, § 7(26). Any statements in submitted responses that are inconsistent with the provisions of these statutes shall be disregarded.

K. Waiver/Cure of Minor Informalities, Errors and Omissions

The Owner reserves the right to waive or permit cure of minor informalities, errors or omissions prior to the selection of a Respondent, and to conduct discussions with any qualified Respondents and to take any other measures with respect to this RFS in any manner necessary to serve the best interest of the Owner and its beneficiaries.

L. Rejection of Responses, Modification of RFS

The Owner reserves the right to reject any and all responses if the Owner determines, within its own discretion, that it is in the Owner's best interests to do so. This RFS does not commit the Owner to select any Respondent, award any contract, pay any costs in preparing a response, or procure a contract for any services. The Owner also reserves the right to cancel or modify this RFS in part or in its entirety, or to change the RFS guidelines. A Respondent may not alter the RFS or its components.

M. Additional Information

ATTACHMENTS:

Attachment A: Statement of Interest

Attachment B: Contract for Designer Services - Base Contract for Design Bid Build or CM-at-Risk Project *(http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Contracts_Forms/Base%20Contract%20v_02_25.pdf)*

Designer Services Contract Amendment for Design/Bid/Build *(http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Contracts_Forms/DBB%20v_02_25.pdf)*

Designer Services Contract Amendment for CM-at-Risk *(http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Contracts_Forms/CM-R%20v_02_25.pdf)*

Attachment C: Standard Designer Application Form for Municipalities and Public Agencies not within DSB Jurisdiction (Updated May 2014) *(http://www.mass.gov/anf/property-mgmt-and-construction/design-and-construction-of-public-bldgs/designer-selection-process/designer-selection-proc-and-evals-for-municipalities/procedures-and-apps-for-municipalities.html)*

Attachment D: Certifications

Certifications/Additional Documents Required:

1. Statement of Management
2. Conflict of Interest Certification
3. Acknowledgement of Addenda
4. Affidavit of Non-Collusion
5. State and Local Requirements
6. Certificate of Authority
7. Vendor TIN Certification
8. Reference Form
9. Tax Compliance Form

Attachment E: MSBA's Designer Selection Panel's Procedures

End of Request for Designer Services

Office of the City Manager
City Hall ● 375 Merrimack Street ● Lowell, MA 01852
P: 978.674.4000 ● F: 978.970.4007
www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: April 14, 2016
Time: 11:00AM
Location: Mayor's Conference Room

1. - Attendance

Attendees: Kevin Murphy, Mike McGovern, Mike Vaughn, Robert Healy, Conor Baldwin, William Samaras, Steve Gendron, James Cook, and David Beati

Also in attendance: Gary Frisch (representing Superintendent Khelfaoui), Richard Underwood, Rodney Conley and Celine Gettings (representing Mayor Kennedy). From Skanska: Jim Dowd, Mary Ann Williams and Dale Caldwell.

2. - Recap and Overview to Date

City Manager, K. Murphy, presiding.

The City Manager noted the attendance of G. Frisch and R. Underwood. It was determined that with Jay Lang and Brian Curley no longer in the district that both G. Frisch, as School Business Administrator, and R. Underwood, as interim Facilities Manager, would be added to the School Building Committee. The Committee was asked to vote on accepting both Frisch and Underwood as members, motioned by R. Healy and seconded by J. Cook. So voted.

The City Manager noted the joint City Council and School Committee meeting that took place on April 12th, 2016. At the meeting Skanska, the OPM team for the Lowell High School project, presented an introduction and overview to the Council and Committee members.

The Manager also noted his disappointment with the MSBA telephone conference. He then highlighted the next item in the project for the School Building Committee members, selecting a designer for the feasibility study.

3. - Designer Selection Timeline- Module II, Feasibility Study

J. Dowd addressed the timeline for the next steps in the current phase for selecting a designer.

This meeting was to discuss: 1) DSP process and form a "Designer Application Review Committee" (DARS) to review and evaluate Designer applications, recommend sub-committee of 4-6 members. Identify three individuals to represent the School District at the MSBA Designer Selection Panel (DSP) meeting.

3.1 Designer Application Review Subcommittee

M. Vaughn raised the question if the three individuals on the DSP are to be separate from those of the DARS members. D. Caldwell answered that the DSP members need to meet certain requirements from the MSBA but they can be on the DARS subcommittee.

R. Healy noted that the DARS volunteers need to understand that it is an intense schedule and to expect to spend a lot of time on the applications since it is an important function for the committee. He also shared his anticipation in receiving a lot of interest in the project in response to the RFS. M. Williams from Skanska noted that the OPM has a matrix that will be used to provide a snap shot of the designer applications making it easier to compare them on certain characteristics.

The City Manager reminded the committee that R. Healy, B. Martin, W. Samaras and B. Curley were on the subcommittee for OPM selection.

3.2 Vote to select DARS

R. Healy, B. Martin, M. Vaughn and W. Samaras volunteered to be on the subcommittee. The City Manager motioned to appoint the four volunteers to the DARS, seconded by S. Gendron. None objected, so voted.

3.3 Designer Selection Panel

According to MSBA requirements, the selection panel requires: Superintendent of Schools or a designee, Mayor or City Manager, and a representative designated by the School Committee. G. Frisch volunteered to be Superintendent Khelfaoui's designee. The City Manager will participate as executive for the City of Lowell. S. Gendron volunteered to be the School Committee's designee. The representative designated by the School Committee needs to be selected through a vote at one of their next meetings in May. The Manager noted that they would reach out to the MSBA in regards to the language needed for the vote.

The City Manager, G. Frisch (as representative for Superintendent) and a School Committee Representative (to be selected at a later date) will serve on the Selection Panel.

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Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

3.4 Designer RFS

City Manager motioned to vote on submitting a draft of the RFS, seconded by R. Healy. All in favor, so voted.

D. Caldwell, Skanska, informed the committee that the MSBA website now includes an education plan that will be a key element of the feasibility study. He noted that he would send education plan to G. Frisch to complete at the earliest convenience.

4. - Looking Forward

M. McGovern commented on the quick turnaround from the joint City Council and School Committee meeting. He recommended the committee should meet regularly to ensure progress continues. M. McGovern proposed the committee formalize a schedule on the first Thursday of every month at 10:00am. Skanska will make a recommendation in regards to the day of the formalized schedule based on the project timeline and get back to the committee.

The City Manager noted that although Skanska is the OPM, the committee is in charge of the High School project. It is up to the committee to ensure that Lowell has the best top notch high school ever constructed. He also wanted to thank everyone for their commitment, dedication and hard work. He expressed his appreciation of all the time dedicated to the project.

The Manager motioned to adjourn the meeting, R. Healy and S. Gendron seconded. So voted.

HEATHER VARNEY
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct. 2, 2020

Lowell High School Project

School Building Committee

Agenda Items – June 2, 2016

- Designer Selection Process Update
- Representatives at DSP Meeting
- Designer Application Review Subcommittee Report
- Discussion of Designer Applicants
- Representatives at DSP Meeting
- Education Plan Update

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www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: June 2, 2016
Time: 10:00AM
Location: Mayor's Conference Room

1. - Attendance

Attendees: Kevin Murphy, Mike McGovern, Mike Vaughn, Robert Healy, Conor Baldwin, William Samaras, James Cook, Brian Martin, Gary Frisch, Richard Underwood, and Lisa DeMeo.

Also in attendance: Rodney Conley.
From Skanska: Jim Dowd and Mary Ann Williams

2. - Designer Selection Process

The SBC designated three members as the Designer Selection Panel (City Manager, Superintendent of School/designee and School Committee designee) during the April meeting. This panel will go before the MSBA in Boston on June 21, 2016 at 8:30 a.m.

The Designer Application Review Subcommittee, including R. Healy, W. Samaras, M. Vaughn and B. Martin reviewed the designer applications submitted. The subcommittee met May 26, 2016 to discuss the designer applications. The City Manager noted it is difficult second guess the selected subcommittee that conducted the designer interviews. The City Manager moved to accept recommendation of the subcommittee, seconded by R. Healy. All in favor; so voted.

M. Vaughn brought up the fact that city can only go forward with two of the eight design firms that have applied.

3. - Designer Application Review Subcommittee Report

The committee agrees that the MSBA be presented the subcommittee's recommendation, forgoing a presentation to the SBC.

M. McGovern asked what the MSBA will be looking for in determining the chosen designer. M. Williams noted that the MSBA will look at the results of the last several meetings and may spread the work around to firms specified. Firms will be judged on relevant experience, capacity, application and recent awards. The OPM suggests that the SBC list preference for two to three

firms that the committee would be comfortable with. The City Manager requested that the top three selected by the subcommittee be mentioned: 1) Perkins Eastman, 2) Arrowstreet, 3) SMMA. The OPM supplied minutes from the subcommittee meeting for the SBC members' review. The minutes discussed the application review process and how firm experience played a large part of the selection. The document also highlights the most comfortable and advantageous firm being Perkins Eastman and then Arrowstreet. M. Williams noted that the only reason that the minutes contain a list of the top three firms in alphabetical order rather than preference rank is due to regulations.

4. - Discussion of Designer Applicants

W. Samaras noted that the MSBA can reject all three of the City's selected designers and go with any designer that applied. It is not possible to control the selection, but it will be important for the Designer Selection Panel to state a clear preference to one or more designers. B. Martin asked the subcommittee to clarify their first choice. The subcommittee clearly recommends 1) Perkins Eastman and 2) Arrowstreet. M. Williams noted that in the document to the MSBA, the OPM is not able to rank the designers, but the DSP can express support for one entity.

J. Cook wanted to note that Dore and Whittier in particular have two poor reviews from North Reading. The subcommittee discussed if it was the OPM or designer that was at fault for cost control issues. G. Frisch believed that this was a strong negative aspect to this designer.

B. Martin mentioned perhaps getting talking points for each firm to the DSP, especially ones that may highlights Perkins Eastman. M. Vaughn asked if the Designer review document that was distributed to the SBC was submitted to the MSBA as well.

5. - Representatives at DSP Meeting

The DSP Representatives include City Manager K. Murphy, Superintendent of School's designee G. Frisch and the School Committee's designee S. Gendron. These representatives will be responsible for stating the City's designer preference at the meeting in Boston on June 21, 2016.

The OPM suggests that the DSP representatives set a meeting to debrief in regards to the Designer Application Review Subcommittee held on May 26, 2016. The tentative date for the second DSP meeting in Boston is between June 28th and July 14th. B. Martin asked if the SBC should be present when the DSP attends the meeting in Boston, for support. M. Williams and J. Dowd noted that if the committee would like to show support, it is allowed by the MSBA.

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Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

MSBA will provide a document for the DSP asking voting members to read the document and understand the process fully as members may be contacted directly.

6. - Education Plan Update

B. Martin noted that in regards to updating the committee to the education plan, that a walkthrough of the class rooms be done before the architect begins. This will enable the designer to talk to different department heads and teachers, as noted by R. Underwood. J. Cook mentioned the OMR report that matches the state requirements for space versus the physical space needed.

7. - Looking Forward

M. McGovern noted that the project will move into Module 3: Approve Designer, by the end of July.

B. Martin believes that this may be a good opportunity to get feedback from the communities. M. McGovern suggested reaching out to Neighborhood Groups in the fall for their feedback.

The City Manager engaged all members present to ensure that no one had any additional questions or concerns. G. Frisch wanted to thank M. McGovern and R. Conley for giving the School Committee an update regarding the School Building Committee's progress.

R. Healy motioned to adjourn, seconded by B. Martin.

HEATHER VARNEY
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct. 2, 2020

Lowell High School Project

School Building Committee

Agenda Items – August 11, 2016

- Designer Selection Process Update
- Perkins Eastman/DPC Presentation
- Review & Approval of Perkins Eastman/DPC Fee Proposal
- Authorization to Contract with Perkins Eastman/DPC
- Review and Approval of Invoices
- Next Steps

Perkins Eastman | DPC

Creativity
Humanity
Purpose

July 28, 2016, August 2, 2016, August 3, 2016, August 4, 2016 (revised)

P. Michael Vaughn
Chief Procurement Officer
Purchasing Department
The City of Lowell
City Hall
375 Merrimack Street, 3rd Floor
Lowell, MA 01852

Re: Feasibility and Schematic Design Services Proposal for Lowell High School, Lowell, MA

Dear Mary Ann,

We are very pleased to have been selected as the Architect for the Lowell High School Project. As requested we have examined our proposal with our design team and offer the following for your consideration.

The primary goal of our work is to plan, design, draw and budget a scope of work for the Lowell High School for an estimated construction budget of $114,000,000 to $152,000,000.

We understand the scope includes the study of problems identified in the Statement of Interest, an examination of options for renovations of the existing school, including additions and renovations and an exploration of options for a new school building as outlined in MSBA's Module 3 Feasibility Study and develop a schematic design solution per MSBA's Module 4 Schematic Design Guidelines.

The project will commence with the following two phases, Feasibility and Schematic Design. Based on the preliminary schedule developed by Skanska, we are proposing MSBA program milestone dates as follows or sooner.

- A/E Notice to Proceed – 8/4/16
- MSBA Project Kick off – TBD
- Submit Preliminary Design Program – 2/9/17 or sooner
- Submit Preferred Schematic Report – 4/6/17 or sooner
- Begin Schematic Design – 6/1/17
- Submit Schematic Design – 11/30/17 or sooner

Based on the RFS and the MSBA standard contract for designer services we understand the basic scope of services for the feasibility and schematic design portions of the project to include:

- **Architecture**
- **Educational Programming**
- **Civil Engineering**

New York
Boston
Charlotte
Chicago
Dallas
Los Angeles
Pittsburgh
San Francisco
Stamford
Washington DC
Toronto
Shanghai
Guayaquil
Mumbai
Dubai

Perkins Eastman
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50 Franklin Street
Suite 203
Boston, Massachusetts 02110
t. 617.449.4000

www.perkinseastman.com

- Landscape Architecture
- Structural Engineering
- Fire Protection Engineering
- Plumbing Engineering
- HVAC Engineering
- Electrical / Lighting Engineering
- Data/Communications
- Environmental Permitting (FS / SD – attend scoping meetings with all agencies, develop permitting matrix based on preferred design)
- Geotechnical Engineering (add service)
- Geoenvironmental Engineering Phase 1 (add service)
- Hazardous Materials (add service)
- Cost Estimating
- Kitchen / Food Service Consulting
- Laboratory Consultant
- Acoustical Consultant
- Specifications Consultant
- Library / Media
- Technology / AV Consultant
- Theatrical Consultant
- Sustainability/Green Design/Renewable Energy Consultant (Energy Modeling, Daylighting)
- Code Consulting
- Accessibility Consultant
- Traffic Consultant (add service)
- Furniture Fixtures & Equipment Consultant
- Site Surveying (add service)
- Security Consultant
- Historical Consultant

We propose a lump sum fee of One Million Ninety Five Thousand Dollars ($1,095,000) for the Feasibility and Schematic Design phases broken down as follows:

1.	Feasibility Study	$689,850
2.	Schematic Design	$405,150

Total	$1,095,000

It is our understanding that the base scope is comprehensive and includes all the services required to complete the scope as outlined in the RFP. Per articles 3.4 and 4.11 of the contract the following list of reimbursable sub consultants are provided for your reference.

- Geo-Technical Engineering $38,137
- Hazardous Materials $19,030
- Site Survey $62,700
- Geo-Environmental Phase 1 $4,400
- Traffic $19,800

Please review our proposal and if it meets your expectations please provide us with an authorization to proceed with services. We very much look forward to working with you and the Committee.

Sincerely,

PERKINS EASTMAN | DPC

Joseph Drown, AIA
Principal

CC:

Alicia Caritano – Perkins Eastman

Joseph Costa – Perkins Eastman

John Pears – Perkins Eastman

Shaun Snow – Perkins Eastman



LOWELL HIGH SCHOOL

JULY 12, 2016

Perkins Eastman | DPC

UNIQUENESS OF LOWELL





- Historic Fabric

UNIQUENESS OF LOWELL





- Historic Fabric
- Broader Context

UNIQUENESS OF LOWELL





- Historic Fabric
- Broader Context
- Responsible Stewardship

TEAM LEADERS



Joseph Drown, AIA
Principal-In-Charge | Senior Project Manager

TEAM LEADERS



Joseph Drown, AIA
Principal-In-Charge | Senior Project Manager



Robert Bell, AIA, ALEP, LEED® AP BD+C
Educational Programmer

TEAM LEADERS



Joseph Drown, AIA
Principal-In-Charge | Senior Project Manager



Robert Bell, AIA, ALEP, LEED® AP BD+C
Educational Programmer



Dawn Guarriello, AIA, LEED® AP BD+C
Project Architect | Lead Designer

TEAM LEADERS



Joseph Drown, AIA
Principal-In-Charge | Senior Project Manager



Robert Bell, AIA, ALEP, LEED® AP BD+C
Educational Programmer



Dawn Guarriello, AIA, LEED® AP BD+C
Project Architect | Lead Designer



Alicia Caritano, AIA, LEED® AP
Project Manager

TEAM LEADERS



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Educational Programmer



Dawn Guarriello, AIA, LEED® AP BD+C
Project Architect | Lead Designer



Alicia Caritano, AIA, LEED® AP
Project Manager



Joseph Costa, AIA, LEED® AP
Project Manager

ROLES / WHO YOU WILL SEE / AVAILABILITY FOR YOUR PROJECT

Joe Drown
Principal-In-Charge
Senior Project Manager



70%

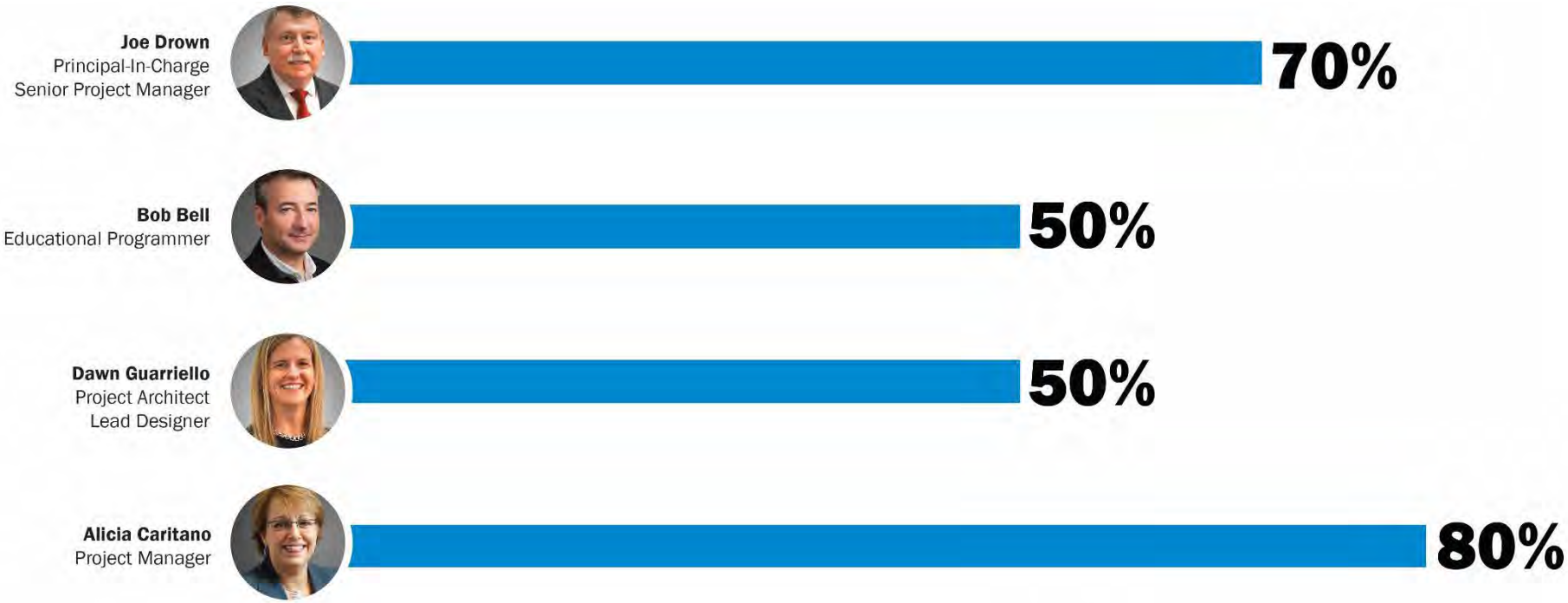
ROLES / WHO YOU WILL SEE / AVAILABILITY FOR YOUR PROJECT



ROLES / WHO YOU WILL SEE / AVAILABILITY FOR YOUR PROJECT



ROLES / WHO YOU WILL SEE / AVAILABILITY FOR YOUR PROJECT



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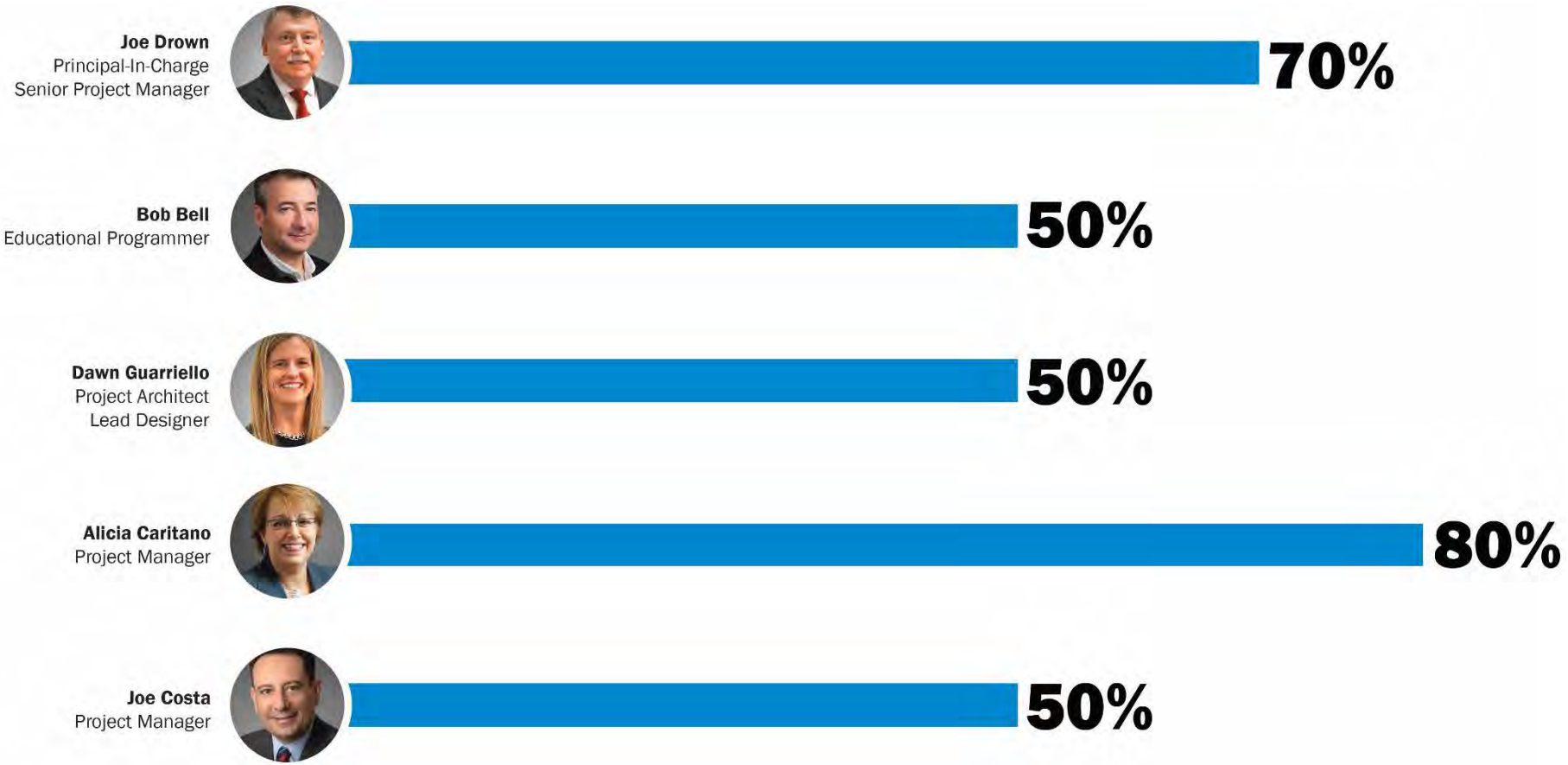
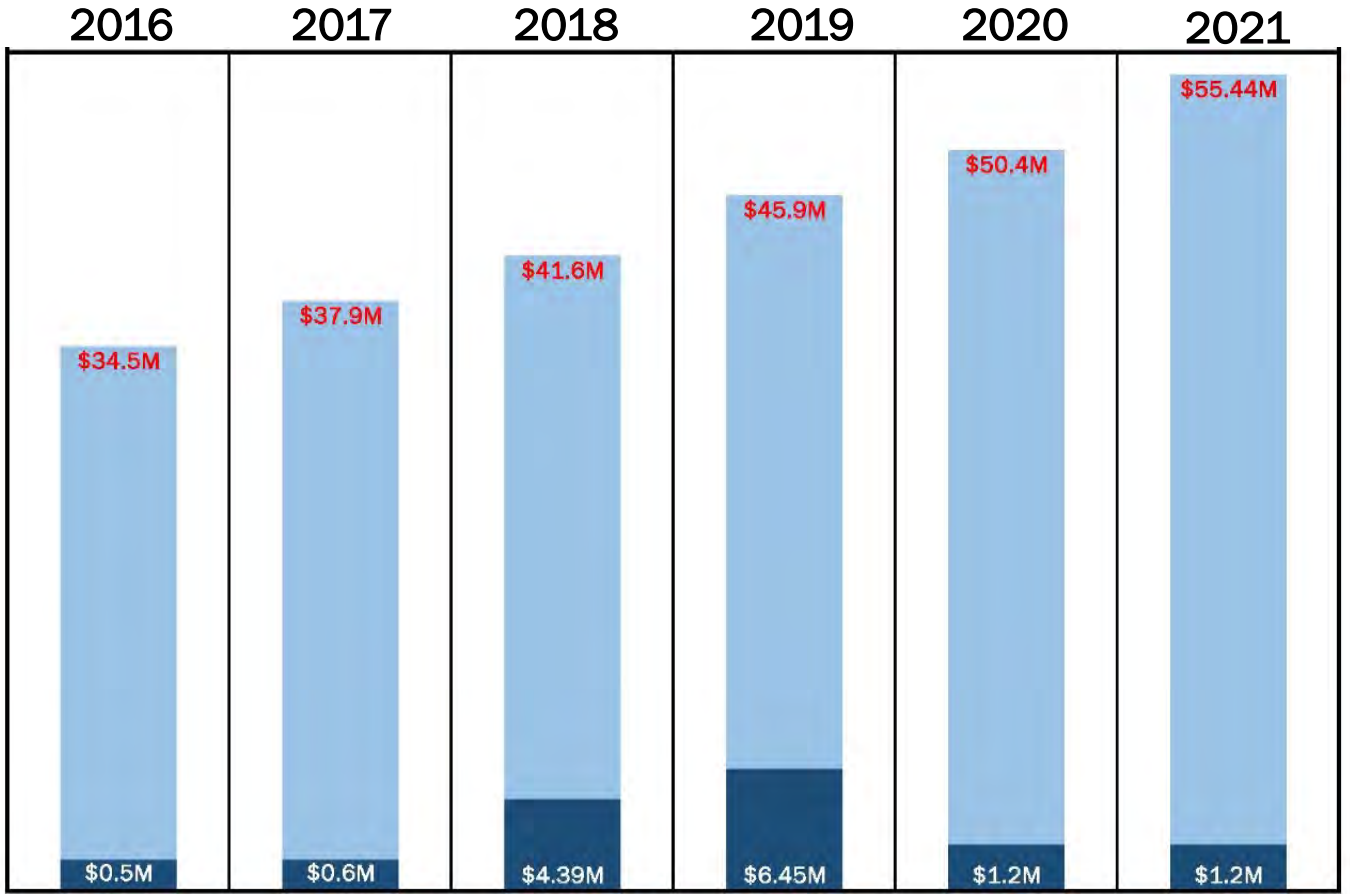


BOSTON AND STAMFORD COMBINED CAPACITY



PROGRAMMING / PLANNING



EDUCATIONAL PROGRAM & SPACE SUMMARY





STUDENTS OF LOWELL

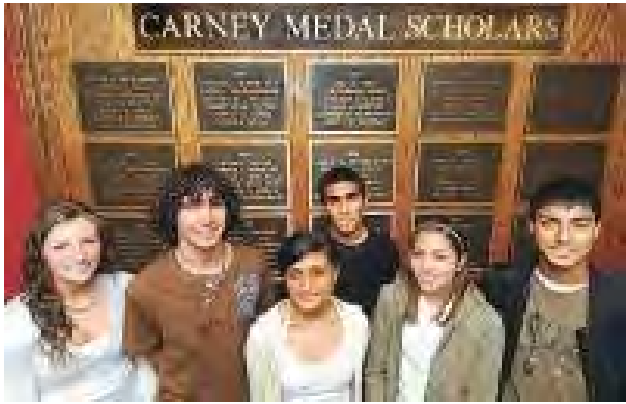


A UNIQUE SCHOOL



A UNIQUE SCHOOL

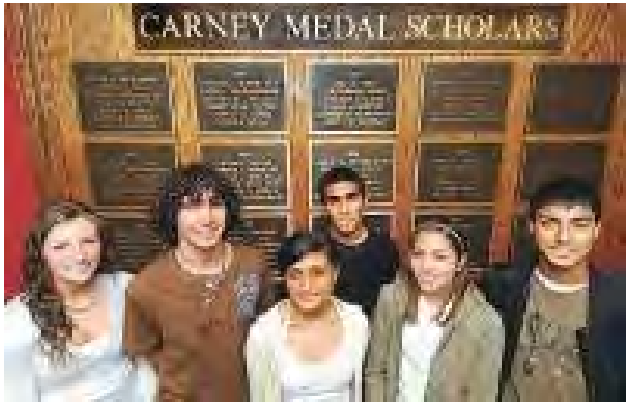




- 1st CO-ED HS in US

A UNIQUE SCHOOL

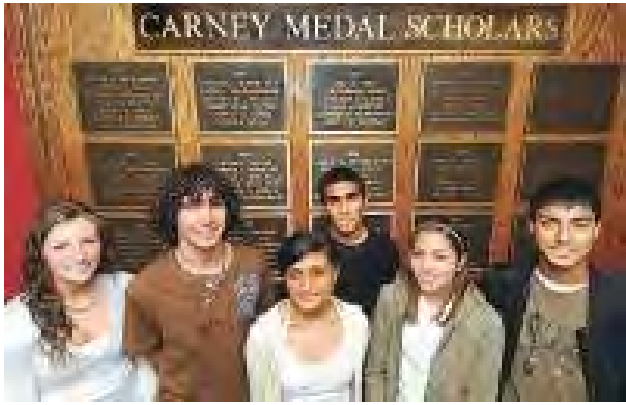




- 1st CO-ED HS in US
- Ell influx (SIFE)

A UNIQUE SCHOOL

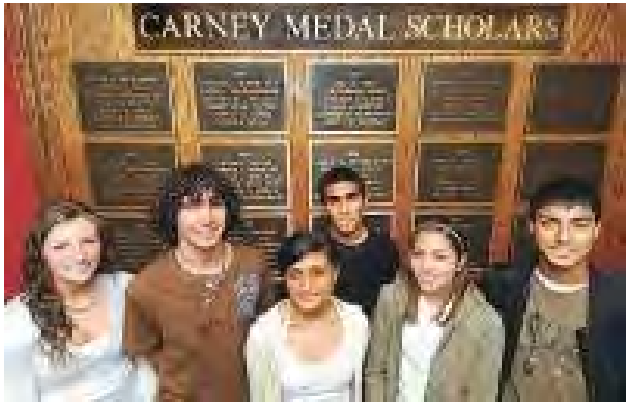




- 1st CO-ED HS in US
- Ell influx (SIFE)
- Career pathways

A UNIQUE SCHOOL





- 1st CO-ED HS in US
- Ell influx (SIFE)
- Career pathways
- City/history ties

CAREER QUALITY



PROGRAM NUANCES

CAREER QUALITY



ELL/SIFE EMERSION



PROGRAM NUANCES

CAREER QUALITY



ELL/SIFE EMERSION



ACCESS TO TECHN. & NOURISHMENT

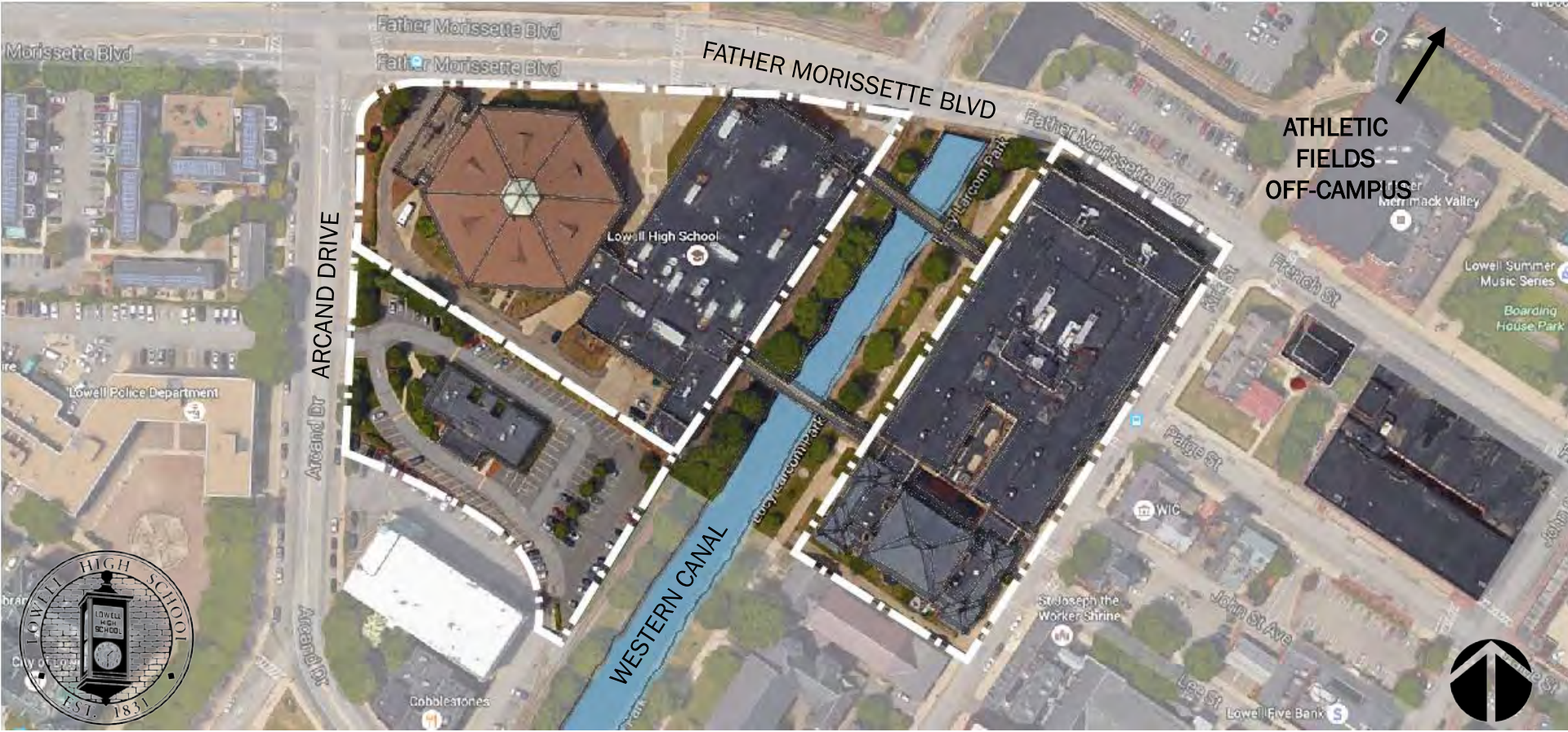




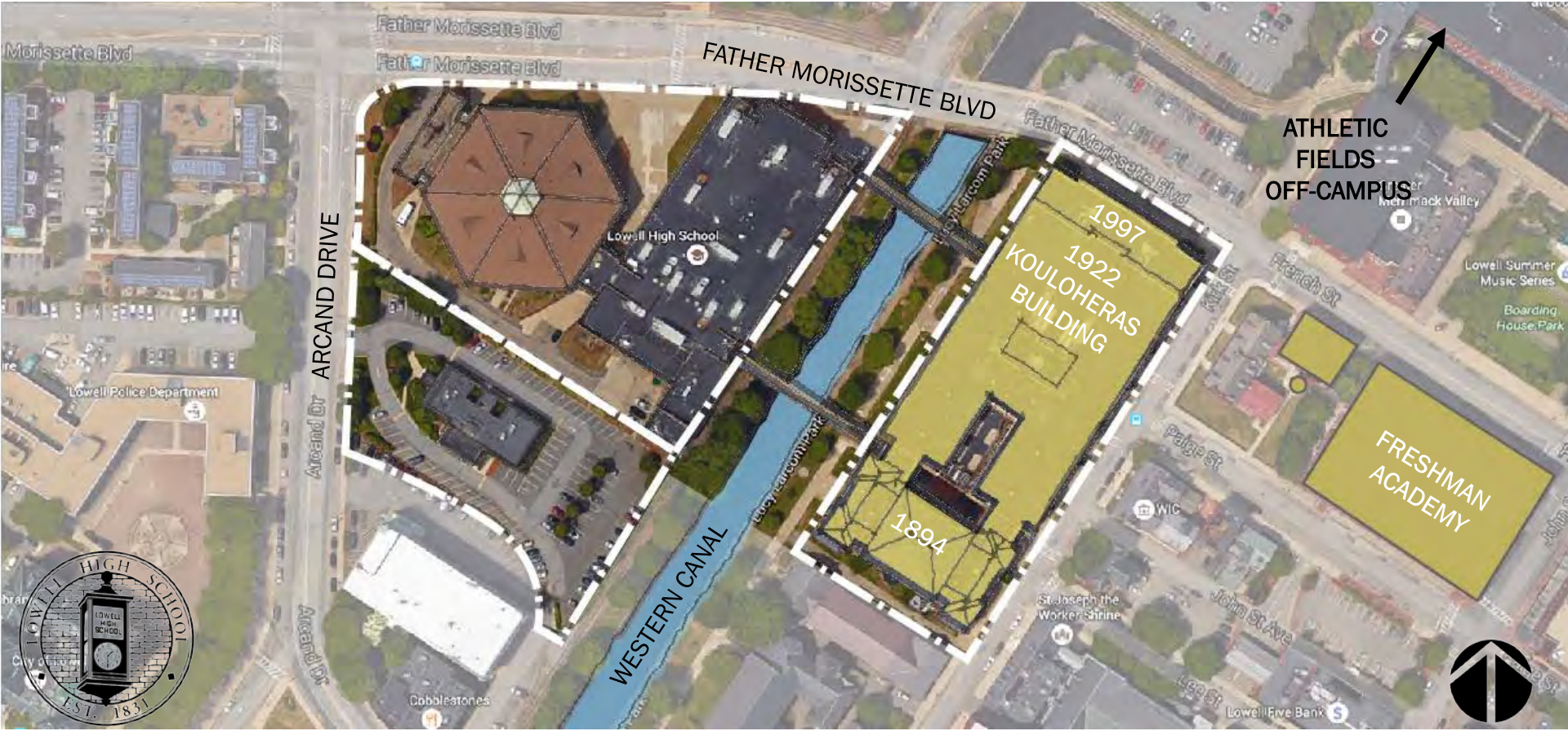
OPPORTUNITIES AND CONSTRAINTS



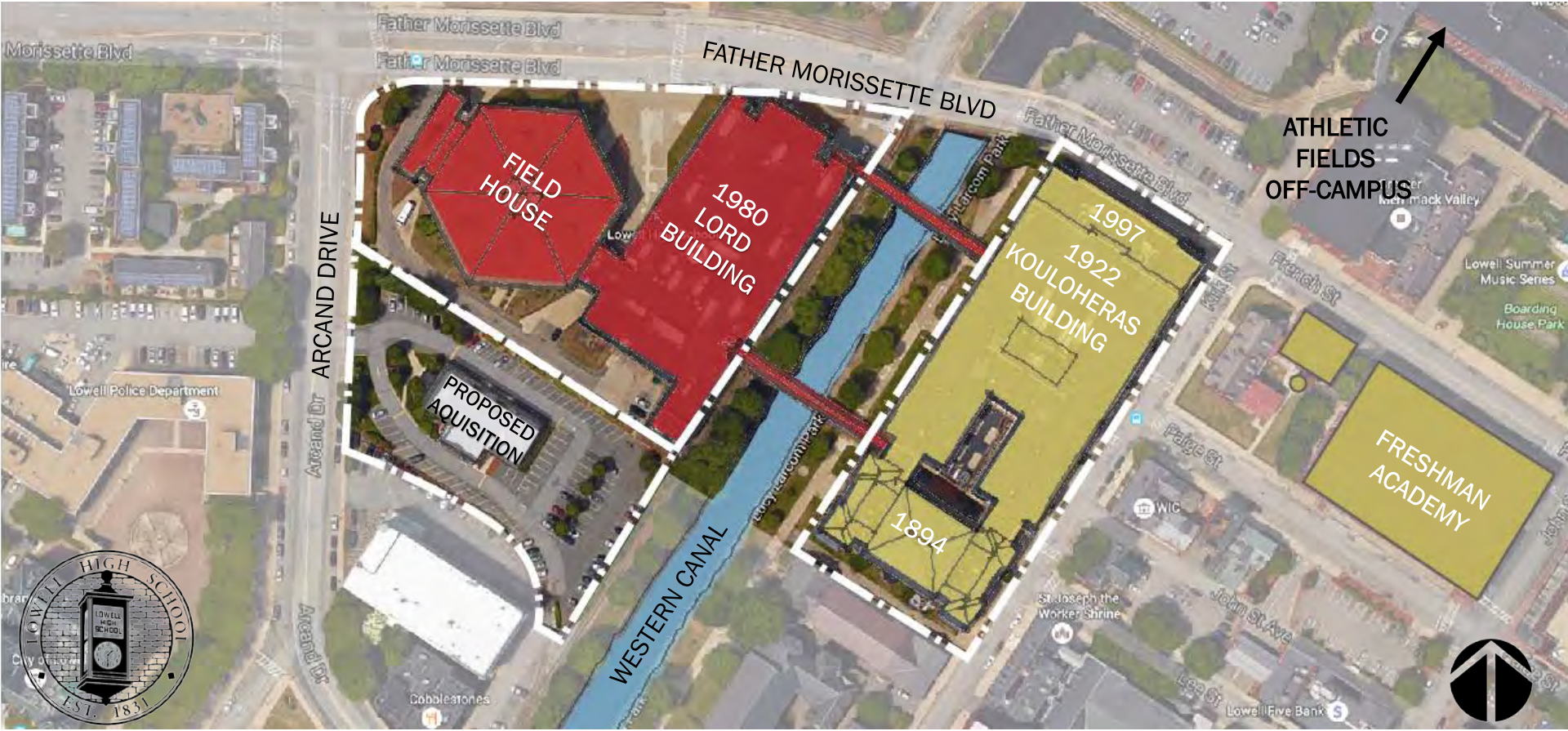
OPPORTUNITIES AND CONSTRAINTS



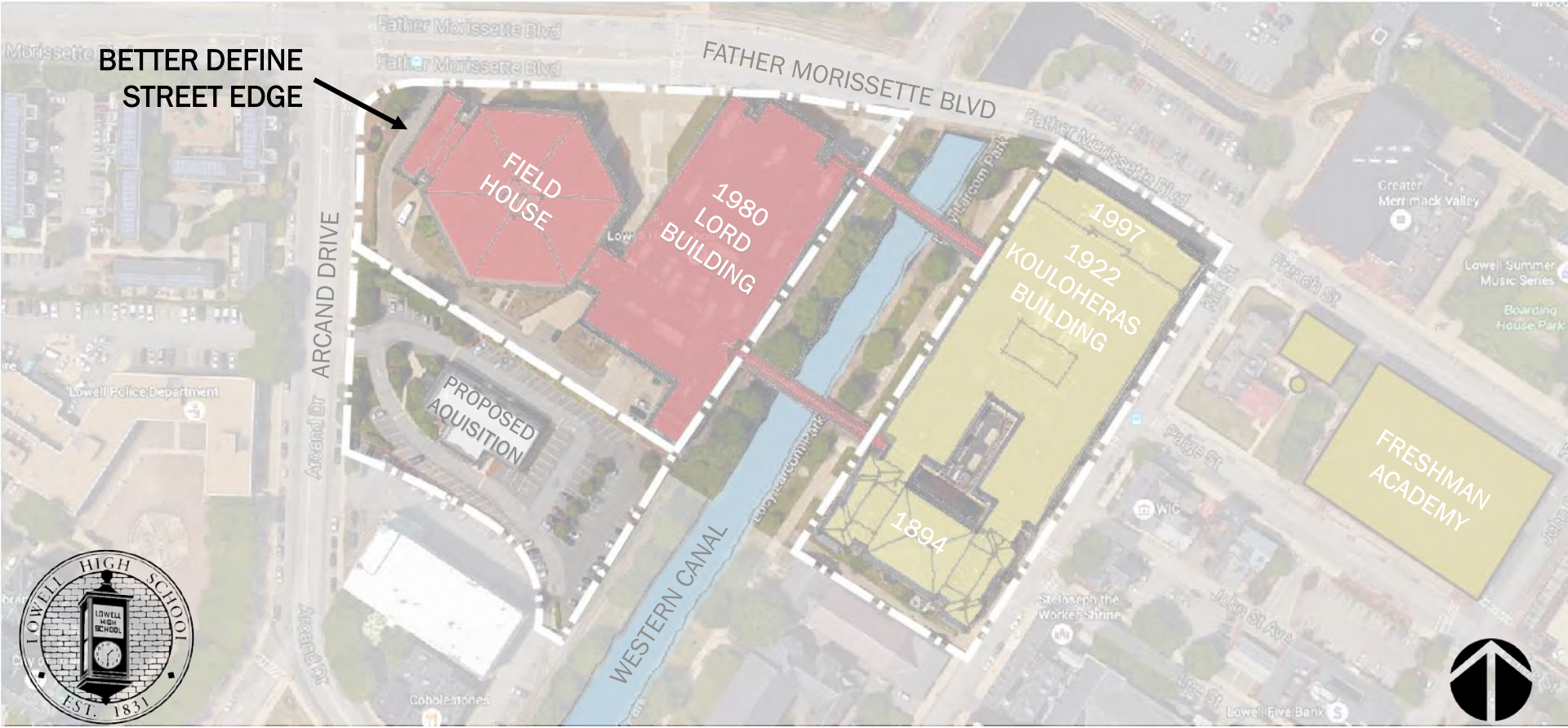
OPPORTUNITIES AND CONSTRAINTS



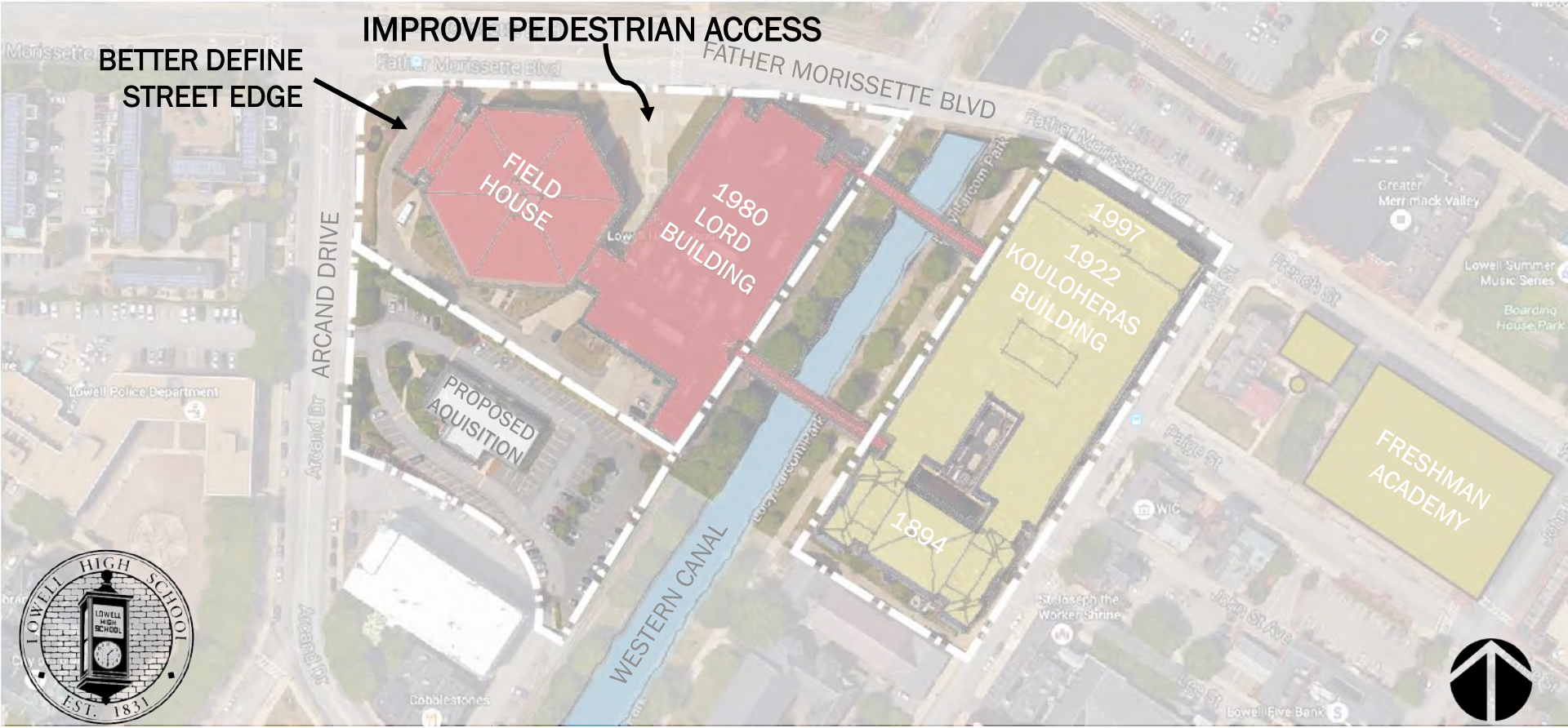
OPPORTUNITIES AND CONSTRAINTS



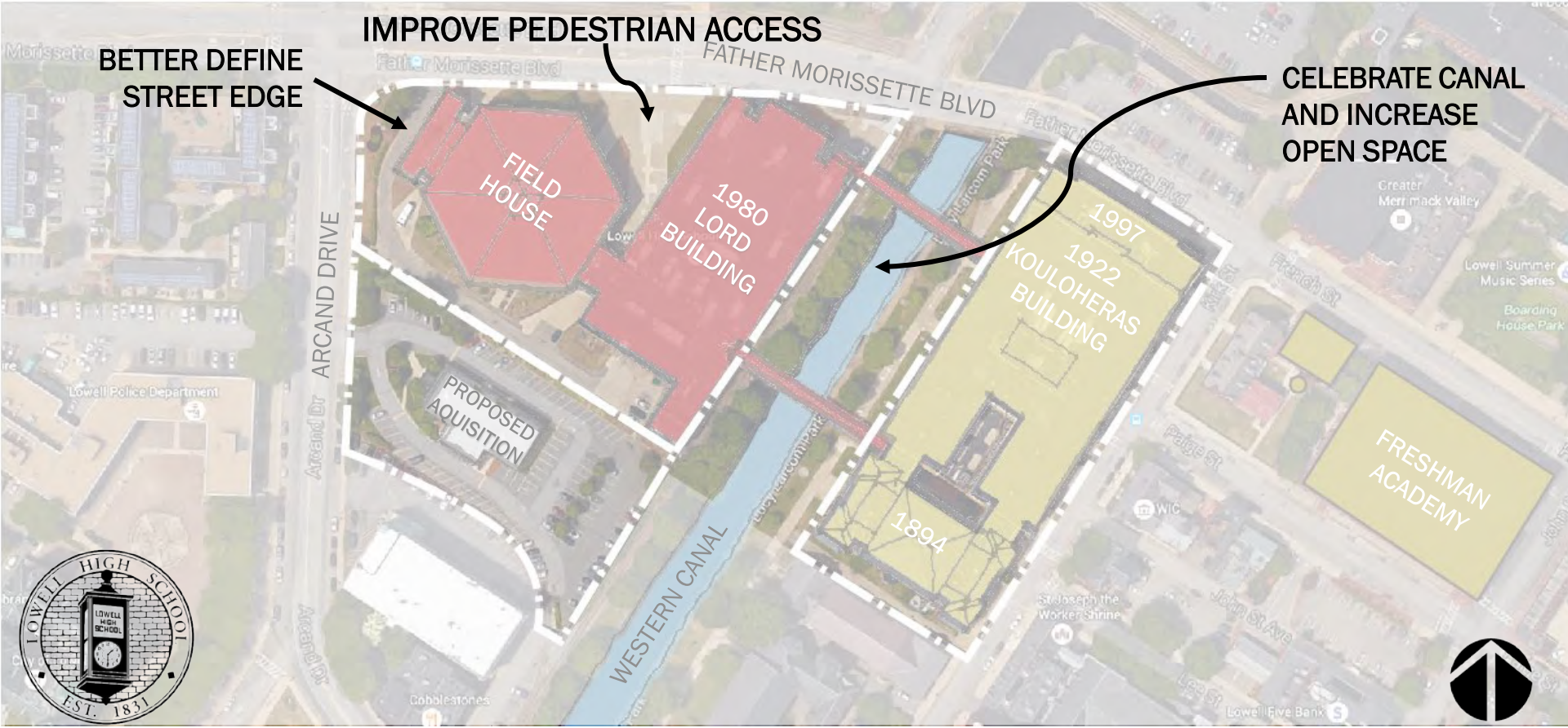
OPPORTUNITIES AND CONSTRAINTS



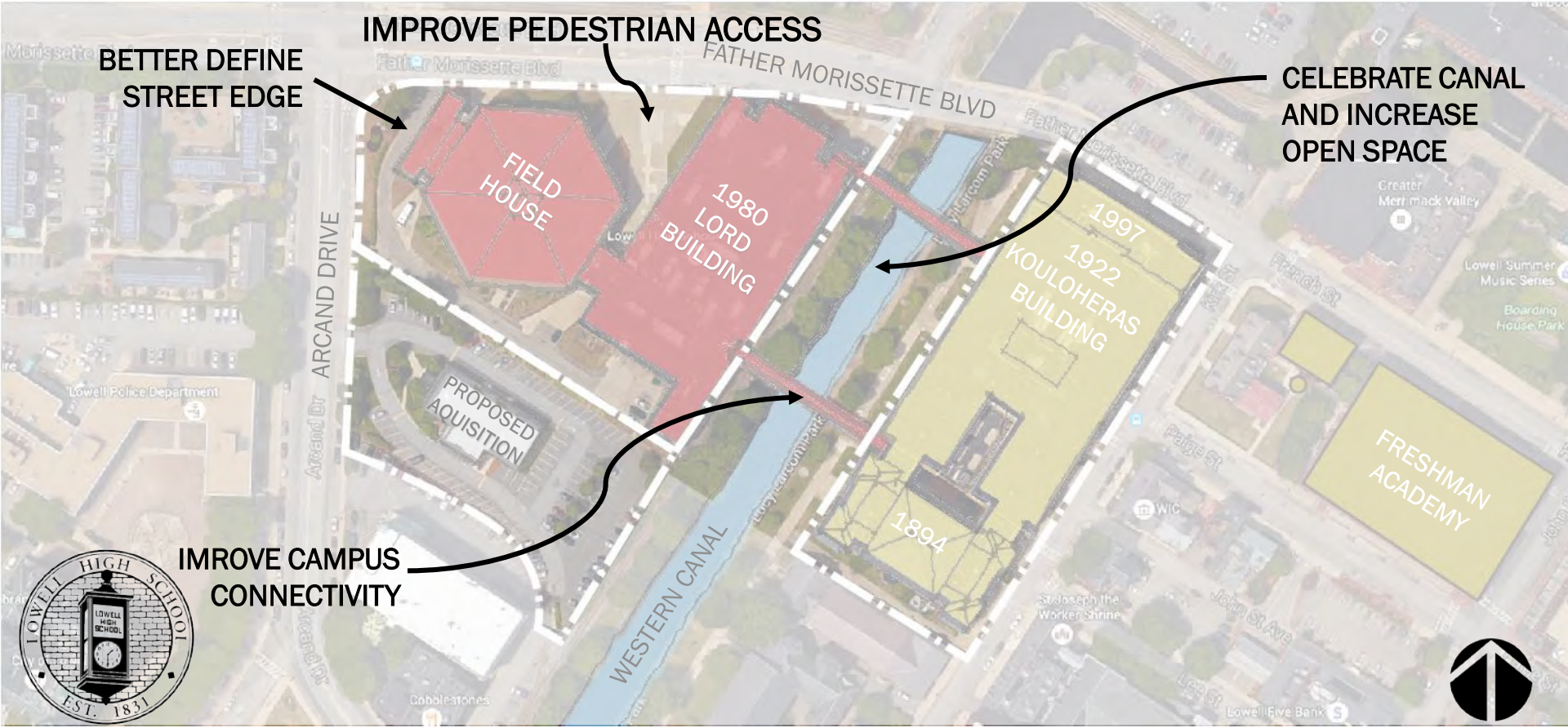
OPPORTUNITIES AND CONSTRAINTS



OPPORTUNITIES AND CONSTRAINTS



OPPORTUNITIES AND CONSTRAINTS



CONTINUITY OF EDUCATION THROUGHOUT RENOVATION





CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN



CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN

21ST CENTURY EDUCATIONAL SPACES

CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN

21ST CENTURY EDUCATIONAL SPACES

SAFETY & SECURITY



CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN

21ST CENTURY EDUCATIONAL SPACES

SAFETY & SECURITY

ALL STUDENTS ON ONE CAMPUS



CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN

21ST CENTURY EDUCATIONAL SPACES

SAFETY & SECURITY

ALL STUDENTS ON ONE CAMPUS

CONNECT WITH CITY FABRIC

DESIGN CONCEPT

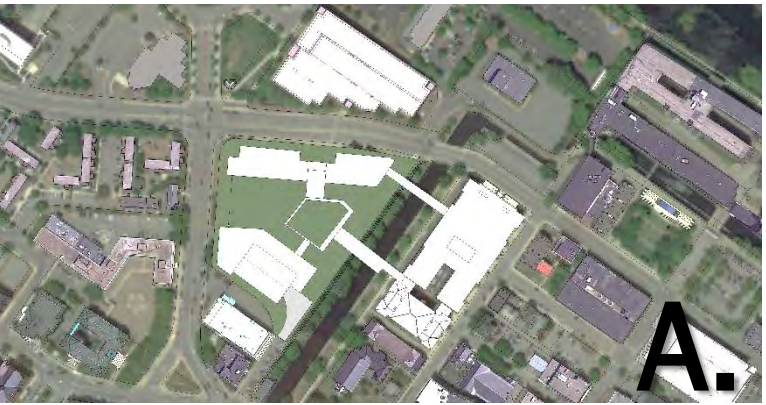


DESIGN CONCEPT

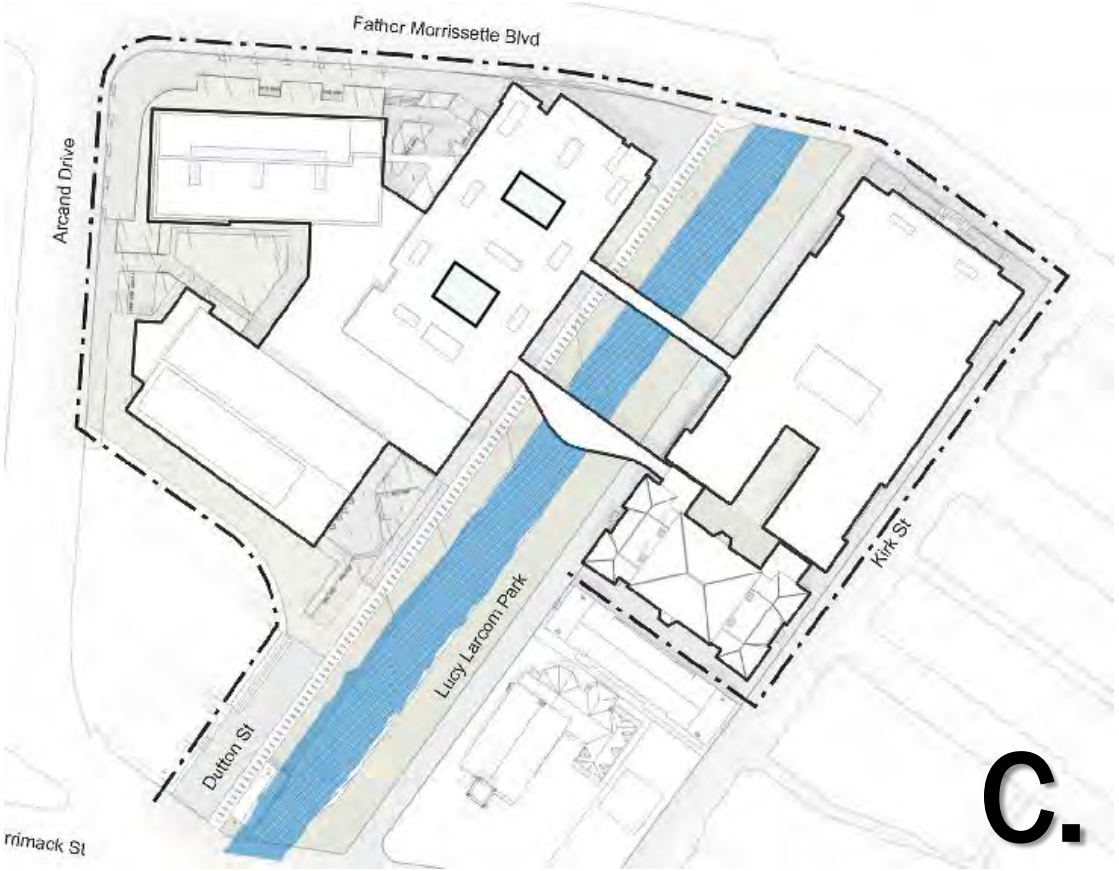




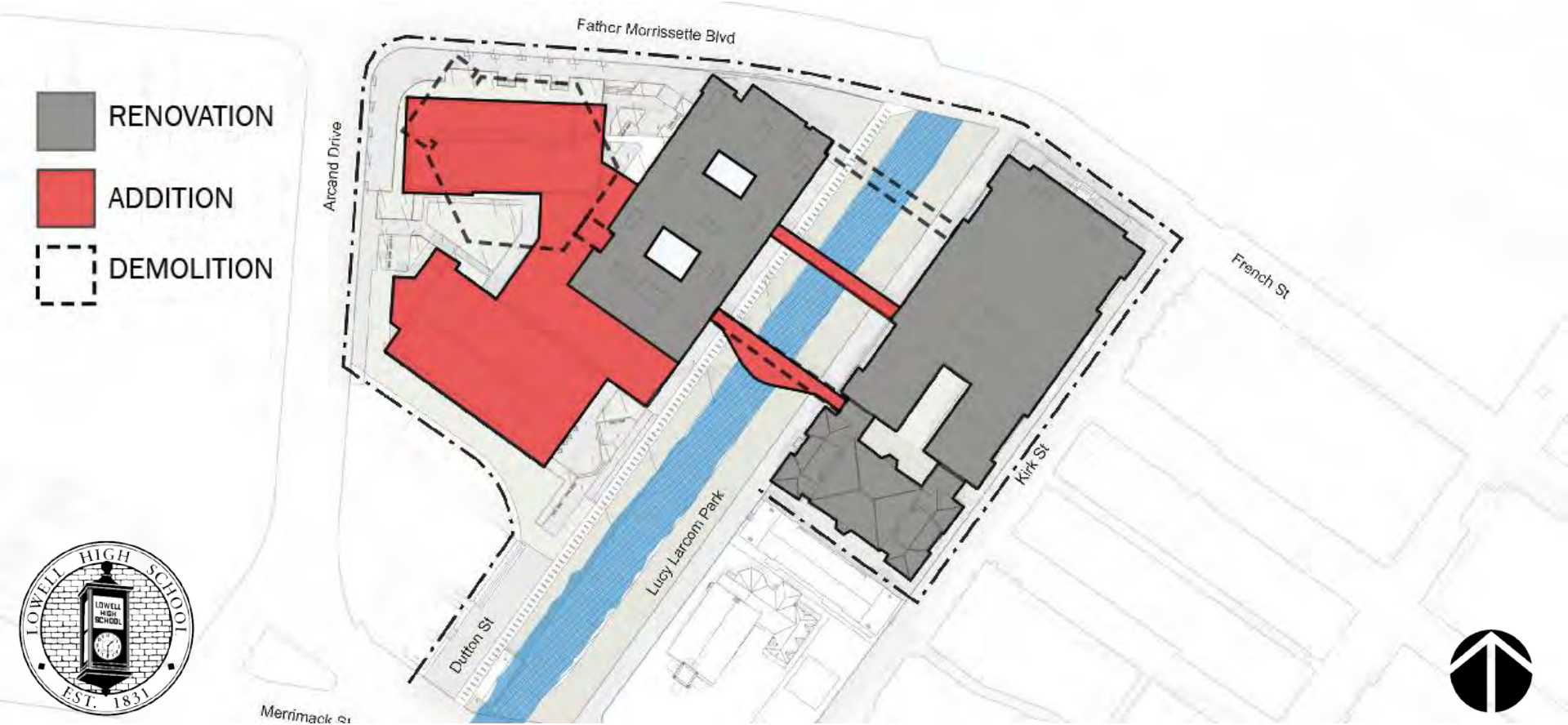
DESIGN CONCEPT



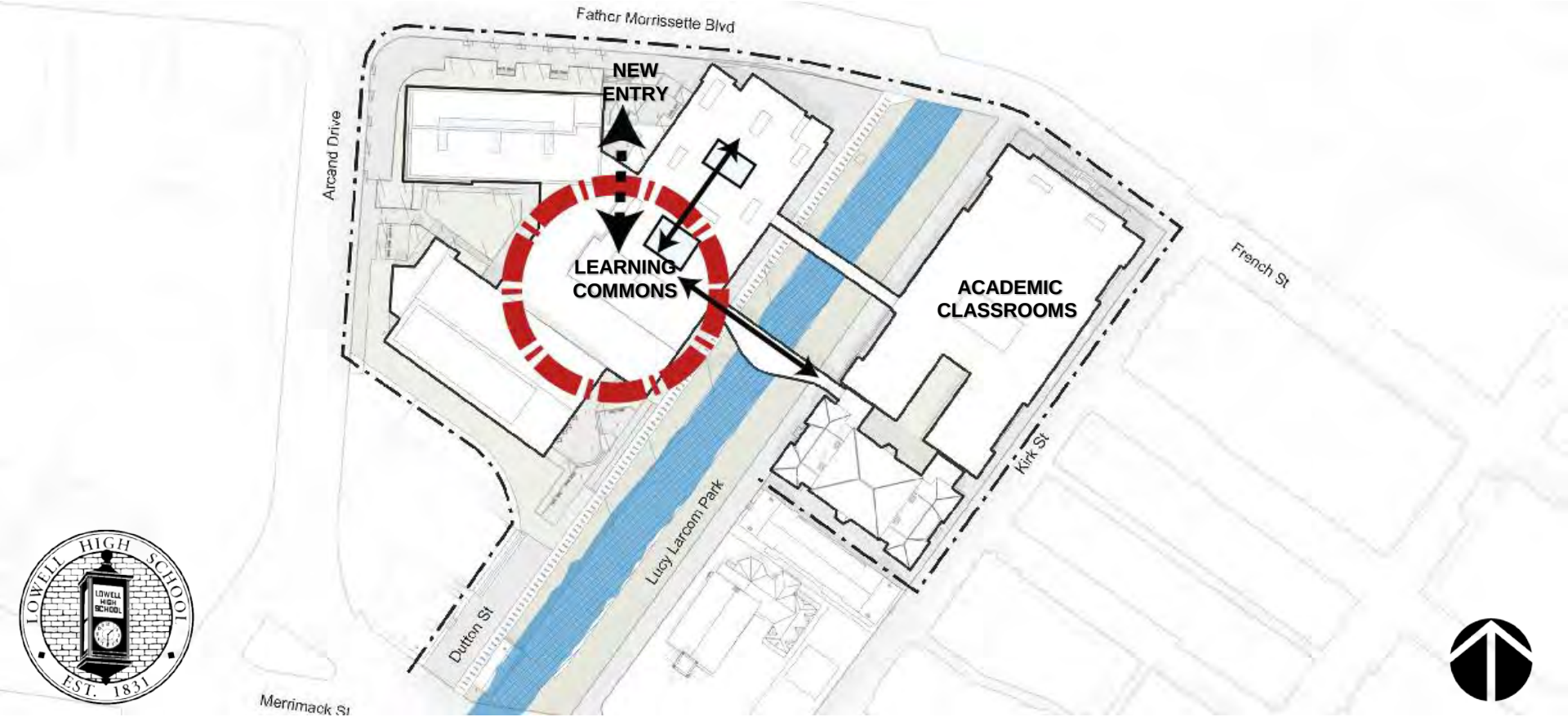




DESIGN CONCEPT

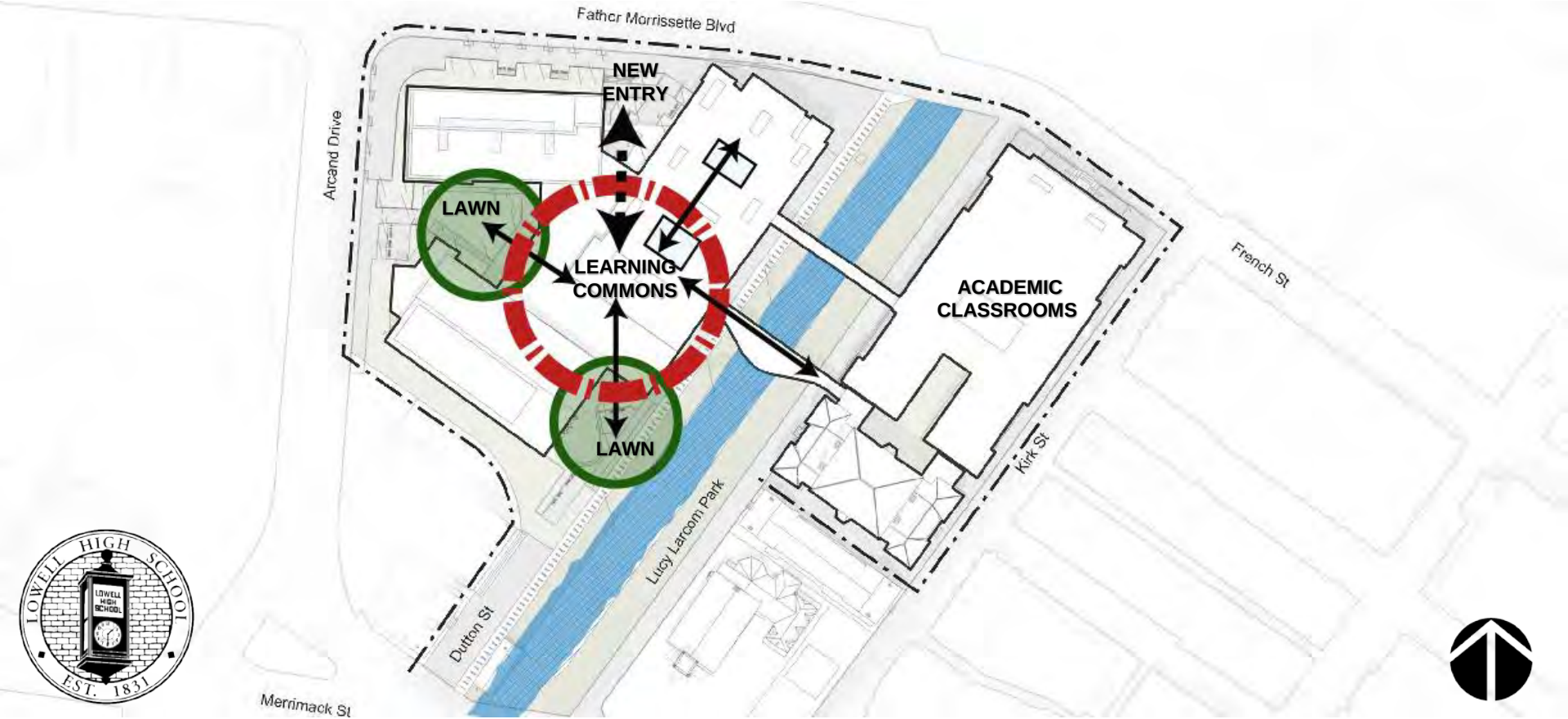


CENTRAL HUB OF LOWELL HIGH



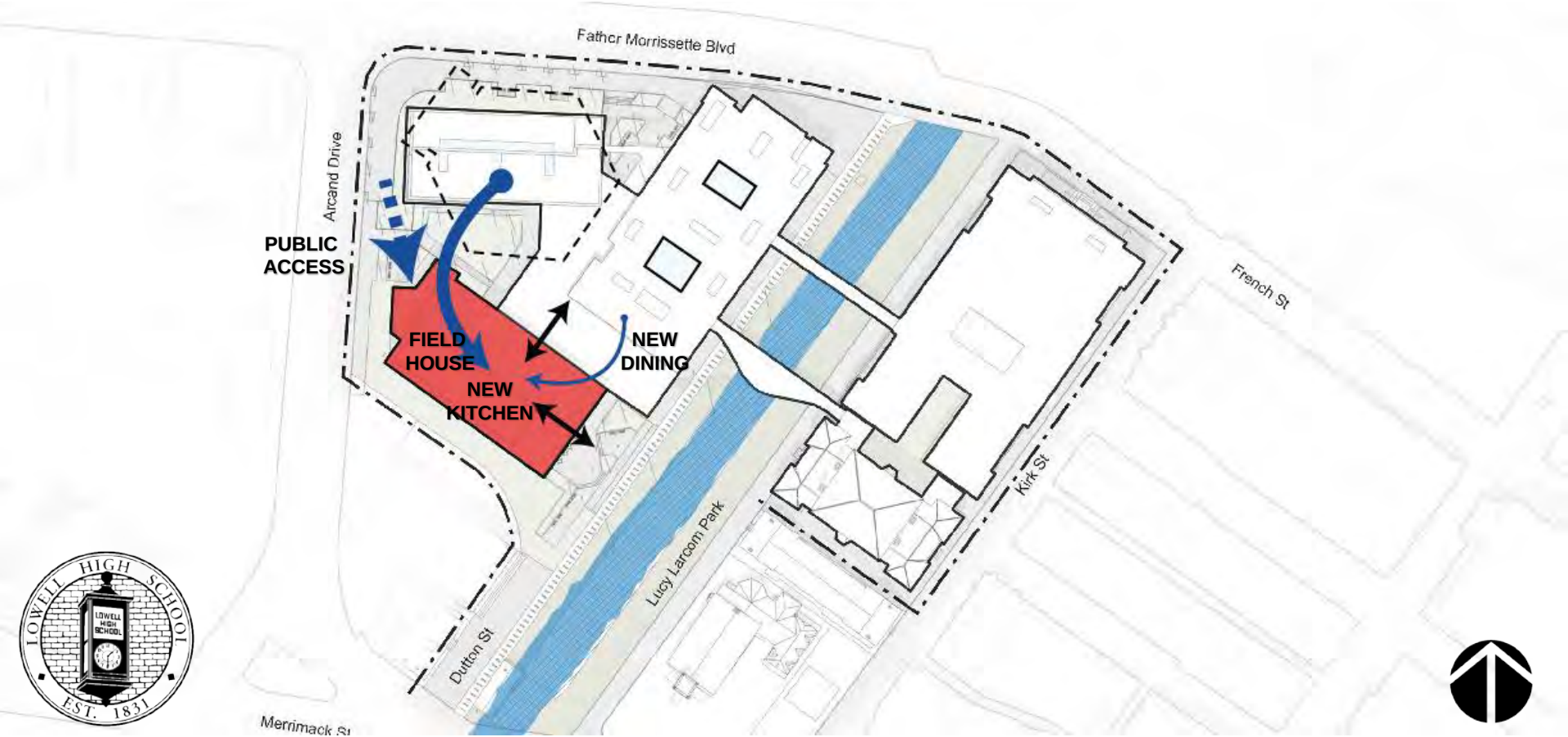
Perkins Eastman | DPC

CENTRAL HUB OF LOWELL HIGH



Perkins Eastman | DPC

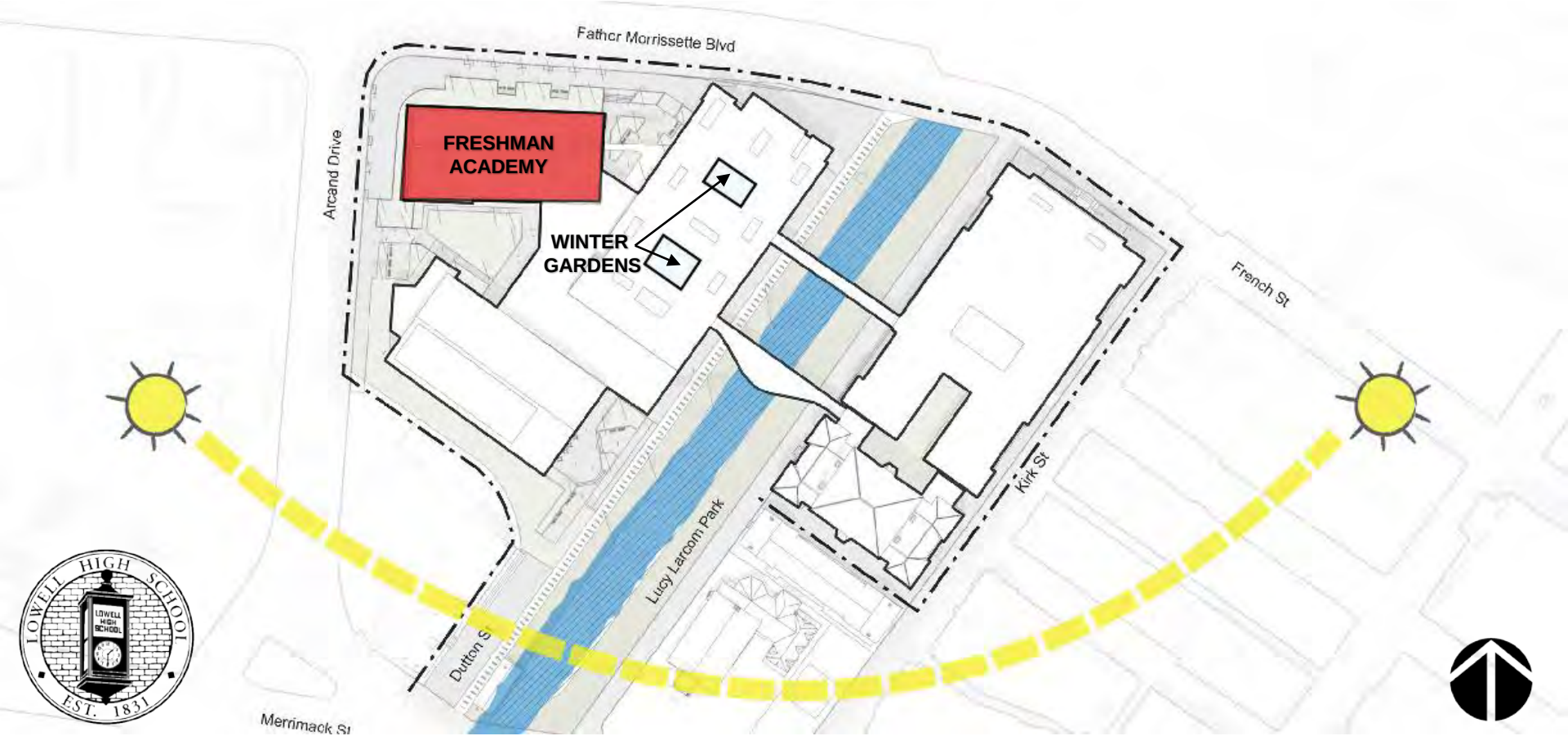
NEW FIELDHOUSE



LOWELL HIGH SCHOOL EST. 1831

Perkins Eastman | DPC

NEW FRESHMAN ACADEMY



LOWELL HIGH SCHOOL EST. 1831

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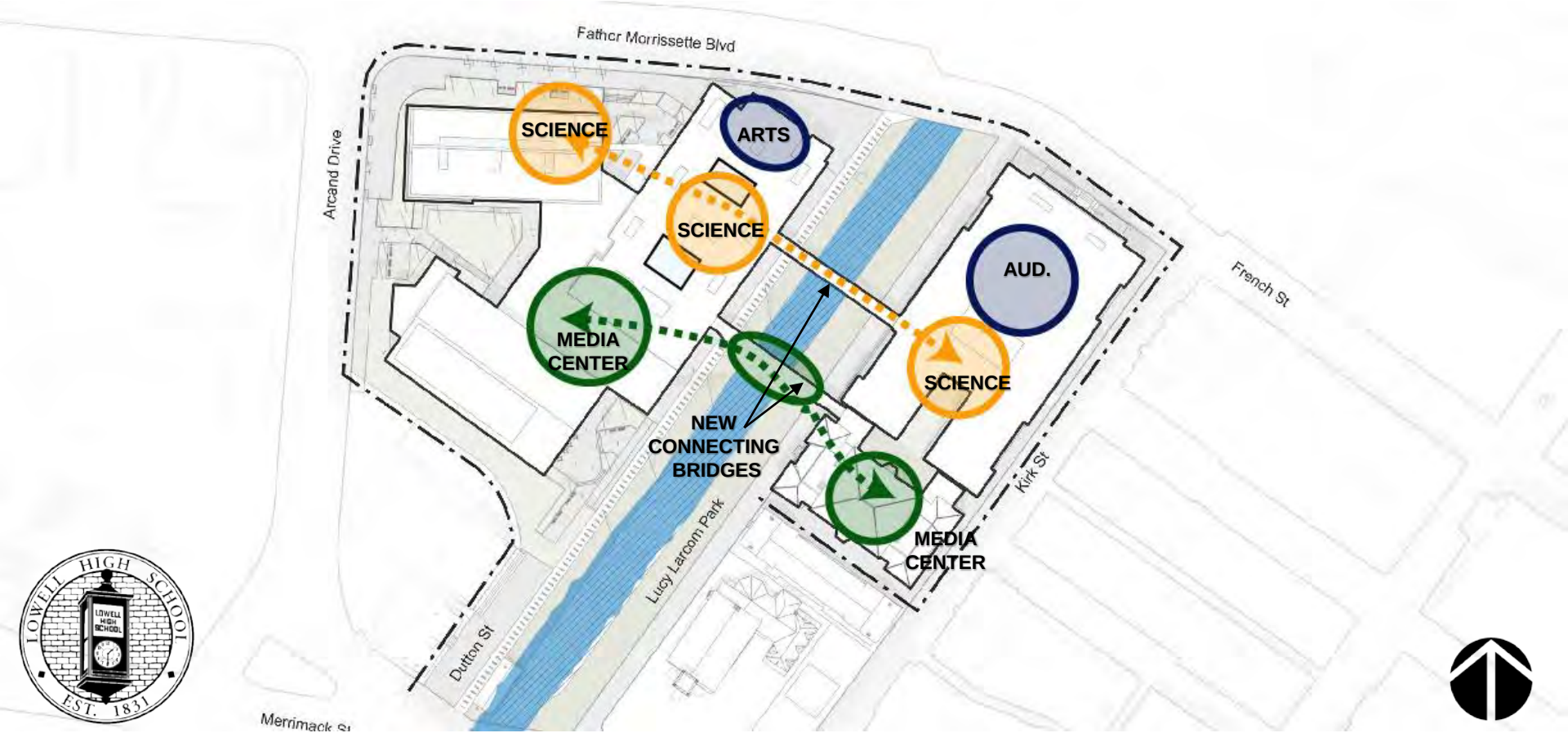
DISTRIBUTED LEARNING





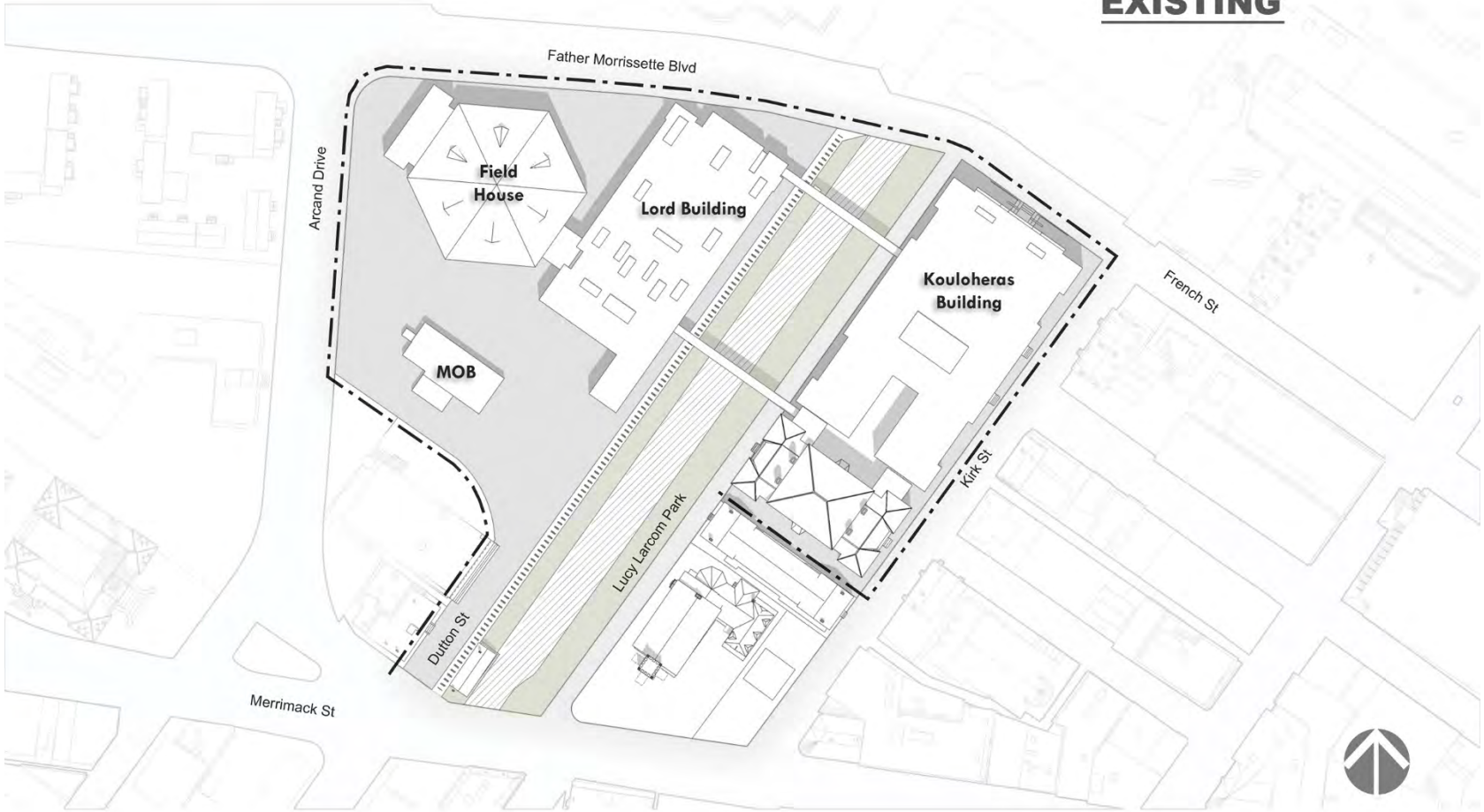

LHS

FOUR KEY ELEMENTS TO SUCCESSFUL PHASING



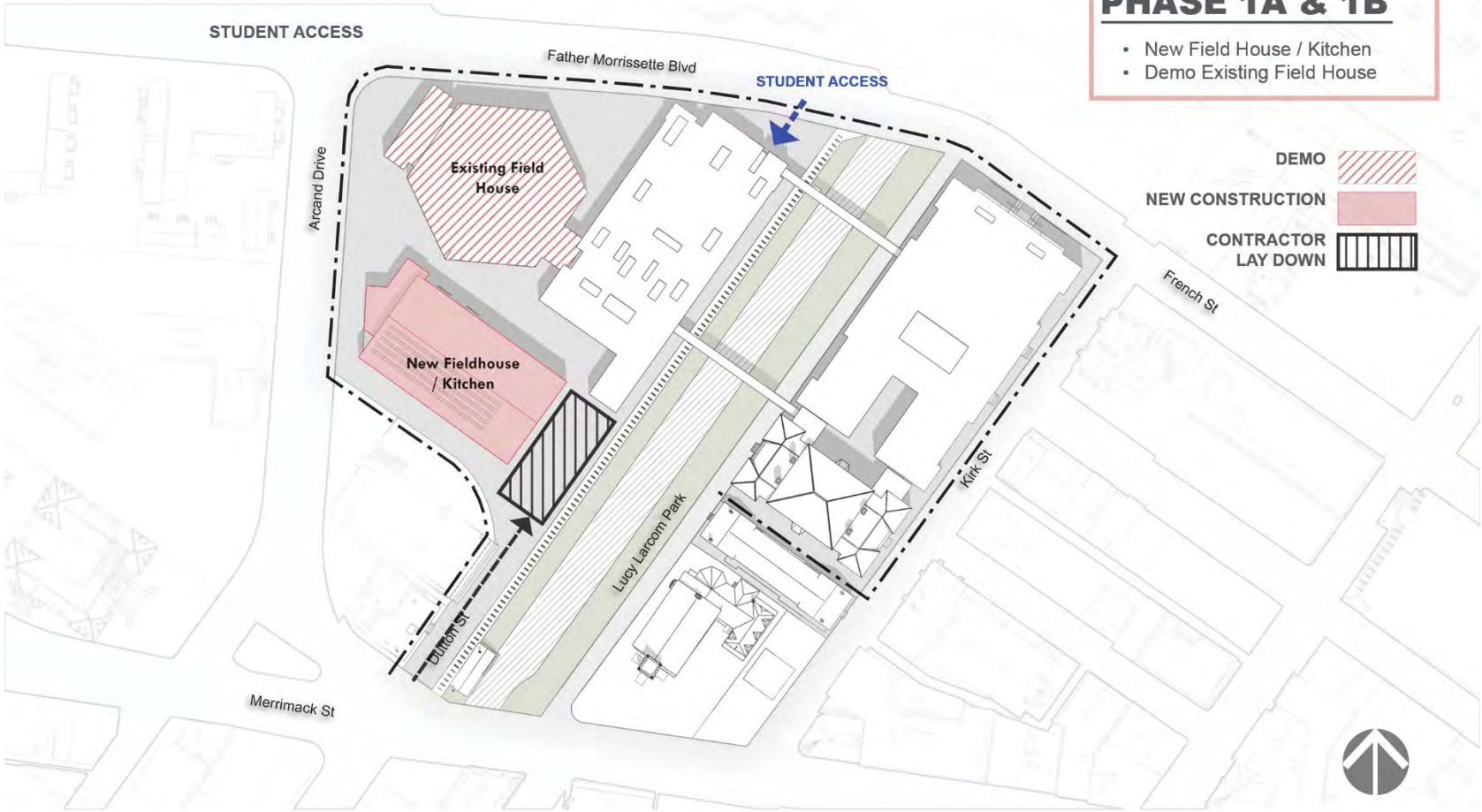
1. Create Adequate Swing Space
2. Separate Contractors and Students
3. Provide Contractor Space
4. Communicate Progress and Next Steps

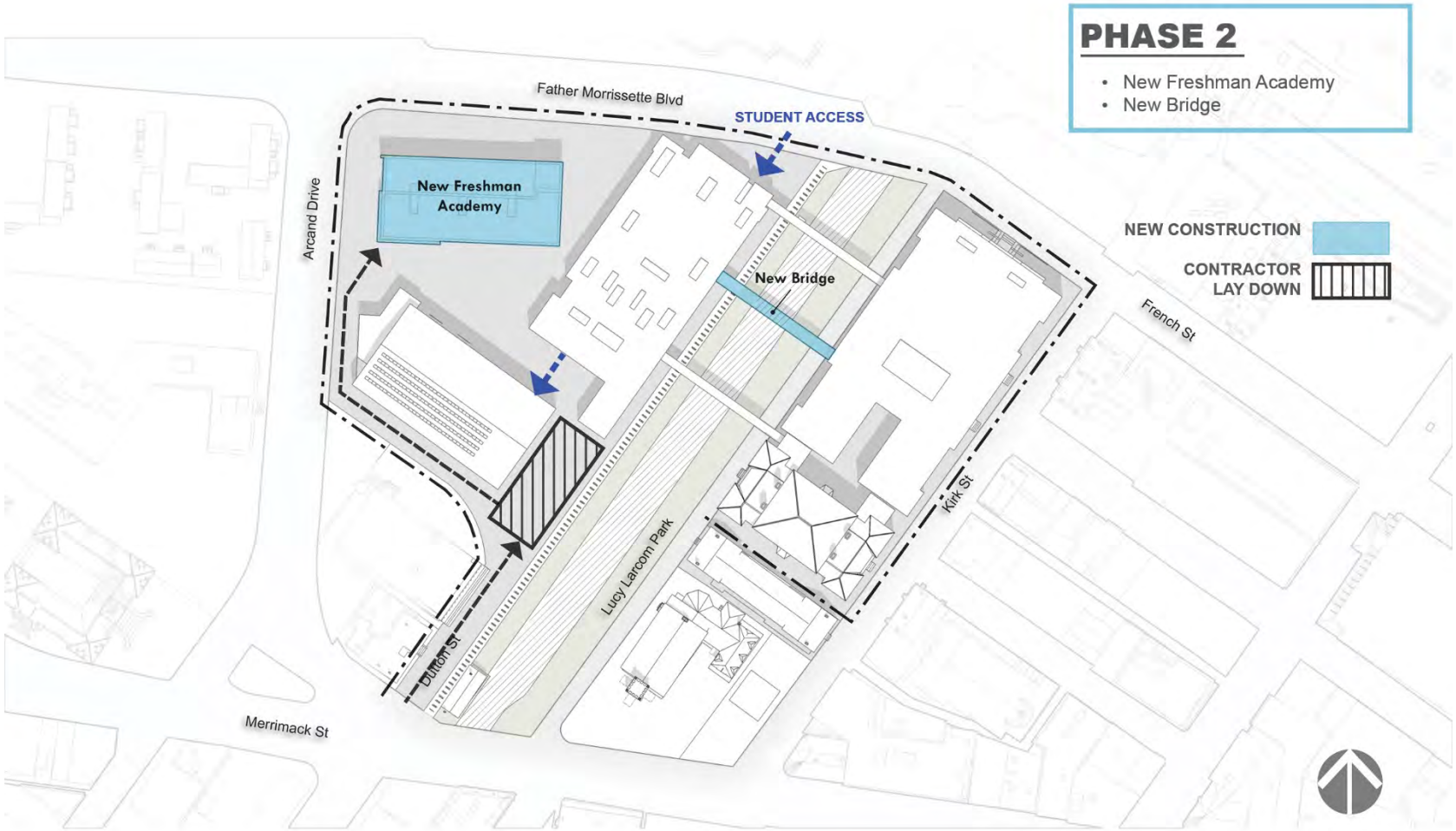
EXISTING

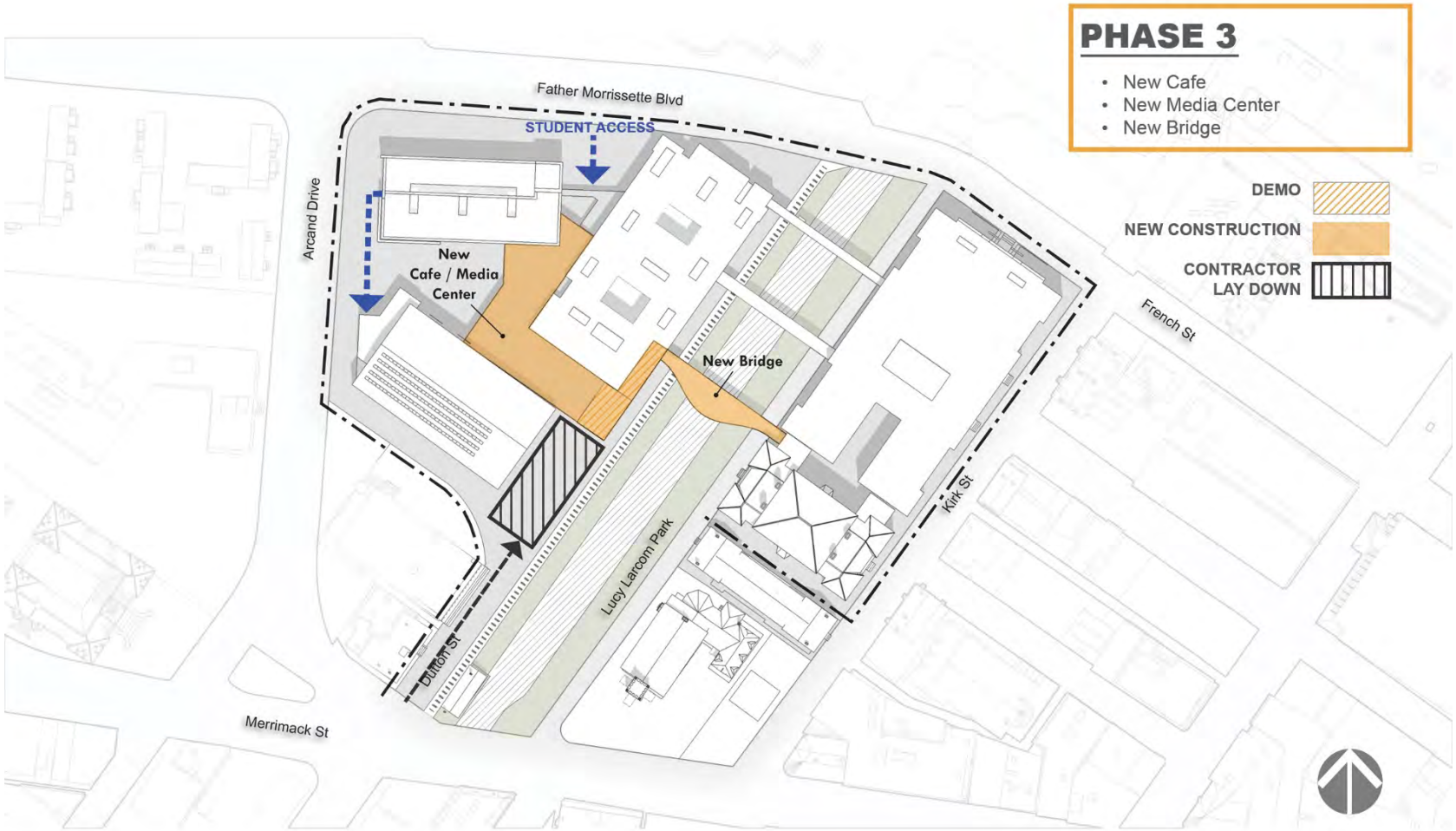

Father Morrissette Blvd
Arcand Drive
Field House
Lord Building
Kouloheras Building
French St
MOB
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St

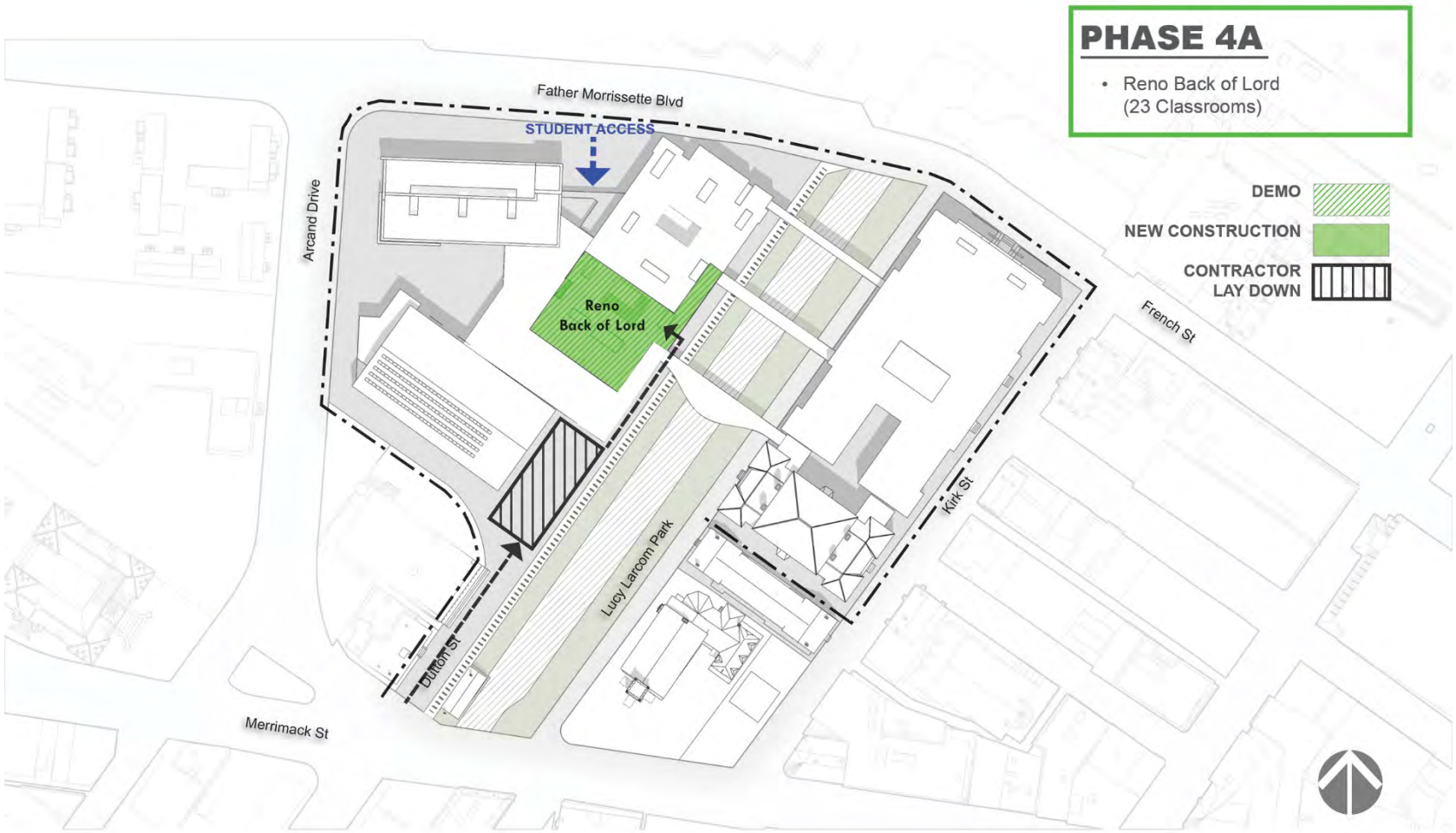
PHASE 1A & 1B

- New Field House / Kitchen
- Demo Existing Field House

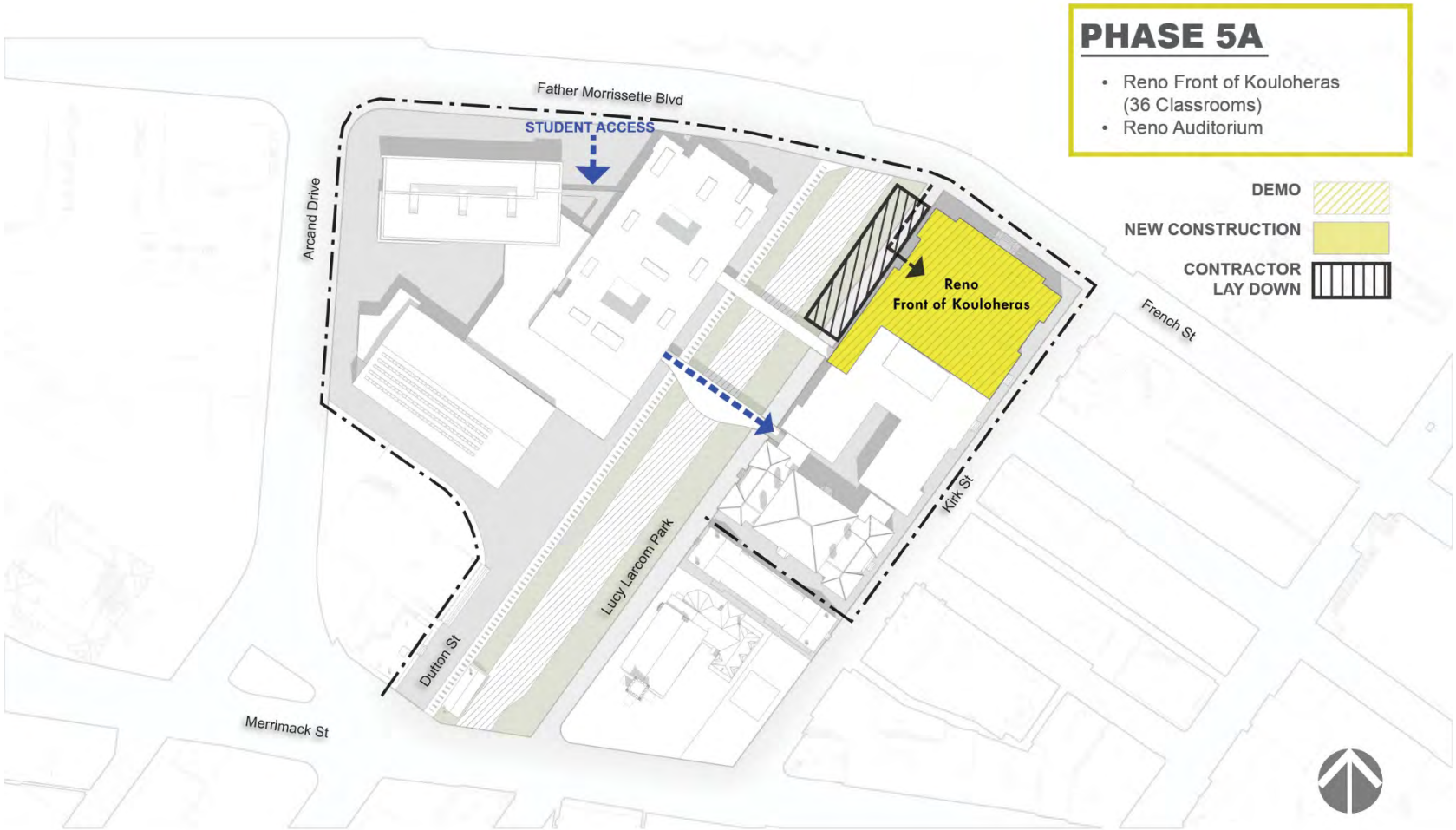



PHASE 2
• New Freshman Academy
• New Bridge
Father Morrissette Blvd
STUDENT ACCESS
New Freshman Academy
Arcand Drive
New Bridge
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
French St
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St


PHASE 3
• New Cafe
• New Media Center
• New Bridge
DEMO
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
Father Morrissette Blvd
STUDENT ACCESS
Arcand Drive
New Cafe / Media Center
New Bridge
French St
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St

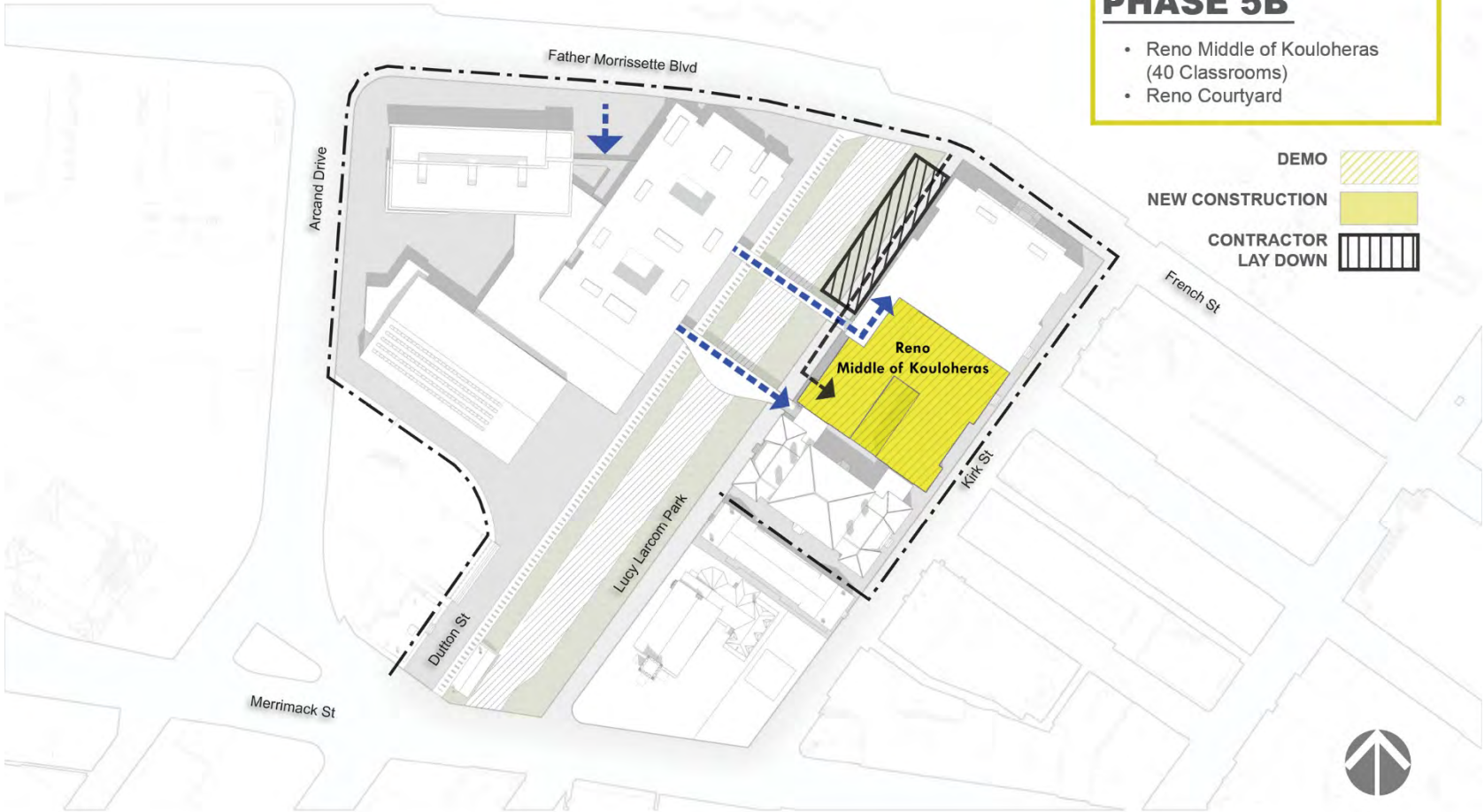

PHASE 4A
• Reno Back of Lord (23 Classrooms)
DEMO
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
Father Morrissette Blvd
STUDENT ACCESS
Arcand Drive
Reno Back of Lord
French St
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St

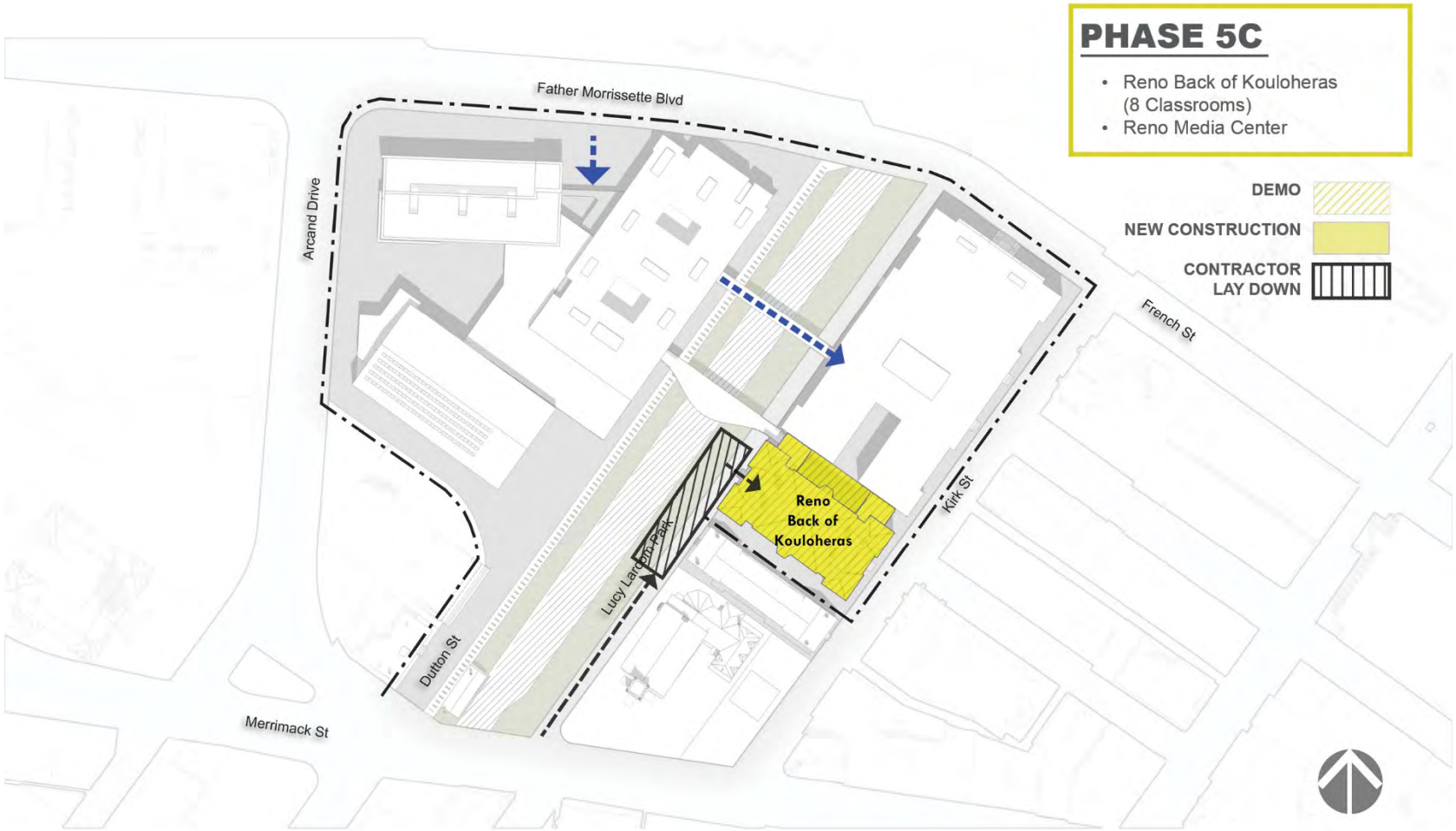

PHASE 4B
• Reno Front of Lord (33 Classrooms)
• Demo Bridge
DEMO
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
Father Morrissette Blvd
STUDENT ACCESS
Arcand Drive
Reno Front of Lord
Demo Bridge
French St
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St


PHASE 5A
• Reno Front of Kouloheras (36 Classrooms)
• Reno Auditorium
DEMO
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
Father Morrissette Blvd
STUDENT ACCESS
Arcand Drive
Reno
Front of Kouloheras
French St
Kirk St
Lucy Larcom Park
Dutton St
Merrimack St

PHASE 5B

- Reno Middle of Kouloheras (40 Classrooms)
- Reno Courtyard




PHASE 5C
• Reno Back of Kouloheras (8 Classrooms)
• Reno Media Center
DEMO
NEW CONSTRUCTION
CONTRACTOR LAY DOWN
Father Morrissette Blvd
Arcand Drive
French St
Kirk St
Dutton St
Merrimack St
Lucy Larcom Park
Reno Back of Kouloheras

RENOVATING HISTORIC SCHOOLS



1. Understand Construction and Limits
2. Work with SHPO/Historic Agencies
3. Creative/Adaptive Re-use
4. Make Process a Learning Opportunity

COST & YOUR EDUCATIONALLY EFFECTIVE DESIGN



RESPECTING YOUR BUDGET

CITY OF LOWELL PROPOSED BUDGET



Alive. *Unique.* *Inspiring.*

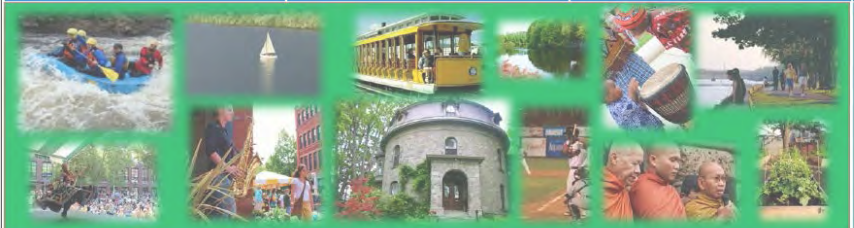
LOWELL CITY COUNCIL

MAYOR
RODNEY M. ELLIOTT

VICE MAYOR
JOHN J. LEAHY

COUNCILORS
COREY BELANGER
EDWARD J. KENNEDY, JR.
WILLIAM F. MARTIN JR.
RITA M. MERCIER
JAMES L. MILINAZZO
DANIEL P. ROURKE
WILLIAM SAMARAS

FISCAL YEAR 2016



KEVIN J. MURPHY,
CITY MANAGER

CONOR BALDWIN,
CHIEF FINANCIAL OFFICER

RODNEY CONLEY
DATA ANALYST

SUBMITTED BY THE CITY MANAGER, LOWELL MASSACHUSETTS

Taunton High School

Phased Occupied Renovation

$165/sf (2007)



Taunton High School
Phased Occupied Renovation
$165/sf (2007)

16% Under Budget



Roosevelt High School

Phased Occupied Historic Renovation

$350/sf (2015)



Roosevelt High School
Phased Occupied Historic Renovation
$350/sf (2015)

2% Under Budget



Essex Technical High School

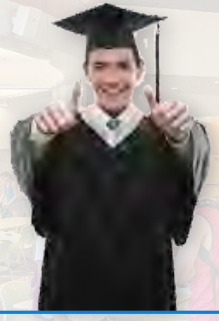
Campus of Multiple Buildings

$287/sf (2014)



Essex Technical High School
Campus of Multiple Buildings
$287/sf (2014)

On Budget



Dr. Martin Luther King Jr. School

Targeting LEED Platinum

$350/sf without PV's (2014)

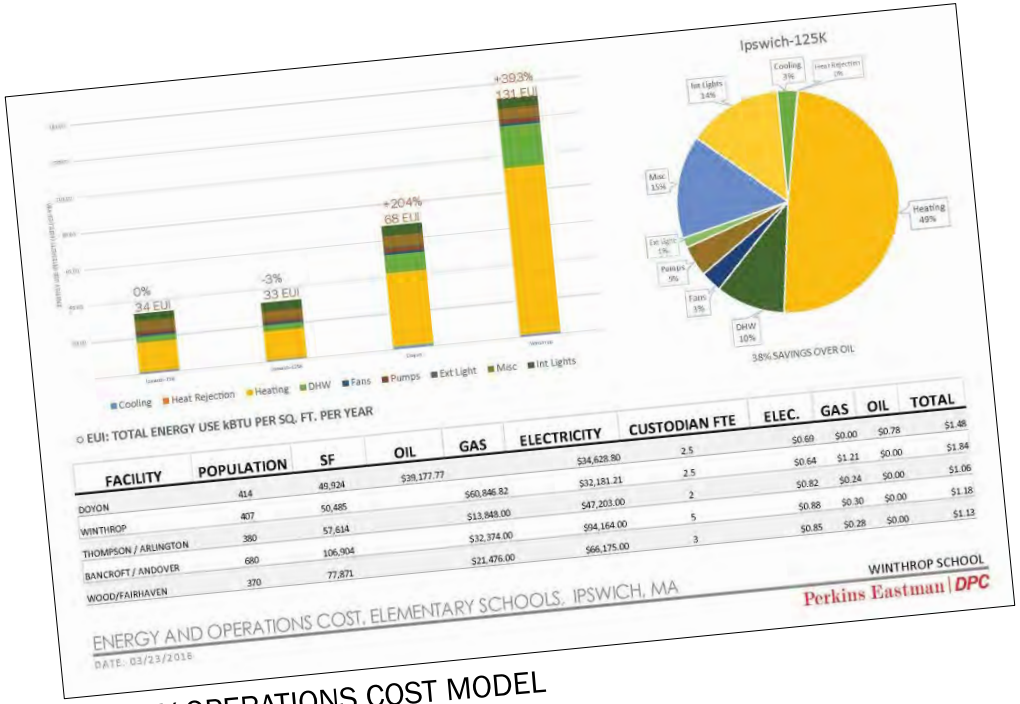


Dr. Martin Luther King Jr. School
Targeting LEED Platinum
$350/sf without PV's (2014)

On Budget

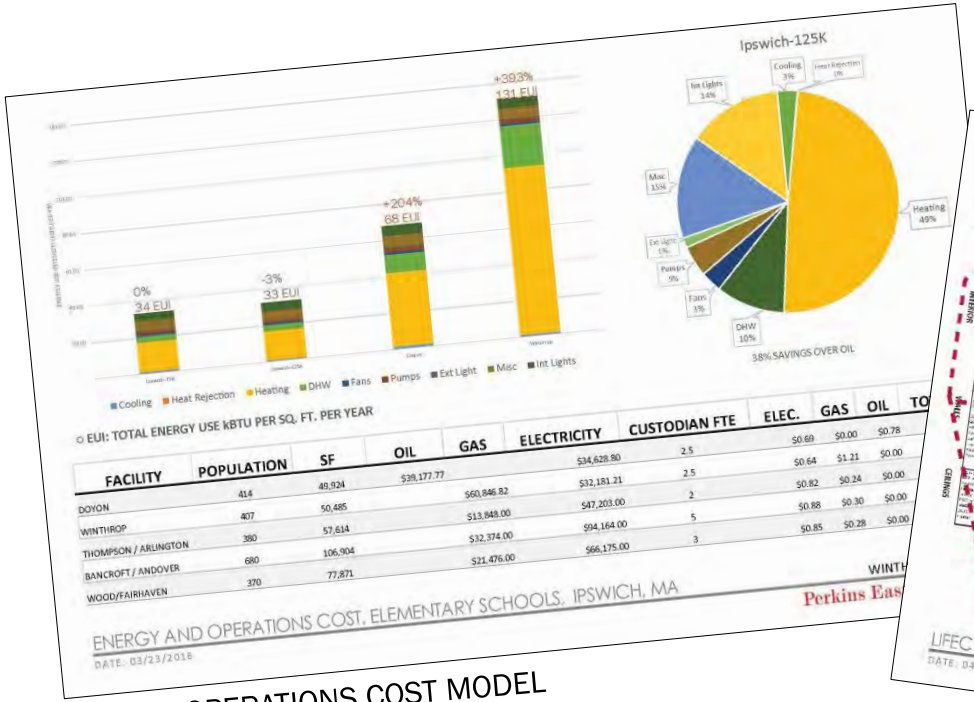


YOUR RELIABLE COST MODELS

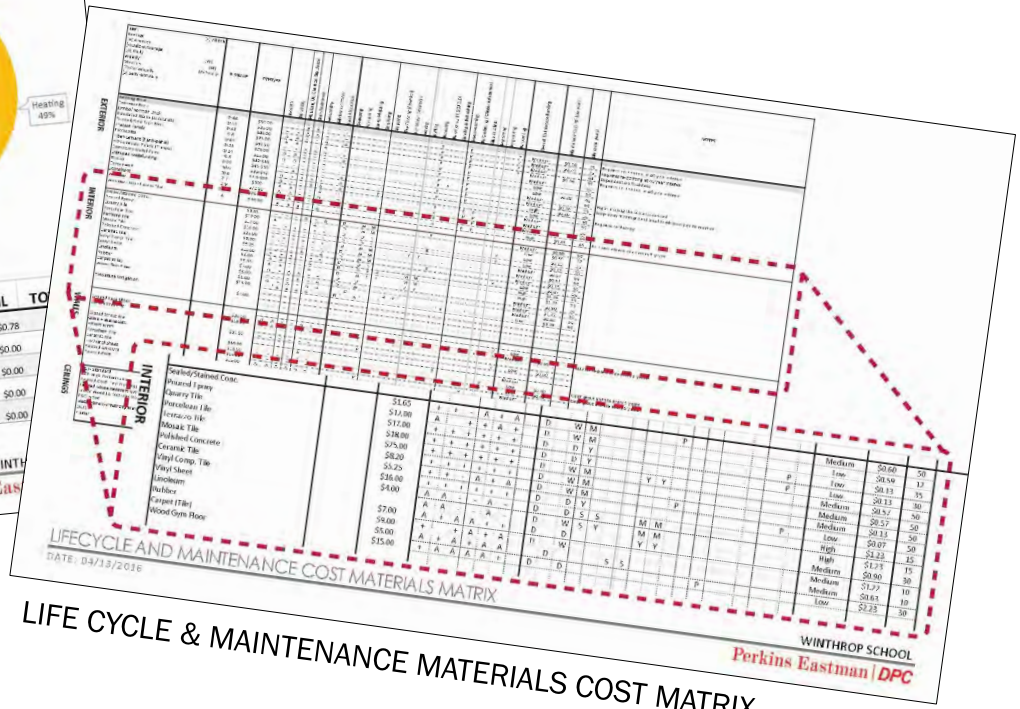


ENERGY OPERATIONS COST MODEL

YOUR RELIABLE COST MODELS



ENERGY OPERATIONS COST MODEL



LIFE CYCLE & MAINTENANCE MATERIALS COST MATRIX

MANAGING YOUR UNKNOWN RENOVATION COSTS



COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development





COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development

29
Committees, Commissions, Regulatory





COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development

29
Committees, Commissions, Regulatory

ZERVAS ELEMENTARY SCHOOL, NEWTON, MA

28
Boards, Communities and Commissions

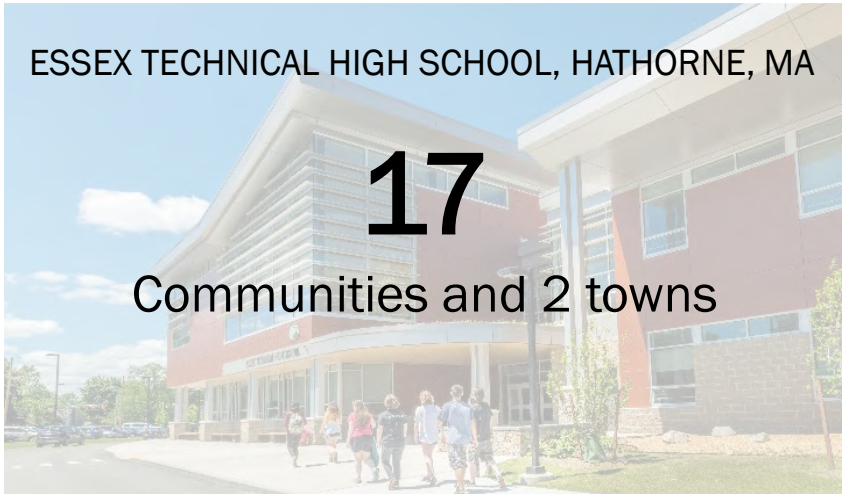


COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development

29
Committees, Commissions, Regulatory





HOW WE CAN HELP YOU



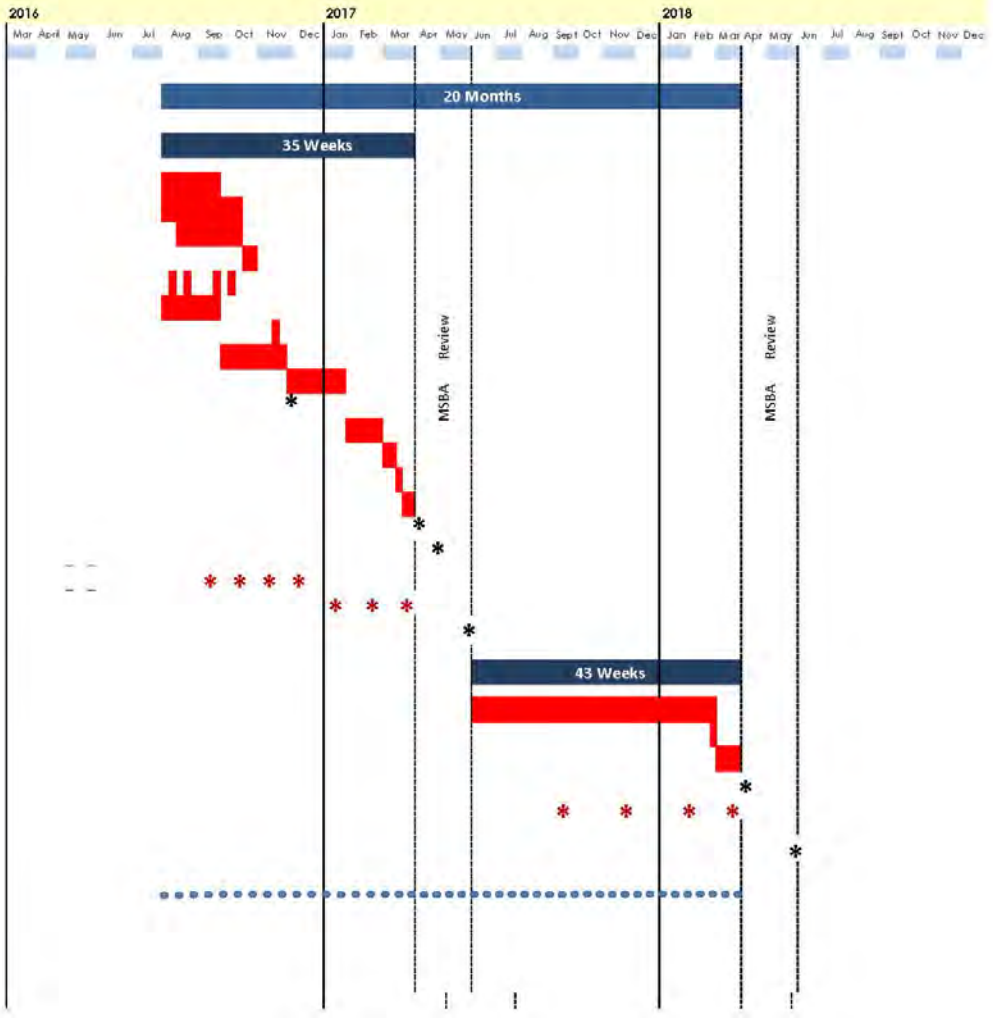


LOWELL HIGH SCHOOL

JULY 12, 2016

Perkins Eastman | DPC

Lowell HS Design Schedule



FEASIBILITY STUDY

- Existing Conditions
- Site Due Diligence
- Building Base Renovation Scoping
- Base Renovation Cost Estimating
- Visioning
- Educational Programming
- Regulatory Agencies
- Development of Alternates
- Preliminary Review of Alternatives
- PDP | Preliminary Design Program Submission — Nov 2016
- Final Review of Alternatives
- Cost comparisons
- Recommendation of Preferred Solution
- Final Design Program
- PSR | Submission Preferred Schematic Report — April 2017
- FAS Meeting — May 2017
- Community Outreach / Public Forums
- Public Presentations
- MSBA APPROVES PREFERRED SD — May 2017

SCHEMATIC DESIGN

- Schematic design & documentation
- Preliminary municipal agency review
- Cost estimating & scope reconciliation
- Submission of Schematic Design — May 2018
- Public Presentations
- MSBA APPROVES SD AND PSB — May 2018

Meetings

- SBC / Working Group Meetings
- Lowell Public Facilities
- Lowell Public Schools
- Neighborhood Groups

Office of the City Manager
City Hall ● 375 Merrimack Street ● Lowell, MA 01852
P: 978.674.4000 ● F: 978.970.4007
www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: August 11, 2016
Time: 10:00AM
Location: Mayor's Conference Room

1. - Attendance

Attendees: Kevin Murphy, Mike McGovern, Mike Vaughn, Robert Healy, Conor Baldwin, James Cook, Brian Martin, Rady Mom, Gary Frisch, Richard Underwood, Lisa DeMeo, Steve Gendron, Celine Gettings, Maryann Ballotta and Jay Mason.

Also in attendance: Rodney Conley
From Skanska: Jim Dowd and Mary Ann Williams
From Perkins Eastman: Joseph Drown, Alicia Caritano, Robert Bell, and Dawn Guarriello

2. - Designer Selection Process Overview

The City Manager believed it would be beneficial for everyone to introduce themselves; as the representatives from the chosen designer, Perkins Eastman, were present at the meeting. K. Murphy noted that the City has successfully negotiated a contract with the designer that is fully compliant with the MSBA. There are four executable copies for signatures, if it is approved.

3. - Presentation from Perkins Eastman

3.1 Introduction Project Designer

J. Drown began the presentation mentioning that the design firm wanted to focus on Lowell. They believed that researching the city would highlight important historical aspects, broader context such as master plan zoning, and reasonable stewardship. He stated that the city is education and knowledge based evident given the present location of UML and Middlesex Community College. Taking the time to understand the city and its inhabitants is imperative to the design firm in designing a unique high school to match the unique aspects of the city.

3.2 Programming and Planning

The design firm stated that the big project would begin in 2016 and are projected to continue to 2021. Perkins ensured the committee that they have the capacity to do a project of this scale. J.

Drown discussed developing an education program that includes visioning and space planning. He continued that understanding the students is very important. The population has a large amount of individuals in low income ranges, with some who speak English as a second language. The influx of ELL can be a challenge, but the firm believes incorporating specialty labs and workplaces can help reorganize the building to fit students' needs.

3.3 Opportunities and Constraints

D. Guarriello noted that the existing property is located in downtown Lowell. Their presentation to the committee included three possible renovations of the existing buildings. R. Bell discussed the options and which each would focus on. Option 1 would focus on developing the western side of the canal. Option 2 would take a closer look at the 1980s building and build less. Option 3 would become a hybrid of options 1 and 2. The Designers proposed a learnings common, which would create a new heart and hub of the school in the current field house. They also discussed adding outdoor space for extracurricular activities and educational use. R. Bell discussed changing the education model from STEM to STEAM (science, technology, engineering, art, and mathematics). He also mentioned the house model that is a tool used by the firm to show what clients think about the project.

3.4 Key Elements to Successful Phasing

J. Drown shared the firm's view of successful phasing including the creation of adequate swing space, separation between contractors and students, providing space for the contractors to work as well as communication of progress and next steps. An important element of phasing is understanding the construction limits of buildings. He went on to mention engineering students may become involved and learn the process of developing the project.

3.5 Budget

Perkins Eastman's team expressed the respect for operating within budget. They noted many capital projects are included in the FY17 Capital Plan. It is important to prioritize and work through the project process. J. Drown stated that the team will work hard to hone down complex decisions to make easy economical decisions. The team discussed the company track record of come in or under budget on multiple projects. J. Drown continued to talk about how Perkins Eastman will weighing life cycle costs, maintenance costs and look at material and energy costs as well. Renovation projects tend to have unknown existing complications in the building. Perkins Eastman will thoroughly examine the building to establish a base repair option.

3.6 Community Outreach

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J. Drown outlined the community outreach within the city. Lowell has 29 boards and commissions; which is larger than many similar communities. In closing, he stated that the focus of the presentation and solution will be based on Lowell. Perkins Eastman wants the project to reflect the history of the city and embrace the strength of the community.

4. - Discussion

S. Gendron thanked Perkins Eastman for attending the SBC meeting. He wanted to express his wish that the designer focus on cost conscientiousness. S. Gendron commented on the widening of the bridges between the buildings, and thought it was a great idea to improve the operations and improve access. M. Williams noted that the required feasibility study is the first step, and then the next phase will entail alternate solutions to the current location. J. Mason noted that the high school project is an excellent opportunity to reinvigorate the downtown community and the neighborhood athletic field. He thought it is important to focus on sustainable component to make a model with the students into a learning process. R. Mom commented on making sure students have technological access a forefront of the project. M. Williams stated that every option supports energy efficient codes.

J. Drown discussed the current phase, the feasibility study, and its time frame. He estimated that the preliminary design plan period will continue to February 2017. In January, the SBC will be presented options and estimates to make an informed decision.

5 - Vote

K. Murphy noted that the approved DPC negotiations with Perkins Eastman saved citizens a significant amount of money. The Manager recommended that the SBC approve the final figure agreed upon. S. Gendron asked to see the document. M. Williams commented that Perkins Eastman contract is within the budget, and that all parties worked very hard to make it work. The Manager noted that the City was satisfied as well with the contract. R. Healy motioned to approve the contract, seconded by B. Martin. All in favor; none opposed.

6. - Next Steps

M. Williams discussed the next steps include presenting a fully executed copy of the contract to the MSBA and Perkins Eastman. She stated that Perkins Eastman will need to gain access to perform analysis on the existing school buildings. The Manager noted it will be important to meet with teachers, parents, students and the community prior to making any recommendations to the SBC. M. McGovern stated that Module 3 target dates are February 9, 2017 and the end of May 2017. The Manager stated that the SBC meetings will take place monthly to keep everyone up to date of the process. M. Williams reiterated that the SBC will meet the first Thursday every

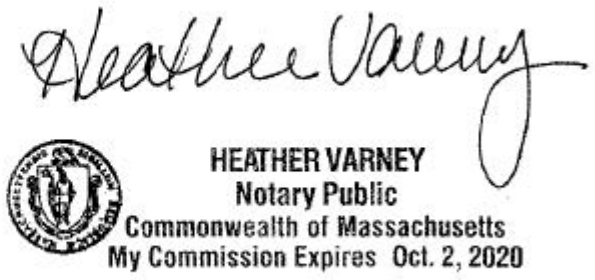
month. M. Williams inquired about the SBC wanting to wait until October meeting, which was agreed in order to gather concrete information to provide the SBC so that they may have a fruitful discussion.

R. Bell broached the topic of plans such as the education program. He said that an educational leadership team would translate the progress of studies and vision process.

R. Underwood had another question about the feasibility study. He asked what the cost would be for both renovation and a new site. M. William explained that in Module 3, the SBC, OPM and designer would consider options. Phasing costs tend to be expensive and less efficient. She continued that the OPM and designer will continue to look at all aspects to help the SBC make an informed decision.

R. Healy motioned to adjourn, seconded by J. Cook.





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Lowell High School Project

School Building Committee

Agenda Items – October 6, 2016

- Preliminary Design Program Update
  - Educational Program
  - Evaluation of Existing Conditions
  - Preliminary Evaluation of Alternatives
- Community Outreach
- Review and Approval of Invoices
- Next Steps

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Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: October 6, 2016
Time: 10:00AM
Location: Mayor's Reception Room, Lowell City Hall

1. - Attendance

Attendees: Kevin Murphy, Mike McGovern, Conor Baldwin, Robert Healy, Mike Vaughn, James Cook, Brian Martin, Steve Gendron, Gary Frisch, Richard Underwood, Lisa DeMeo, Jay Mason, David Beati.

Also in attendance: Rodney Conley.
From Skanska: Mary Ann Williams and Jim Dowd
From Perkins Eastman: Joseph Drown, Dawn Guarriello, and Robert Bell

2. - Preliminary Design Program Update

2. 1 Educational Program

Meetings for the educational program are currently ongoing. The educational program is the center piece of the entire design, it is important to have at this time and in the future. The educational leadership team will update the educational narrative. The visioning process includes half day visioning sessions that walks through what happens now and what the schools want and can do. R. Mason asked about updating the educational plan based on the visioning program. The design team stated that this was with best practices from the MSBA. R. Bell mentioned that the visioning phase would end mid-November, allowing the school department to incorporate the findings into the educational document. M. Williams stated that the opportunity presented with the existing option will be available early November to the SBC and will be able to review at the next meeting. J. Drown noted that the costs may not be calculated by the next meeting. J. Mason asked if the design team and OPM would provide data prior to the meeting allowing the members to develop questions.

2.2 Evaluation of Existing Conditions

M. Williams discussed the existing conditions of the school buildings. The consultants have toured the facilities and assessed the repair option. They will compose a document that will entail the scope of work, address and assess issues, compliance regulations and the basis for the repair option. The base repair will then be used as a benchmark to help assess the financial impact of

repairs and construction. It is important to note that the base repair option does not take into account hopes and desires of faculty, staff, students and the community; it assesses the maintenance aspect only.

M. Vaughn asked about the science labs, if they are not compliant with regulations will this be included in the costs. The design team replied that they will be repaired as are or as needed to be.

2.3 Preliminary Evaluation of Alternatives

A new option, part of the feasibility design program, is a requirement by the MSBA. The design team confirmed with the City September 30th, which locations meet the acreage requirement of 16-17 acres. Educational goals include square footage based on the number of students following MSBA guidelines. Other goals include parking, fields and traffic circulation. Three sites will be selected as part of due diligence. They will be assessed based on utilities currently available, drainage and access roads. There is an 8% cap for the site cost of $8M. The design team will create a list of pros and cons for each location to assess the options an maximum reimbursement from the state. The matrix that will be handed out to the SBC will assist visually in highlighting the most attractive options.

J. Drown touched on the subject of transportation, comparing the existing location with the new. A remote site will create a reoccurring cost. S. Gendron asked if there will be five options and the time frame that they will be made available to the SBC. The Preliminary Design Phase (PDP) will be submitted January 20th to the MSBA. The PDP will be presented publically and approved by the committee by December. The School Committee and other stakeholders also need to be informed and kept up to date.

A website will be created to post information directly for stakeholders. Local approval by the community can be discovered via surveys and multiple opportunities to understand the project and process.

D. Beati asked if there are already three sites that stand out. M. McGovern stated that there are six different locations that are owned by the City or are privately owned. DPD is currently compiling a list of the alternative locations and assessing the opportunities. There is also an opportunity to increase the number of stories to the existing building depending on business zoning in the area. The design team will ensure that the SBC can make well informed decisions based on clear understanding of the possible options.

B. Martin stressed how important the website will be to the project. The site will enable the community to understand how the project will be managed and developed. M. McGovern stated that the City is currently in the process of updating the City's webpage. There will be a button

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designated for the school project on the City's site that will directly link users to the school project website. The website is an opportunity to post documents, studies and information. It can be used as a public flier from the beginning to the end of the process. The site will visually allow users to get an overview of the project dashboard.

G. Frisch noted that there is 80,000 square feet of space at the existing location. J. Drown replied that this information will be included in the existing analysis report. S. Gendron inquired about the acreage at Cawley, which will also be included in the report from the design team.

3 - Community Outreach

The community outreach has started with preliminary discussions during neighborhood meetings. M. Williams noted that they would try to put together information to help reach into communities and groups close by. McGovern stated that M. Demaras has recommended a few dates to combine neighborhood meetings over the next few weeks. M. Williams stated that the outreach will begin with the neighborhood meetings and will then extend to public venues, perhaps at the high school. S. Gendron stated that it would be important for the public to meet and inquired to the time frame of this and other joint meetings. M. McGovern added it would be a good idea to get as much input as possible from the outreach program. M. Williams stated it may be beneficial to record presentations as it can be considered far reaching.

4. - Review and Approval of Invoices

J. Dowd discussed the invoices for Skanska ($9,000) and Perkins Eastman ($60,000). The invoices include an inline cash flow with progress of project presented to the City Manager's Office for review. C. Baldwin noted that the invoices were sent to the SBC for review, he and R. Conley met with Skanska prior to this meeting. He suggested that the SBC approve the invoices as it will be recorded in the meeting minutes. The coversheet of the invoices includes a running tally of all invoices for every contractor. R. Healy asked if it is a requirement by the MSBA that the SBC approve invoices or if it would be sufficient that the OPM and City Manager sign off on the invoices. Based on the approval structure of the city, the City Manager has authorization to approve invoices. R. Healy expressed that reviewing each invoice may not be the best use of the SBC time once there are more contractors added to the inline cash flow. G. Frisch noted that the overview and summary report would help keep members informed.

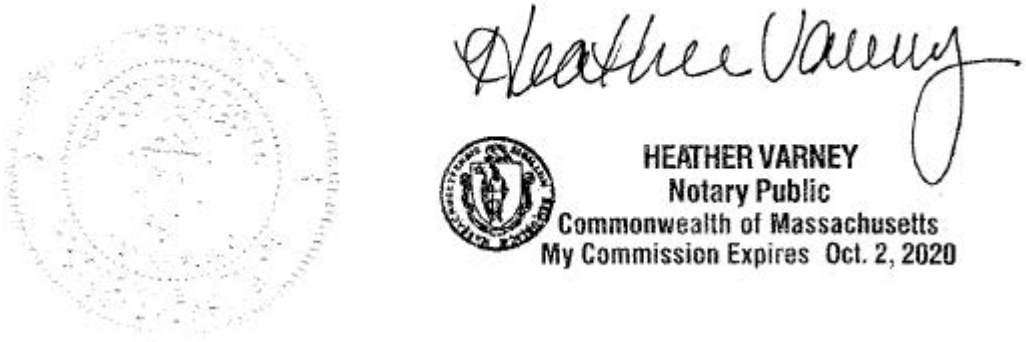
B. Martin motioned to approve R. Healy's recommendation that the SBC need not review each individual invoice, that the proper checks and balances are in place with the Plan E form of Government. Seconded by C. Baldwin. The SBC also added that the summary sheet be included in the monthly meeting to keep members informed. All in favor, so voted.

M. Williams stated that she would provide the information. J. Dowd raised the topic of Perkins Eastman amendment to include Hazmat and Site review options. A formal vote by the SBC is needed to exercise option for the architect's contract. Motion to approve amendment to architect's contract by R. Healy. Seconded by B. Martin . All in favor, so voted.

5. - Next Steps

The next meeting is November 3rd; the first Thursday in November. If additional meetings are needed, they will be made in advance. Next steps include conclusion on available sites as the visioning process and community meetings continue. The project is moving along schedule at the moment, which will help limit cost of prolonging it.

R. Healy motioned to adjourn, seconded by M. Vaughn.



Lowell High School Project

School Building Committee

Agenda Items – November 3, 2016

- Preliminary Design Program Update
  - Visioning
  - Evaluation of Existing Conditions
  - Analysis of Sites
- Community Outreach
- Website
- Next Steps

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City of Lowell
Lowell High School Project
Actual Cashflow

TOTAL PROJECT BUDGET - ALL COSTS ASSOCIATED WITH THE PROJECT ARE SUBJECT TO 963 CMR 2.16(5)	Propay Cost Codes	*Feasibility Study Agreement	April, 2016	May, 2016	June, 2016	July, 2016	August, 2016	Paid to Date	September 2016 Invoices	Invoiced to Date	Percent Complete	Amount Remaining
Feasibility Study Agreement												
OPM Feasibility Study	*0001-0000*	$500,000	$ 10,735	$ 15,520	$ 19,350	$ 9,912	$ 9,668	$65,185	$ 20,715	$85,900	17%	$414,100.50
A&E Feasibility Study	*0002-0000*	$1,000,000	$ -	$ -	$ -	$ -	$ 60,000	$60,000	$ 72,138	$132,138	13%	$867,862.00
Env. & Site	*0003-0000*	$300,000	$ -	$ -	$ -	$ -	$ -	$0	$ -	$0	0%	$300,000.00
Other	*0004-0000*	$200,000	$ -	$ -	$ -	$ -	$ -	$0	$ -	$0	0%	$200,000.00
Feasibility Study Agreement Subtotal		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$125,185**	**$92,853**	**$218,038**	**11%**	**$1,781,963**
Owner's Project Manager												
Total Project Budget		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$125,185**	**$92,853**	**$218,038**	**11%**	**$1,781,963**
			$10,735	$26,255	$45,605	$55,517	$125,185					

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City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: November 3, 2016
Time: 10:00AM
Location: Head of School Conference Room, Lowell High School

1. - Attendance

Attendees: Kevin Murphy, Mike McGovern, Robert Healy, James Cook, Brian Martin, Gary Frisch, Richard Underwood, Lisa DeMeo, Jay Mason, David Beati.

Also in attendance: Rodney Conley.
From Skanska: Mary Ann Williams
From Perkins Eastman: Alicia Caritano, Robert Bell

2. - Vote to Approve October Meeting Minutes

R. Healy motioned to approve the meeting minutes from the October meeting, seconded by J. Cook. All in favor, so voted.

3. - Preliminary Design Program Update

3.1 Visioning

R. Bell mentioned that the Visioning process is going well, that two of the three sessions have been completed with great success. The design team is hearing a consensus of goals and objectives as well as hearing many solutions. R. Bell commented on the welcoming environment with the businesses, partnerships and relationships with students. He discussed goals such as flexible and adaptive teaching as well as the importance of safety and security. The census is looking for a high performance environment including thermal, lighting and acoustics. R. Bell stated that the design team will share a packet regarding goals and objectives with the SBC on November 23, 2016.

Regarding the educational programming, they have been able to find every student during every period, which does not always happen. The current enrollment at the school is 3,128, while the MSBA estimated 3,520 students. R. Bell mentioned that they can prorate where students may be to increase culinary or technical classes. The class size is currently in the thirties, while the average for MSBA requirements is around 28 students per class. R. Bell mentioned discussing the target class size with the Head of Schools, B. Martin.

R. Bell continued, that the team will meet with all user groups including teachers and staff on November 15 and 16th. The third visioning session will be held on November 17th, in which the goals and objectives will be shared with the community. November 18th, there will be a tour of Essex Tech in Danvers and Winchester High School for SBC members who are interested. M. William will provide a list to the schools, so if anyone is interested please let her know.

B. Martin shared that there is an early release in December, he was hoping that the design team would present their findings to the teachers at 12:00 PM.

M. Williams noted that once the visioning is concluded, the educational plan and goals will be incorporated to create the guiding design principles.

3.2 Evaluation of Existing Conditions

A. Caritano stated that the designer has been working since August on accumulating an existing conditions report. She expressed the team's gratitude to everyone including B. Martin, R. Underwood and their staff for all of their cooperation. The team was able to find some existing plans that need to be updated but additional research on structural information. This information is needed to calculate the base repair costs to ensure that the structure would last for the next fifty years. A. Caritano informed the SBC that a draft number for existing structure will be provided to the committee around November 21, 2016. This number will not entail the visioning or educational plan, it would only include bringing the buildings up to code.

R. Bell noted that the assessment and cost requirement by the MSBA will be met with the existing evaluation document. The document will not meet the educational plan or building and handicap codes.

M. Williams inquired about a date for the presentation of existing conditions to the committee. A. Caritano stated that they will review with J. Drown and give at least an update if not a presentation for the next meeting. The presentation will take at least two hours. M. McGovern stated that to stay on tract, the presentation will need to be in December since the PDP must be submitted to the MSBA by the end of January. R. Bell responded that there are a lot of items on the agenda already for the December meeting. The December 1, 2016 meeting would include site analysis including a list of the range of options with diagrams. M. Williams added that there me be a challenge in figuring out the swing space needed for a phased renovation. She continued that they may take one location off line and utilize temporary sites, modular class rooms, or shift the 9th graders to the middle schools. M. Williams informed the committee that if anyone has ideas to please provide feedback to either M. McGovern or R. Conley. R. Bell noted that an executive summary will be provided prior to Thanksgiving.

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3.3 Analysis of Sites

M. Williams commented on the cooperation from DPD in the meeting to discuss selection criteria. Selection criteria include size, public transportation, parking, utilities as well as the particular location's limited use. The design team has analyzed land use restrictions such as areas located in the wetlands. The team is working on finalizing a formal report to the committee that will include pros and cons in a matrix format to compare possible locations. K. Murphy inquired when the preferred location needs to be selected by. M. William responded that Module 3 is a two step process; first three locations will be selected in December and one final location will be chosen in March. The SBC will vote on the top three locations at the December 1, 2016 meeting. G. Frisch asked when the committee will need to select one location from the three. The PDP will be submitted January 20th, which will include 3-5 options. April 1st, the one location will need to be submitted and presented to the MSBA in May. J. Cook asked if the committee should rank the top three locations, to which M. Williams responded that the MSBA does not want them to do so. The PDP will look into the three locations in more depth. G. Frisch inquired about vetting the Freshman Academy. R. Bell stated that from November 23 to January, the team will go through the packet and consider alternatives for swing space. M. Williams stated that the educational program will be finalized after the visioning, there will need to be a formal approval from the School Committee. B. Martin stated that this will be the first or second week in December, after the education program is revised.

4. - Community Outreach

M. William announced that the first community outreach meeting occurred a few weeks ago in which the OPM and designer presented a PowerPoint presentation of the overall process. She stressed the point that the City is in a partnership with the MSBA. Topics of discussion included the role of the feasibility study in the project, high level project time lines, decisions and mile stones. The presentation addressed the visioning process that includes engaging participants as well as existing conditions of the building and community.

5. - Website

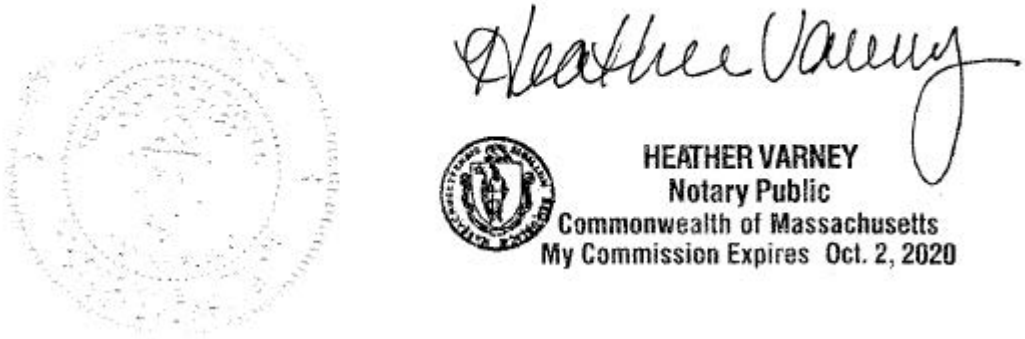
As a part of community outreach, the City is working on creating a new website for the project. This will entail posting presentations, recorded meetings, meeting minutes as well as other documents for public view. The website will also allow community members to offer feedback on the project.

6. - Next Steps

The next community outreach meeting will be December 8th at 6:30 PM. M. Williams mentioned that the presence of the Head of Schools B. Martin and School Committee Member R. Gignac have been present at the community meetings has been a great help.

December 1st meeting will be lengthy, approximately 3 hours. An update will be provided for the district education plan and approval. G. Frisch stated he would work with B. Martin and Superintendent of Schools to make sure that the revised educational plan is approved by the School Committee in the beginning of December. Preliminary site analysis will be provided to the SBC members prior to the December 1st meeting. December 7th there will be a presentation to the teachers, and the 8th there will be a presentation to the public. This ensures that the requirement by the MSBA is satisfied that the community is engaged in presentations.

R. Healy motioned to adjourn, seconded by J.Cook. All in favor.



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Lowell High School Project

School Building Committee

Agenda Items – December 1, 2016

Issued: 11/23/16

Preliminary Design Program Update:

- Visioning/Goals Overview
- Educational Program Update
  - Programming / Space Summary
  - User Group Meetings
  - Discussion of Future Design Program Approval
- Design Options:
  - Design Options- Reno, Reno/Add, New (November 23 – January)
  - Base Repair Option 1
  - Budget Implications of Options
  - Analysis of Sites/Selection
- Community Outreach
  - Update on Neighborhood Meetings
  - 12/8 Community Meeting Presentation Review
  - Website Development Update
- Next Steps
  - Next SBC Meeting January 5, 2017

Perkins Eastman | DPC

Lowell High School Visioning Summary

December 1, 2016

During October and November of 2016, the Lowell High School Educational Working Group (EWG), a group of approximately 50 Lowell Area Schools (LAS) administrative leaders, and Lowell High School (LHS) teachers, administrators, students, parents, and community partners, participated in three Educational Visioning Workshops run by New Vista Design and Perkins Eastman. Each workshop was a collaborative session designed to inform the LHS design process. Participants were led through a step-by-step visioning process aimed at capturing their best thinking about LAS's/LHS's current and future educational goals and priorities, and connecting them to best practices and possibilities in innovative school facility design.

On **October 14, 2016**, the Lowell High School EWG participated in the first Educational Visioning Workshop. The four- hour workshop explored the following topics:

- Priority Goals for the renovated/new facility
- 21st century teaching and learning practices that are being influenced by digital technology and our changing economy
- Strengths, Challenges, Opportunities, and Goals (SCOG Analysis) associated with Lowell High School's current academic program as well as the vision for its new facility
- 21st Century Learning Goals that distill the group's best thinking with regard to Lowell High School's current and future educational programming and priorities

On **November 1, 2016**, the Lowell High School EWG participated in the second Educational Visioning Workshop. The four-hour workshop explored the following topics:

- 21st Century Design Patterns 1.0 that innovative schools throughout the country have put into practice in order to make their forward-thinking learning goals come alive on the level of facility design
- Guiding Principles 1.0 for design of the renovated/new facility

On **November 17, 2016**, the Lowell High School EWG participated in the third Educational Visioning Workshop. The four-hour workshop explored the following topics:

- Blue Sky Ideas for the renovated/new facility
- Key Spaces and Adjacencies for the renovated/new facility
- Bubble and Adjacency Diagramming for the renovated/new facility

The following pages offer a summary of notes taken and information gathered during each workshop. If you would like to add comments or ideas to this evolving narrative please contact Dr. Roxanne Howe at rhowe@lowell.k12.ma.us .

Agendas for each of the three workshops can be found at the end of this document.

Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

Essential and Cutting Edge LHS Programs

The following list of essential and cutting edge programs at Lowell High School was brainstormed by the Educational Working Group's (EWG).

.

An increasing number of co-taught classrooms:

- General Ed and Special Education Teachers in 7 classrooms
- Share responsibilities
- Gives both sets of students collaborative
- Teamwork experiences

Activities outside the classroom include:

- Internships
- Field studies
- Authentic contexts

Community involvement – both ways

- I.e. Jeanne D'Arc Credit Union

New Programs Include:

- Generation citizen – action citizenship
  - Students interact with local businesses to solve community problems
- Tsongas Industrial History Center talks
  - Living history
- Engineering
  - Project Lead the Way
  - PBL – 21st century learning and collaboration

Cultural Diversity

- ELL and Refugees
  - From competency to absorption to diffusion
  - Insight health clinic +/- 1/3 students
  - Food programs
  - International Institute

Lowell Latin Lyceum

- A gifted and talented program with fewer than 200 students
- Test-in / application
- Cohort model – for 4 years
- All core subjects for first two years
- In Senior year just English

Freshman Academy

- Important transition
- 8 core teachers > 200 students
- 3 teams of 8 core teachers

Enrichment Programming

- Fine and performing arts
- Student activities (clubs and student government)
- Athletic programs

STEM Program

- Engineering
- Maker Space – opened last year
- 9th grade revamp
- NGSS – science
- Clean Energy Pathway
- Offer science in pathways
- 120+ students
- Integral course offerings

Essential and Cutting Edge LHS Programs (continued)

Downtown Lowell Activities

- The Merrimack River
- Boarding House Park
- City Hall
- Monuments
- Volunteer work at Lowell National Historical Park
- School store (expanded location in downtown)
- Sports activities and clubs
  - Crew
- Important transportation links

University Partnerships

- Dual enrollment partnerships (Junior and Senior year)
  - Middlesex Community College (MCC) partnership
  - University of Mass Lowell (UML) partnership

Junior Reserve Officer Training Corp (JROTC)

- Grades 9-12
- Sense of belonging
- Ell / SPED / LYCEUM students
- Leadership, integrity, competitiveness

Diversity of Curriculum

- Variety of programs meet student needs and inspire student interest and engagement
- Advanced Placement courses
- Cultural diversity and awareness – flags / programs
- Need to add more languages
- Assist student in priority setting and time management

Vocational Offerings

- Culinary
- Bank
- TV Communications
- Job prep for special needs students
- Local business
- Aiming to meet the needs of the 10-15% of students who will not go on to college

Explore notion of "pathways"

- Course selection
- Capstone projects
- Intern / extern program

College and Career Center

- Naviance (college & careers)
- Part-time work resource
- Resume building

Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis

The Educational Working Group (EWG) conducted a "SCOG Analysis" of what it sees as the current strengths, challenges, opportunities and goals with regard to Easthampton Public School's elementary and middle school academic programs and facilities. The EWG is a group of approximately 35 participants that includes Easthampton Public School's leadership, as well as school administrators, teachers, students, parents and community partners.
The following is a compilation of participants' responses and ideas.

STRENGTHS

- Students
- Staff
- Workforce (administration, custodial, health, faculty)
- Community partnerships
- Location (access, connections, academic/business/comm./transportation)
- Academic arc – physical links
- TLT (that Lowell thing)
  "the school is the city / city is the school"
  - Gateway city
  - Belief in public education
  - Vibrant middle class
- School history
- One school community / 2 day schools connected
- Services
- Multi-cultural (diversity)
- Academic choice
- Student support services
- College and Career Center
- Dual enrollment
- Partnerships
- Sense of belonging
- Curricular evolving
- Working with what we have
- Tutoring (can do work before and after school)
- House model
- Extended day hours
- Extra-curricular hours
- Extra-curricular activities
- Scheduling (student-driven)
- Outside agencies
- Co-taught classes
- Breakfast and lunch (free) mobility
- Parking garage
- ASPEN portal + Naviance
- Student involvement
- Advisory time



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis (continued)

CHALLENGES

- Rapidity of technology & cultural change
- Multiple buildings & divides
- Physical conditions … including technology
- Universal design
- Paring (note pay at garage / backups & limited availability)
- Scale of student / teacher
- Diversity / equity
- Schedule (lunch driven) doesn't max student time or account for passing time
- Scheduling
- Number of students vs. space
- Diversity within staff
- Transitional planning for students
- Equity in technology in school
- Lack of technology at home
- Adapting curriculum as technology changes
- Maintaining healthy lifestyle and balance with academics / activities / work
- Parental pressures
- Parental involvement
- Lack of opportunities for movement
- Cultural competence
- Lack of green space
- Students drug and alcohol involvement
- Getting outside agencies into building
- Parking
- More space for tutoring/time to use classrooms
- Use of advisory
- Communication with students
- Size staffing and maintaining communication
- Alternate scheduling
- Website not as user friendly as could be
- Limited time to address multiple needs
- Lunch time schedule
- Lack of time to collaborate
- Current traditional schedule
- Workable classroom spaces / storage space
- Lack of places to display work
- Consistency in houses (house model)
- Extended day coverage/ supervision/ safety
- Lack of marketing/ telling our story
- Antiquated phone system / interior rooms
- Building navigating
- Relationships with students + teacher
- Differentiation – more student voice & choice



Facility Design Visioning Workshop One Notes

Friday, October 14, 2016

SCOG Analysis (continued)

OPPORTUNITIES

- Blank slate (starting project)
- Students
- Constant renewal (people) & continuity of community
- Constant expansion of partnerships
- Create national model (civic, cultural, engagement, global classroom)
- Head & hand / service learning
- More community partnerships into school
- Ability to gather broad and diverse input on school design
- Community involvement / partnerships
- Cultural competency
- Green space
- New layout could provide increased space for
  - Health and wellness center
  - Parent space
  - 3 lunch model
- Time and space for collaboration
- Create more workable classroom space
- An opportunity to think outside the box
- Increase the reputation of LHS and LHS students
- Marketing
- How we can better expand opportunities with the city businesses
- Differentiation for all students and learning styles
- Self examination
- Go green
- Increase collaborative student working spaces – peer work/tutoring
- Classroom set up (a shared space) will encourage collaboration
- Communication with students
- Alternate scheduling
- Website can be used to communicate out
- Increase opportunities for student engagement in activities (Pep Rally's events)



SCOG Analysis (continued)

GOALS

- Equity in supporting whole students
- Minimize educational disruptions
- Flexible / adaptable space
- Transformative renovation (capture great existing space)
- Aesthetic belonging / purpose and functional belonging
- Holistic design
- Visible learning (showcase success and hard work of students)
- Supports experiential learning
- Self directed learning
- Student voice and choice
- Partnerships with community
- Diversity in staff
- Technology equity school / home
- Adapting the curriculum
- Community partnerships/ Family Involvement Center
- Cultural competency
- Green space
- Wellness Center
- Collaboration time
- Workable classroom spaces/storage
- Exhibition spaces
- Extended communal spaces / day
- Positive marketing and visibility
- Way-finding system
- Lunch modification
- Expand co-taught classrooms
- "Go Green"
- Relevance
- Student involvement in policy/planning
- Homework and tutoring during class time
- Common space for students
- Use of advisory
- Communication with advisory/students
- More school spirit/ build morale / positive culture



Facility Design Visioning Workshop Two Notes

November 1, 2016

21st Century Learning Goals 2.0

The following set of priority "21st Century Learning Goals 2.0" for Lowell High School students was developed based on feedback from the Educational Working Group (EWG). Seven teams of six participants worked to review and edit the Learning Goals 1.0 document that was created during Workshop One, with the resulting reprioritization and grouping of desired Learning Goals.



- **Empathy, Global Perspective and Civic Engagement**
  - Cultural Awareness
  - Personal, Social and Civic Responsibility
  - Awareness of Community and Global Society
  - Multi-Cultural Literacy
- **Critical and Inventive Thinking**
  - Critical Reasoning and Problem Solving
  - Agility, Adaptability and Risk-Taking
  - Joy, Curiosity and Imagination
  - Motivation and Creativity



- **Communication and Collaboration**
  - Oral and Written Communication
  - Teamwork and Interpersonal Skills
  - Media Literacy and Digital Competence
  - Accuracy of Information
- **Real World Interconnectivity**
  - Executive and Organizational Skills
  - Competency in Core Skills and Content
  - Career Preparation and Life Skills
  - Vocational Opportunities and Certifications
- **Holistic Awareness**
  - Self-Advocacy
  - Wellness
  - The Natural World

Facility Design Visioning Workshop Three Notes

November 17, 2016

21st Century Design Patterns 2.0

The following set of priority "21st Century Design Patterns 2.0" for the design of the new and/or renovated Lowell High School has been modified from the original list that was developed by the Educational Working Group in Workshop One, based on participants' comments and suggested changes during Workshop Two.

- **Flexible Everything**
  - **Agile and High Performance Classrooms**
  - **Flexible Furniture**
  - **Flexible Science Labs and Maker Space**
  - **Flexible Multi-Purpose Spaces**
  - **Flexible Performance Spaces**
- **Secure and Welcoming Arrival**
- **Community Access**
- **Distributed Dining**
  - **Explore as a Possibility**
  - **Cyber Dining**
- **Between Spaces/Commons/Breakout**
- **Civic Presence**
- **Display and Exhibition of Student Work (Locker Alternatives)**
- **Clusters of Learning**



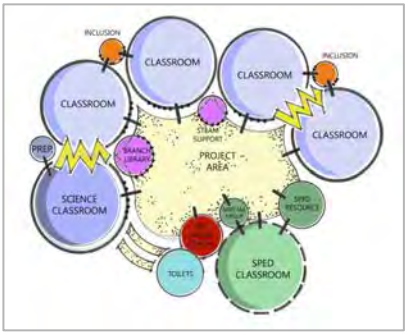








- Special Ed Training Facilities
- Athletics
  - Space for Band and Marching Band
  - Space for ROTC
- Distributed Resources
- Adequate and Flexible Space
- Outdoor Space
- Teacher Space/Work Stations
- Confidential Spaces
- Building as Teacher/Sustainability
- Enrichment Spaces
- Hallway Trafficking
- Teacher Teaming
- Breaks of Institutional Norms
  - Soft Seating, Locker Alternatives, Commons Spaces
- Flexible Storage
- Wayfinding
- Heart of School















Facility Design Visioning Workshop Three Notes

November 17, 2016

DRAFT Guiding Design Principles 2.0

The following set of priority "Guiding Design Principles 2.0" for the design of the new and/or renovated Lowell High School has been modified from the original list that was developed by the Educational Working Group in Workshop One, based on participants' comments and suggested changes during Workshop Two.

A School for Everyone

- A Program and Place for Every Student
- Small School Identity, Big School Pride
- Neighborhoods and Personalization
- Belonging, Identity and Ownership
- Safety and Security
- Ownership and Connection
- Sustainability and Inclusivity
- Centralized Support Services with Personalized House Offices
- Opportunity for ALL Students (Including SPED, ELL)

Learning by Thinking and Doing

- Real Connections to 21st Century Skills
- High Expectations and Personal Responsibility
- Mastery-Based Learning
- Explore, Create, Learn
- Inquiry and Problem-Based
- Real World Connections
- Building as Teacher
- Pathways
- Collaboration
- Clean Energy

Adaptability and Evolution

- Teaching and Learning
- Curriculum and Scheduling
- Tradition to 21st Century and Beyond
- Support of High Quality Programming and Innovation

Joy, Curiosity and Imagination

- Joyful Environment
- Visible Learning
- Varied Spaces, Including Reflection Spaces
- Empathic Engagement
- Indoor/Outdoor Connections

Community and Civic Connections

- School as Community Resource
- Community and Civic Connections
- LHS as Part of Fabric of Community
- Incubation Spaces for Local Businesses and Partners
- Community Outreach

Perkins Eastman | DPC

Lowell High School Programming Summary

December 1, 2016

- Educational Programming is the method by which the existing course offerings, scheduling and room uses are assessed, adjusted for future needs and recalculated to determine the types and number of spaces that are needed. The process occurs in three steps;

    1. **Program Analysis** – we look at the full Master Schedule, uncovering every pupil for every period of a cycle. At the start of the 2016-17 academic year, Lowell had 3125 students scheduled in a 35 period cycle (7 periods/day x 5 days per week), which totals 109,375 pupil-periods. The count of pupil-periods we find must equal the total available to ensure all programs are found and understood. In this case all but .3% of the pupil-periods were identified and well within an acceptable margin of error.

    2. **Program Adjustments** – the adjustments begin with a simple prorated formula to increase all course participation for the design enrollment, in this case 3520 students. During this step we are able to modify (increase or decrease) courses to reflect future changes and can adjust class sizes to match the District's objectives or policies; the number of students programmed into each class determines the number of rooms required for each. No significant changes to courses and class sizes were made.

    3. **Program Requirements** – the final step involves

- Program requirements are then reconciled into the MSBA Space Summary Template, which is effectively the default size and count of spaces that the State expects to fund. The spaces do not need to align completely and many districts have particular circumstances and needs that do not align. These differences must be justified through programming calculations and/or the Educational Program Narrative (written by the District), not to be confused with programming.

- After both the Visioning and Programming (and existing conditions assessments) are complete, design studies begin. This is also the point in time when the District will need to refine the MSBA Educational Program Narrative, taking into account the programming calculations, vision/goals and policies/practices of the School.

- Attached are summary sheet excerpts that provide an overview of Analysis, Adjustments and Requirements. The programming seems to be reasonably in-line with the MSBA guidelines. A few points of interest will be justifying the Pool, Athletic Spaces, Auditorium size, Little Theater & Specialty Programs (Clinic, Bank, Store, Catie's Closet, TRIO, etc).

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Lowell High School

Program Analysis Summary

Program Adjustments Summary

Program Requirements (Draft)

November 23, 2016

Program Analysis v3

PE/DPC

School: **Lowell High School** **Gr 9-12**

Basis: Existing Enrollment @ **3,125**

Date: **11/23/2016**

Comparison:

Subject Area	HAVE acad 2200	TAUNT comp 1963	LOND acad 1710	FITCH comp 1500	WESTB acad 1400	HING acad 1100	DRAC comp 1090	KENN acad 1025	WILM comp 960	***Lowell HS exist 3125***
English	16.3	14.1	13.6	15.1	15.8	14.3	14.9	14.3	14.4	***16.9***
[1] Reading	---	---	0.5	0.8	0.2	---	1.9	0.6	1.9	***---***
Social Studies	15.2	13.9	13.1	11.3	13.5	13.3	13.3	12.0	9.9	***13.4***
World Languages	12.5	7.6	9.7	7.4	11.2	12.3	9.1	9.0	7.2	***8.6***
Mathematics	15.0	15.7	12.7	12.4	14.0	14.4	13.8	13.0	11.1	***14.0***
Science	15.1	13.1	13.9	14.2	14.2	15.4	13.2	14.8	10.2	***13.0***
[2] Computer Science	---	---	---	0.7	2.6	0.6	2.0	0.6	1.8	***---***
Business	0.0	9.0	4.8	9.4	2.0	2.1	6.1	5.0	9.4	***2.5***
[3] Vocational Education	---	---	2.5	---	1.1	0.8	---	5.8	---	***---***
Technology/Engineering	4.8	4.5	3.6	6.0	4.2	3.6	3.6	---	6.4	***0.9***
Fam & Cons Sci (Culinary)	1.9	4.5	1.9	2.5	1.0	2.3	1.7	3.5	2.9	***0.9***
Performing Arts	2.4	2.2	4.0	1.0	6.6	2.6	2.5	2.5	1.6	***2.7***
[4] Drama/Video	---	---	0.6	0.7	1.4	1.8	1.0	0.5	0.6	***---***
Visual Arts	3.6	2.0	2.8	3.4	2.6	2.5	2.2	3.5	3.0	***2.3***
Physical Education	5.7	3.4	4.4	5.7	7.1	3.2	6.0	4.0	8.8	***5.5***
Health & Nutrition	1.1	1.5	2.5	1.5	1.8	1.2	1.9	2.6	2.4	***4.3***
[5] SPED/Remedial	0.5	4.1	1.6	1.8	---	3.2	1.8	2.0	1.6	***4.8***
[6] Miscellaneous	---	2.7	0.3	1.0	0.7	0.0	1.0	1.3	1.0	***9.9***
Unaccounted (Excess)	---	1.7	---	---	---	---	---	---	---	***0.3***
Subtotal	94.3	100.0	92.5	94.9	100.0	93.7	96.0	95.0	94.2	***100.0***
Release			1.3						1.3	***---***
Study	5.7		6.2	5.1	---	6.3	4.0	5.0	4.5	***---***
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	***100.0***

[1] Where not shown otherwise, Reading courses are included in English.

[2] Where not shown otherwise, Computer Science courses are included in Mathematics

[3] Where not shown otherwise, Voc Tech courses are included in Technology Ed.

[4] Drama/Video courses are included in Performing Arts

[5] Includes Life Skills programs

[6] Includes Community Service, Internship and Supervised Work Courses

Program Adjustments v2

PE/DPC

School: **LOWELL HIGH SCHOOL** **Grades 9-12**

Basis: Existing Enrollment @ **3125** Proposed @ **3520**

Date: **11/23/2016**

SUMMARY:

	EXISTING PROGRAM (ANALYSIS)				PROPOSED PROGRAM (ADJUSTED)			
	[A]	[B]	[A]	[C]	[A]	[B]	[A]	[C]
Subject Area	Course Enroll.		Pupil Periods		Course Enroll.		Pupil Periods	
	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)
ACADEMICS								
English	3,690	118.1	18,448	16.9	4,156	133.0	20,779	16.9
Social Studies	2,934	93.9	14,670	13.4	3,305	105.8	16,524	13.4
World Languages	1,875	60.0	9,375	8.6	2,112	67.6	10,560	8.6
Mathematics	3,064	98.0	15,318	14.0	3,451	110.4	17,254	14.0
Science	2,846	91.1	14,228	13.0	3,205	102.6	16,026	13.0
CAREER								
Business	558	17.8	2,788	2.5	628	20.1	3,140	2.5
Engineering	202	6.4	1,008	0.9	227	7.3	1,135	0.9
Family & Consumer Science	162	5.2	1,018	0.9	182	5.8	1,146	0.9
ARTS								
Performing Arts	592	18.9	2,960	2.7	667	21.3	3,334	2.7
Visual Arts	500	16.0	2,500	2.3	563	18.0	2,816	2.3
HEALTH/WELLNESS								
Physical Education	1,207	38.6	6,033	5.5	1,359	43.5	6,795	5.5
Health & Nutrition	931	29.8	4,653	4.3	1,048	33.5	5,241	4.3
SPECIAL NEEDS								
Special Education/Remedial	1,051	33.6	5,253	4.8	1,183	37.9	5,916	4.8
Miscellaneous								
AFROTC	499	16.0	3,893	3.6	562	18.0	4,385	3.6
ELL	1,219	39.0	6,175	5.6	1,373	43.9	6,956	5.6
Upward Bound	41	1.3	203	0.2	46	1.5	228	0.2
Report to Guidance	92	2.9	460	0.4	104	3.3	518	0.4
Early Release	15	0.5	75	0.1	17	0.5	84	0.1
Unaccounted For / (Excess)			**323**	**0.3**			**363**	**0.3**
Total Above			**109,375**	**100.0**			**123,200**	**100.0**
Total Available Pupil Periods			**109,375**				**123,200**	
(No. of pupils x 35 period cycle)								

[A] Counts shown are average of 1st and 2nd semesters.

[B] Count (course enrollment) divided by total of no. of students in school.

[C] Count (pupil-periods) divided by total no. of pupil-periods available.

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **Freshman ENGLISH**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
C/H/HH English	[Reg. CR]	668	24	28.0	5	140.0	
Fresh & Latin Lyceum Sem.	[Reg. CR]	718	24	30.0	5	150.0	
						290.0	8.286
Bal Literacy, Explor in Engl	[Sm Grp]	159	14	11.0	5	55.0	
						55.0	1.571
Total		**1545**	**22**	**69**			**9.857**

Subject Area: **Freshman SOCIAL STUDIES**

C/H World History	[Reg. CR]	763	24	32.0	5	160.0	
						160.0	4.571
Total		**763**	**24**	**32**			**4.571**

Subject Area: **Freshman MATHEMATICS**

Math Sem, Trans/Topics Alg	[Reg. CR]	86	14	6.0	5	30.0	
C/H Algebra, Geometry	[Reg. CR]	630	24	26.0	5	130.0	
						160.0	4.571
Total		**716**	**22**	**32**			**4.571**

Subject Area: **Freshman SCIENCE**

C/H Integrated Science	[Sci Lab]	705	24	29.0	5	145.0	
Explor in Integrated Science	[Sci Lab]	68	14	5.0	5	25.0	
						170.0	4.857
Total		**773**	**23**	**34**			**4.857**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **ENGLISH**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
C/H/A English Gr 10, 11, 12	[Reg. CR]	2141	24	88.0	5	440.0	
Various C/H Engl Crs Gr 11, 12	[Reg. CR]	394	24	16.5	5	82.5	
						522.5	14.929
Bal Lit, SAT Prp & Eng 0121,2	[Sm. Grp]	77	13	6.0	5	30.0	
						30.0	0.857
Total		**2612**	**24**	**110.5**			**15.786**
		4157	23	179.5			

Subject Area: **SOCIAL STUDIES**

C/H/A US Hist Gr 10, 11, 12	[Reg. CR]	1650	24	68.0	5	340.0	
Intro to Econ/US Gov & Politic	[Reg. CR]	85	21	4.0	5	20.0	
C/H/A Soc, Psych, Philosophy	[Reg. CR]	751	24	31.0	5	155.0	
						515.0	14.714
Educ in Am, Topics in US Hist	[Sm. Grp]	12	12	1.0	5	5.0	
Gender & Iden, Digital Journal	[Sm. Grp]	44	15	3.0	5	15.0	
						20.0	0.571
Total		**2542**	**24**	**107.0**			**15.286**
		3305	24	139.0			

Subject Area: **WORLD LANGUAGE**

Latin Gr. 9-12	[Reg. CR]	177	25	7.0	5	35.0	
French Gr. 9-12	[Reg. CR]	339	24	14.0	5	70.0	
Spanish Gr. 9-12	[Reg. CR]	1094	24	45.0	5	225.0	
Portuguese Gr. 9-12	[Reg. CR]	94	19	5.0	5	25.0	
Khmer Gr. 9-12	[Reg. CR]	278	23	12.0	5	60.0	
						415.0	11.857
Latin Gr. 9-12	[Sm. Grp]	27	14	2.0	5	10.0	
French Gr. 9-12	[Sm. Grp]	15	15	1.0	5	5.0	
Spanish Gr. 9-12	[Sm. Grp]	43	14	3.0	5	15.0	
Khmer Gr. 9-12	[Sm. Grp]	46	15	3.0	5	15.0	
						45.0	1.286
Total		**2113**	**23**	**92.0**			**13.143**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **MATHEMATICS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
SAT Prep, C/H Algebra, Geom	[Reg. CR]	2503	24	103.0	5	515.0	
Intr Stats, Disc Mth, Fund Calc	[Reg. CR]	112	14	8.0	5	40.0	
						555.0	15.857
Sm. Courses/Indep. Study	[Comp CR]	96	24	4.0	5	20.0	
						20.0	0.571
Sm. Courses/Indep. Study	[Sm. Grp]	24	12	2.0	5	10.0	
						10.0	0.286
Total		**2735**	**23**	**117.0**			**16.714**
		3451	23	149.0			

Subject Area: **SCIENCE**

MCAS Bio Prep, Princ of Bio	[Sci Lab]	44	15	3.0	5	15.0	
C/H/A Bio, Expl in Bio Gen Bio	[Sci Lab]	809	24	34.0	5	170.0	
Anat/Physio/Forens/MicroBio	[Sci Lab]	462	24	19.0	5	95.0	
Genetics	[Sci Lab]	83	24	3.5	5	17.5	
						297.5	8.500
C/H Chemistry	[Sci Lab]	513	24	21.0	5	105.0	
A Chemistry	[Sci Lab]	34	17	2.0	5	10.0	
						115.0	3.286
H/A Physics	[Sci Lab]	236	24	10.0	5	50.0	
Partnership Experience	[Sci Lab]	9	9	1.0	5	5.0	
Geolo/Meteor/Ocean/Astron	[Sci Lab]	206	24	8.5	5	42.5	
Clean Energy Career Explor	[Sci Lab]	17	17	1.0	5	5.0	
Environmental Studies	[Sci Lab]	20	20	1.0	5	5.0	
						107.5	3.071
Total		**2433**	**23**	**104.0**			**14.857**
		3206	23	138.0			

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **BUSINESS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Google, Acctg, Pers Fin, Law	[Comp CR]	295	24	12.5	5	62.5	
C/H Mktg & Entrepreneur	[Comp CR]	262	24	11.0	5	55.0	
Intro to Financial Services	[Comp CR]	16	2	7.0	5	35.0	
Retail Marketing	[Comp CR]	53	11	5.0	5	25.0	
		1	1	1.0		177.5	5.071
Total		**627**	**17**	**36.5**			**5.071**

Subject Area: **ENGINEERING**

Intro Engr, Arch Dsgn, Robot	[Engr Lab]	191	24	8.0	5	40.0	
Princ of Eng, Intro to Engr	[Engr Lab]	35	12	3.0	5	15.0	
						55.0	1.571
Total		**226**	**21**	**11.0**			**1.571**

Subject Area: **FACS/CULINARY**

Melting Pot, Regional Cuisine	[Cul CR]	135	25	5.5	5	27.5	
						27.5	0.786
Culinary Arts Beginner	[Kitch/Restaur]	37	19	2.0	5	10.0	
Culinary Arts Interm/Adv.	[Kitch/Restaur]	10	10	1.0	5	5.0	
						15.0	0.429
Total		**182**	**21**	**8.5**			**1.214**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **PERFORMING ARTS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Band	[Band Rm]	69	69	1.0	5	5.0	
W of Drums, Beg/Adv Guitar	[Band Rm]	41	14	3.0	5	15.0	
						20.0	0.571
Show Choir	[Chor Rm]	70	70	1.0	5	5.0	
Concert Chorus, Intro Thtr Arts	[Chor Rm]	61	20	3.0	5	15.0	
						20.0	0.571
String Ensemble, Begin Piano	[Ens/MIDI]	83	14	6.0	5	30.0	
						30.0	0.857
Dance Modern & Jazz Tech	[Dance]	342	26	13.0	5	65.0	
						65.0	1.857
Total		**666**	**25**	**27.0**			**3.857**

Subject Area: **VISUAL ARTS**

Art Exploration	[2D/Studio]	24	12	2.0	5	10.0	
						10.0	0.286
Intro to Art Studio	[3D/2D/Studio]	156	22	7.0	5	35.0	
						35.0	1.000
Digital Photo/Animation	[PC Art Lab]	208	23	9.0	5	45.0	
						45.0	1.286
Intro/Adv Graphic Design	[Graphic Lab]	124	23	5.5	5	27.5	
TV Prod, Adv TV Prod	[Graphic Lab]	51	11	4.5	5	22.5	
						50.0	1.429
Total		**563**	**20**	**28.0**			**4.000**

Subject Area: **PE & HEALTH**

Physical Education Gr. 7-8	[Gym]	1359	24	56.0	5	280.0	
						280.0	8.000
Health Ed, Med Term & Body	[Reg. CR]	1039	24	43.0	5	215.0	
Senior Externship	[Sm Grp]	10	20	0.5	5	2.5	
						217.5	6.214
Total		**2408**	**24**	**99.5**			**14.214**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **SPECIAL EDUCATION**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
Fundamentals - Freshman	[SPED Sm]	95	10	10.0	5	50.0	
						50.0	1.429
Fundamentals - Gr 10, 11, 12	[SPED Sm]	205	8	26.0	5	130.0	
						180.0	5.143
Fundam - Instruct Supp	[SPED Lg]	127	9	14.0	5	70.0	
						70.0	2.000
Adjustments - Freshman	[Reg. CR]	38	4	10.0	5	50.0	
						50.0	1.429
Adjustments - Gr 10, 11, 12	[Reg. CR]	272	8	34.0	5	170.0	
						170.0	4.857
Life Skills - Intensive	[SPED CR+Tlt]	38	8	5.0	5	25.0	
						25.0	0.714
Life Skills - CSA Autism	[SPED CR+Tlt]	135	7	19.0	5	95.0	
						95.0	2.714
Life Skills - Labs	[CR+Ktch]	180	9	20.0	5	100.0	
						100.0	2.857
Life Skills PE/SPED PE	[Gym]	92	12	8.0	5	40.0	
						40.0	1.143
Total		**1182**	**8**	**146.0**			**20.857**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Subject Area: **MISCELLANEOUS**

Subject		Course Enrollments	Class Size Avg.	Number of Sections	Sessions per Cycle	Total Sessions in Cycle	Teaching Stations Needed
ELL Begin Engl Language	[Reg. CR]	315	20	16.0	5	80.0	
ELL Supp Engl Lang Dev	[Reg. CR]	246	19	13.0	5	65.0	
ELL Pronun & Vocab	[Sm Grp]	11	11	1.0	5	5.0	
ELL Reading, Lit of Math	[Sm Grp]	18	9	2.0	5	10.0	
						160.0	4.571
ELL Intro to Math, Alg, Geom	[Reg. CR]	310	22	14.0	5	70.0	
ELL Algebra 2	[Sm Grp]	9	9	1.0	5	5.0	
						75.0	2.143
ELL Intro to S Studies, W. Hist	[Reg. CR]	310	24	13.0	15	195.0	
						195.0	5.571
ELL Integrated Science	[Reg. CR]	91	23	4.0	5	20.0	
ELL Biology	[Reg. CR]	152	25	6.0	5	30.0	
ELL Chemistry	[Reg. CR]	41	21	2.0	5	10.0	
						60.0	1.714
ROTC Aviation History	[Reg. CR]	359	24	15.0	5	75.0	
ROTC Mgmt/Cadet Corps, Flt Cmd	[Sm Grp]	72	4	18.0	5	90.0	
						165.0	4.714
Upward Bound	[Sm Grp Suite]	46	9	5.0	15	75.0	
						75.0	2.143
Modified Day	[No Space Req'd]	17	9	2.0	5	10.0	
						10.0	0.286
Report to Guidance	[No Space Req'd]	104	10	10.0	5	50.0	
						50.0	1.429
Total		**2101**	**17**	**122.0**			**22.571**

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Summary A: Regular Academic Classrooms

Department	Demand at 100% Utilization			Adjusted Total	Provide		
	Regular	Sm. Group	Total	Utilization @ 85%	Regular	Sm. Grp.	Total
Freshman ENGLISH	8.286	1.571	9.857	11.597	10	2	12
	some classes @ 16-18						
Freshman SOCIAL STUDIES	4.571	0.000	4.571	5.378	5	0	5
Freshman MATHEMATICS	4.571	0.000	4.571	5.378	5	0	5
Freshman SCIENCE	----		----	----	See Summary B		
Total Freshman CRs	17.429	1.571	19.000	**86%**	**20**	**2**	**22**
ENGLISH	14.929	0.857	15.786	18.571	18	1	19
SOCIAL STUDIES	14.714	0.571	15.286	17.983	18	0	18
	some classes @ 16-18						
WORLD LANGUAGE	11.857	1.286	13.143	15.462	16	1	17
MATHEMATICS	16.429	0.286	16.714	19.664	20	0	20
				1 for Comp Science			
SCIENCE	----		----	----	See Summary B		
BUSINESS	----		----	----	See Summary B		
ENGINEERING	----		----	----	See Summary B		
FACS/CULINARY	----		----	----	See Summary B		
PERFORMING ARTS	----		----	----	See Summary B		
VISUAL ARTS	----		----	----	See Summary B		
PE & HEALTH	----		----	----	See Summary B		
PE & HEALTH	6.214	0.000	6.214	7.311	7	0	7
SPECIAL EDUCATION	----		----	----	See Summary B		
MISCELLANEOUS	----		----	----	See Summary B		
Total Gr 10, 11, 12 CRs	64.143	3.000	67.143	**83%**	**79**	**2**	**81**

* Misc. classroom to be sub-divided with operable wall for flexibility as 2 small group or full size classroom

Program Requirements v1 (DRAFT CALCULATIONS)

Perkins Eastman/DPC

School: LOWELL HIGH SCHOOL Gr. 9-12

Basis: Proposed @ 3520 Per/Cycle: 35

Date: 11/23/2016

Summary B: Specialized Teaching Stations

Department & Space	Provide	Utilization Rate (%)
SCIENCE [Sci Lab]		
Freshman (Integrated Sci)	6	81%
Biology/Physio/Anatomy	12	71%
Chemistry	4	82%
Phys/Foren/Env/Astron	4	77%
	26	76%
Green House	2	n.a.
Maker Space	1	n.a.
BUSINESS [Comp CR]	6	85%
School Store	1	n.a.
Bank	1	n.a.
ENGINEERING [Engr Lab]	2	79%
FACS/CULINARY [CR+Restaur]	2	61%
PERFORMING ARTS		
Band	1	57%
Chorus	1	57%
Ensemble/MIDI	1	86%
Dance	2	93%
	5	77%
VISUAL ARTS	7	
Art Expl/Studio (2D & 3D)	2	79%
Digital Photo/Animation	2	71%
Graphic Dsgn/TV Prod	2	71%
	6	67%
PE & HEALTH		
PE Teaching Stations	10	80%
Health/Wellness CRs	See Summary A	
MEDIA CENTER	1	n.a.
Computer Lab	1	incl. abv.
Sm Group/Meeting	1	incl. abv.
AUDITORIUM		
Stage	1	n.a.
Control Room	1	n.a.
Dressing Rooms	1	n.a.

Department & Space	Provide	Utilization Rate (%)
SPECIAL EDUCATION		
Fundamentals Program		
- Fund Gr 9 [Sm Grp]	2	71%
- Fund Gr 10, 11, 12 [Sm Grp]	6	86%
- Instructional Supp [Lg CR]	3	67%
Adjustments Program		
- Adjust Gr 9 [Reg CR]	2	71%
- Adjust Gr 10, 11, 12 [Reg CR]	6	81%
- Storage (Different Instruct)	1	n.a.
- Social Worker	1	n.a.
- Counseling Room (for10)	1	n.a.
Life Skills Program		
- Intensive SPED [CR w/ Tlt]	1	71%
- Sensory Room (w/ intensive)	1	n.a.
- CSA/Autsim [CR w/ Tlt]	4	68%
- Life Skills Labs [CR+Kitch]	4	71%
- Media & Mail Room	1	n.a.
- Laundry/Folding Room	1	n.a.
- Hygene (Wash/Chng'g Rm)	1	n.a.
- Life Skills PE / SPED PE	2	57%
OT/PT	1	n.a.
Deaf/HI Office (Suite)	1	n.a.
Speech Specialist & Asst	1	n.a.
Social Worker	2	n.a.
MISCELLANEOUS		
ELL - English/Reading	5	91%
ELL - Math	3	71%
ELL - Social Studies	7	80%
ELL - Science	2	86%
ROTC	6	79%
	23	91%
Upward Bound	3	71%
Modified Day & Report to Guid	No Space Req'd	
OTHER UNASSIGNED SPACES		
Security/SRO offices	2	n.a.
Student Publishing	1	n.a.
Student Government	1	n.a.
Teen Center	1	n.a.
Health Clinic	1	n.a.
Caties Closet	1	n.a.
Little Theater	1	n.a.
TV Studio Suite	1	n.a.

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Lowell High School User Group Summary

December 1, 2016

- Full Day Sessions on 11/15 & 11/16 with 17 Groups to discuss big picture overview of each program, space requirements, adjacencies, educational aspirations and trends.

- Focus Groups included:

    1. Safety & Security
    2. Health & Bioscience Pathway
    3. Freshman Academy
    4. ELL/Foreign Language
    5. Wellness/Physical Education
    6. ROTC
    7. Student Support Services
    8. Athletics
    9. Custodial
    10. Business/Culinary Pathways
    11. Special Education
    12. Fine Arts
    13. Humanities
    14. STEM
    15. Food Service
    16. Communications Pathway & Library media Center
    17. Outside Programs (Gear-Up, Health Clinic, Catie's Closet, Jeanne D'Arc Credit Union)

- Ongoing interactive process with 3-4 future meetings as design develops.

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Lowell High School Design Options

December 1, 2016

1. Base Repair - See Attached Scope Summary

2. Full Renovation w/ Small Addition (requires creation of Academic swing space)*

    2A. Renovate available space in nearby building(s) for ¼ population?

    2B. Relocate ¼ population into other schools?

    2C. Create Temporary/Modular CRs using portion of F. Morissette Blvd?)

    2D. Create Temporary/Modular CRs via use of upper Garage Level

    2E. Other

3. Renovation w/ Rebuild of FA, Gym and Portion of Lord Building (requires temp PE/Athletics)

    3A. Temporary Gymnasium(s) via use of upper Garage Level

    3B. PE/Athletic programs off-site for 1yr (use nearby Arena, Gyms, Pools?)

    3C. Other?

4. Renovation w/ Rebuild of FA, Gym Building and ½ Lord Building (requires temp PE/Athletics)
    (See Swing Space Options Above)

5. All New Construction (existing site)
    (See Swing Space Options Above)

6. All New Construction (new site)

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Lowell High School Base Repair Project Scope

November 21, 2016

1. HC Accessible Ramps
2. Masonry veneer replacement at Field House
3. Replacement of all exterior sealants
4. Replacement of all windows
5. Replacement of all exterior doors
6. Replacements of all roofs (except Coburn Hall)
7. Modification of existing interior walls for accessibility
8. Modifications to existing science rooms for accessibility
9. Replacement of selective doors for accessibility
10. Replacement of all hardware locksets
11. Replacement of selective toilet rooms for accessibility
12. Replacement of shower rooms for accessibility
13. Paint all interior walls
14. Replace all floor finishes
15. Replace all ceilings
16. Renovate all stairs for accessibility
17. Replace and add elevators for accessibility
18. Add HC lifts for accessibility
19. Replace Plumbing system
20. Replace HVAC Systems
21. Replace electrical systems
22. Replace fire protection system
23. Replace casework
24. Hazmat abatement
25. Replace concrete sidewalks and entry
26. Replace granite curbing
27. Replace bituminous paving
28. Replace catch basins
29. Separate sanitary and storm water system for future connection by city
30. Provide some level of storm water infiltration
31. Replace all utilities
32. Provide site lighting

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Lowell High School
Base Repair
All Buildings

November 15, 2016

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =		628,000		
		Element ($)	**$/sf**	
A Substructure		226,905	0.36	
A10 Foundations		226,905	0.36	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		17,602,978	28.03	
B10 Superstructure		2,959,569	4.71	
B20 Exterior Closure		6,055,060	9.64	
B30 Roofing		8,588,349	13.68	
C Interiors		19,923,777	31.73	
C10 Interior Construction		7,401,877	11.79	
C20 Stairs		1,801,578	2.87	
C30 Interior Finishes		10,720,322	17.07	
D Services		67,552,964	107.57	
D10 Conveying Systems		477,962	0.76	
D20 Plumbing		9,897,224	15.76	
D30 HVAC		26,295,941	41.87	
D40 Fire Protection Systems		4,035,314	6.43	
D 50 Electrical Systems		26,846,523	42.75	
E Equipment and Furnishings		6,072,937	9.67	
E10 Equipment		4,298,015	6.84	
E 20 Furnishings		1,774,922	2.83	
F Special Construction and Demolition		8,084,276	12.87	
F20 Selective/Building Demolition		8,084,276	12.87	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**119,463,837**	**190.23**	
G Building Sitework		1,759,863	2.80	
G10 Site Preparation		293,707	0.47	
G20 Site Improvements		336,156	0.54	
G30 Site Civil/Mechanical Utilities		457,000	0.73	
G40 Site Electrical Utilities		673,000	1.07	
Sub Total Construction		**121,223,700**	**193.03**	
General Conditions	10.50%	12,728,489	20.27	
Generl Requirements	1.00%	1,212,237	1.93	
Design / Bidding Contingency	15.00%	20,274,664	32.28	
CM Contingency	3.00%	4,663,173	7.43	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	18,217,461	29.01	
Bonds	1.00%	1,783,197	2.84	
GMP Insurance	0.95%	1,694,037	2.70	
CM Fee	2.50%	4,341,414	6.91	
Estimated Total Construction Cost		**186,138,372**	**296.40**	
FF&E		8,448,000	13.45	2,400 per student
Soft Cost	20%	37,227,674		
Estimated Total Project Cost		**231,814,046**	**369.13**	

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Construction Costs Comparison for the construction of New High School Projects

Note: Escalated to Lowell High School Project Bid/GMP Date

Bid Date	NEW SCHOOLS (ALL MSBA CORE PROGRAMS)	Total Project Cost	20 City Index Escalation Rate 2.53%	20 City Index Escalation Rate 2.14%	20 City Index Escalation Rate 2.18%	20 City Index Escalation Rate 2.46%	Projection Escalation Rate 3%	Projection Escalation Rate 3%	Projection Escalation Rate 3%	Projection Escalation Rate 1/2 of 3.5%	$ Cost per GSF in 2020 Dollars	Gross Square Feet (GSF) Built	MSBA Base Reimburse Rate on ELIGIBLE COSTS	FINAL MSBA Reimburse Dollars	FINAL MSBA Reimburse Rate	District Share Dollars	Completion Date	Design Enrollment	sf/kid
			Year 2013	Year 2014	Year 2015	Year 2016	Year 2017	Lowell Design Development Year 2018	Lowell Bid project 1st Qtr Year 2019	Midpoint of construction Year 2020									
Feb, 2012	Essex Agricultural Technical High School	$134,501,368	$137,904,253	$140,855,404	$143,926,051	$147,466,632	$151,890,631	$156,447,350	$161,140,771	$163,960,734	$ 487	337,000	62.00%	$ 72,966,117	54.25%	$61,535,251	June, 2014	1440	234
	2 years -New Construction																		
Nov 2014	Winthrop High School	$81,818,740			$83,602,389	$85,659,007	$88,228,778	$90,875,641	$93,601,910	$95,239,943	$ 509	187,000	59.97%	$ 46,535,948	56.88%	$35,282,792	June, 2016	970	193
	2 years -New Construction																		
June, 2014	Winchester High School	$129,923,146			$132,755,471	$136,021,255	$140,101,893	$144,304,950	$148,634,098	$151,235,195	$ 529	286,000	42.92%	$ 41,746,229	32.13%	$88,176,917	June, 2017	1225	233
	3 years - Phased Occupied Renovation/Add																		
														Projected by Waltham					
	Waltham High School	$283,500,000								$283,500,000	$ 678	418,000	55.00%	$ 127,000,000	44.80%	$156,500,000	June, 2021	1830	228
	3 years - Phased Occupied Renovation/Add																		
														Projected by Somerville					
	Somerville High School	$257,000,000								$257,000,000	$ 584	440,110	71.79%	$120,000,000	46.69%	$137,000,000		1590	277
	3 years - Phased Occupied Renovation/Add																		
LOWELL HIGH SCHOOL ORDER OF MAGNITUDE COST MODELS FOR DISTRICT SHARE OF BUDGETS - NOT OPTIONS MODEL Reimburement will vary with New/Reno/Reno - Addition									Check					Order of Magnitude Preliminary Projections					
	Lowell High School	$185,862,000							$185,862,000	$185,862,000	$ 296	628,558	80.00%	$ 116,200,000	62.52%	$69,662,000		3520	179
Assumes:	3 years - Phased Occupied Renovation/Add	$201,500,000							$201,500,000	$201,500,000	$ 321	628,558	80.00%	$ 128,821,015	63.93%	$72,678,985			
NOTE: Includes excluded cost of Pool at $7.5 Million		$225,000,000							$225,000,000	$225,000,000	$ 358	628,558	80.00%	$ 147,734,000	65.66%	$77,266,000			
NOTE: Includes excluded cost of Modulard at $3.5 Million		$250,000,000							$250,000,000	$250,000,000	$ 398	628,558	80.00%	$ 167,000,000	66.80%	$83,000,000			
		$275,000,000							$275,000,000	$275,000,000	$ 438	628,558	80.00%	$ 188,000,000	68.36%	$87,000,000			
		$300,000,000							$300,000,000	$300,000,000	$ 477	628,558	80.00%	$ 208,375,000	69.46%	$91,625,000			
		$325,000,000							$325,000,000	$325,000,000	$ 517	628,558	80.00%	$ 199,600,000	61.42%	$125,400,000			
		$350,000,000							$350,000,000	$350,000,000	$ 557	628,558	80.00%	$ 201,990,000	57.71%	$148,010,000			
		$375,000,000							$375,000,000	$375,000,000	$ 597	628,558	80.00%	$ 204,586,000	54.56%	$170,414,000			

MSBA Base Reimbursement Rate per MSBA Website

FINAL MSBA Reimbursement Rate per MSBA Website

Projected by Somerville per October 30, 2016 Boston Globe (Article attached)

Projected by Waltham per November 11, 2016 Boston Globe (Article attached)

MSBA current reimbursement cap is at $312 per sf so costs above that is 100% cost to the District

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Lowell High School Project

Site Selection Analysis

Most Favorable | Favorable | Less Favorable | Unfavorable | Y=Yes | N=No

Site	Acreage +/-	Usable Acreage +/-	Proximity to Public Transporta-tion	Proximity to Parking and/or Garage	Eminent Domain Required	Utilities Available Y/N	Entirely Within Lowell City Limits	Proximity to Public Services in Miles (50 Arcand Dr.)	Sidewalks	Potential Environmen-tal Issues	Land Use Restrictions	Historical Significance	Wetlands Y/N	Flood Plain	Zoning
Existing HS Location 50 Father Morissette Blvd.	6	6	Central Bus Hub	Ayotte Garage, John St. Garage	N	Y	Y	0	Y	Y	None known	Y	Y	N	Downtown Mixed Use (DMU)
Cawley Stadium 364 Douglas Rd.	45 +/-	31 +/-	Local Bus Routes	On Site	N	Y	Portions at Clark Rd. in Tewksbury	2.6	Rogers St.-Yes, Douglas Rd.-No	Potential Endangered Species	Title Review Req'd	Y	Y	Y	Regional Retail & Single Family (RR & SSF)
Wang MS/LeBlanc Park 475 West Meadow Rd.	56	31	Local Bus Routes	Limited existing	N	Y	Y	2.3	Y	Former Hospital Site	None known	N	Y	Y	Single Family (SSF)
South Common Park 171 South St.	20	2.3	Bus Routes, Train Terminal	Central & Early Garages, On Site	N	Y	Y	0.9	Y	None known	Article 97 Open Spaces	Y (Public Park)	N	N	Traditional Multi-Family (TMF)
Regatta Field 381 Pawtucket Blvd.	23	19	Local Bus Routes	N	Owned by MassDOT	Y	Y	2.4	Y	None known	None known	Y (Public Greenspace)	Y	Y	Single Family (SSF)
Rollie's Farm 1415 Varnum Ave.	11.18	11.18	Local Bus Routes	N	Y	Y	Y	3.8	Y	Potential Endangered Species	Ch. 61A Farmland Restrict.	N	Y	N	Single Family (SSF)
Carlisle St. 0 Carlisle St. Chelmsford	14	10	Local Bus Routes	N	N	Y	Entire lot in Chelmsford	2.5	N	Potential Endangered Species	None known	N	Y	N	Public Educational & Municipal (P)



Boundary lines are for presentation purposes.
Maps are unofficial unless stamped/logged/certified by City Assessor.



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Lowell High School

Neighborhood /Community Meeting Summary

December 1, 2016

- **The focus of each meeting:**

    1. Identify Project team: City Manager's Office, School Building Committee, Lowell High School, Skanska, PE + Consultants
    2. Overview of MSBA & Process/Reimbursement
    3. Feasibility Study: Schedule/Decisions/Deliverables
    4. What we have learned so far: uniqueness of Lowell and history, LHS diverse over 40 countries represented, 1st coed high school in the country. ELL Influx, Career Pathways, City / History Ties
    5. Existing Conditions: school has exceeded useful life, systems are not energy efficient and cost money, some code/accessibility non-compliance, do not support 21st century education to provide competitive education for students
    6. Looking for community involvement & input
    7. Community Involvement via: additional meetings, website, questions to City Manager

- **Meetings:**

    1. 10/17: Centralville Neighborhood Action Group w/ Centralville Community Coalition
    2. 11/7: Pawtucketville Citizens Council w/ East Pawtucketville Citizens Group
    3. 11/9: Belvidere Residents Council w/ Sacred Heart Neighborhood Improvement Group, Riverside Community Council & Back Central Neighborhood Association
    4. 11/14: Highlands Neighborhood Association w/ Lower Highlands Neighborhood Group, Cupples Square Business & Residents Association, Friends of Taylor Park
    5. 11/28: Lowell Downtown Neighborhood Association w/ Jackson Appleton Business Resident Association & Acre Coalition to Improve our Neighborhoods
    6. 12/8: Community Meeting @ LHS Auditiorium 6:30.

- **The primary questions/discussion(s) focused on:**

    1. Where school will be located?
    2. Is the building going to be flexible/adaptable for the future (50+ years)?
    3. Traffic implications?

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www.LowellMA.gov

Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: Dec 1, 2016
Time: 10:00AM
Location: Mayors Reception Room, City Hall

1. - Attendance

Attendees: Kevin Murphy, Conor Baldwin, Robert Healy, Mike Vaughn, Brian Martin, Gary Frisch, Richard Underwood, Lisa DeMeo, Steve Gendron.

Also in attendance: Mike McGovern, Rodney Conley
From Skanska: Mary Ann Williams, Jim Dowd
From Perkins Eastman: Alicia Caritano, Robert Bell

2. - Preliminary Design Program Update

K. Murphy commenced the meeting with a general discussion of the City Council presentation that introduced the education plan, visioning and goals overview. The Educational Leadership Team met Nov. 30, 2016. The PDP will be submitted in February so that the educational plan is fully incorporated for the School Committee to approve in January. J. Dowd commented on the SCOG Analysis to incorporate 21 century learning goals into the educational plan.

3 - Visioning/ Goals Overview

K. Murphy commented on the students being the number one strength and a credit to the City. A FFE consultant commented on being impressed with the wonderful feeling on the campus. Lowell High School was the first coeducational high school in Massachusetts. The SCOG Analysis posed an opportunity for a decision to be made. The building can be brought up to code, accessibility standards and the systems can be replaced, but this would not support the educational and visioning goals. K. Murphy stated that the City Council may ask questions related to the line item costs.

4 - Education Program Update

4.1 Programming/ Space Summary

During the 2016-2017 academic year, Lowell had 3,125 students. The design enrolment number is 3,520 students. No significant changes to courses and class sizes were made.

4.2 User Group Meetings

Full day sessions were held on November 15 & 16, 2016. 17 groups discussed the big picture of each program, space requirements, adjacencies, educational aspirations and trends.

4.3 Discussion of Future Design Program Approval

The School Committee will vote on the Educational Plan prior to the PDP submission to the MSBA in February.

5 - Design Options

5.1 Base Repair

The base repair scope summary projections exclude Coburn Hall. The base repair for electrical system is $26 M that would include new power and security systems throughout the buildings. The 620 sq. ft. requirement is for the projected enrollment of 35,000 students. The four comparisons are based on the square footage and design enrollment numbers. The cost per dollar of square footage is greater than $1,000. S. Gendron asked if the options don't match the OMR, can the City used eminent domain and take a building to utilize space on the other side of the canal. The projected repair is based on the assumption of $250M, which seems high but is due to the location. Tight urban spaces with little room to expand make it harder to keep the temporary class rooms on site.

A. Base Repair w/ Small Addition

The base option would not meet educational goals, only repair and maintenance goals. Based on the evaluation of existing conditions, the cost is estimated to be $231.8M to repair the buildings. S. Gendron asked if the feasibility study is looking into accessing properties. M. Williams stated that it was being looked into but there is no final decision, it would only be used as a last resort. K. Murphy noted that it would not always be beneficial, for example, the assessed damages from Kerouac Park estimated at $600,000 cost the City $3.5 M. The MSBA does not cover un-eligible costs such as acquiring property. M. Williams also noted that the option of eminent domain may stall the project and that a City owned property would allow the project to move forward faster.

B. **Relocate ¼ of the population into other schools**

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This option would not work. G. Frisch commented that there is limited space for the current enrollment, especially at the middle schools.

C. Create temporary modular class rooms using a portion of F. Morrissett Blvd.

This is an option, but it may not be the most feasible. S. Gendron asked if it would be less disruption to the downtown area is a part of Paige St. and Kirk St. were used instead. R. Healy noted that the construction materials and staging would also need to be placed somewhere nearby. K. Murphy stated that the surface of the Tsongas arena parking garage is a possibility. M. Williams noted double sessions may also be an option to have workers working a second shift to not interrupt educational environment. K. Murphy brought up potential issues with union considerations and disasters. M. McGovern noted that the second shift has been used before at other sites from 3:00 PM-11:00PM. L. DeMeo added that this was true in Haverhill, MA. R. Bell noted that this would enable a blocks of space available for surgical construction. This could be difficult for electrical and heating renovations and construction. Off hour construction could increase the cost of the project. Students would also be deeply located in the construction site. S. Gendron asked if there was anywhere the city could rent or build a location for displaced students. He continued that perhaps some classes may be moved to the Freshman Academy building.

D. Create Temporary Modular Classrooms via use of upper Garage level

K. Murphy proposed using the Tsongas Arena or the parking garage by the arena. He continued that he can speak to the University. He also noted that the top floor of the garage is normally full and may cause some disruption. S. Gendron suggested looking into alternative locations, not just in the down town area. L. DeMeo noted that the West Campus at UML may have room. K. Murphy asked if any schools were available. Perhaps the St. Louis School. It was noted by M. Williams that a high level of consideration is being placed into what locations may be available for a phased renovation. The Educational Plan will need to be built to configure any swing space utilized. B. Martin stated that each option will cost money, and asked if there was a general idea of what the cost may be for a swing space. He continued that it may help give a better decision considering financials. M. Williams noted that the costs would depend on the amount of time and the percent of the class that will be displaced. A three year phasing would require approximately 25% of unencumbered space. An existing space that is owned by the City or Schools would help cut costs. Investing in a space would have long term benefits to the City, but costs more upfront. M. Williams stated that the OPM and design team will make the number work for the City.

If the design team builds on site, more students can move into the newly constructed area. This space can be used instead of modular class rooms as swing space. The financial analysis will include accusation cost v. modular swing space cost.

M. Vaughn suggested using the field house to house students, and use the existing space in the building as swing space. The Phasing costs may off set the additional construction costs. Decreasing the construction time would be beneficial to the City's debt service. S. Gendron suggested building a new field house a Cawley Stadium and tear down the existing field house. This raised the PE v. athletics issue. B. Martin stated that the focus should be more on programming not over the building. Coburn Hall can be changed into dance classes. If more swing space is needed, B. Martin stated that the School Department would make it work; they are committed to this project. Sharing classes or shrinking square footage in current classrooms are options.

M. Williams noted that the OPM and design team engaged others through the educational group to review options. She continued that providing information and input helps the OPM and design team generate more engaged and efficient options. J. Drown noted that the physical options for the design will be vetted in advance. Members of different organizations, groups and schools will be considered. The collective input gathered through community outreach will help vet options. S. Gendron, representing the School Committee is on the ELT team with R. Howe and B. Martin. M. Williams suggested a collective date that works for everyone involved, perhaps Wednesday at 1:00 PM. M. Williams continued, reactions from the design options will be used to utilize resources available.

6 - Renovation with Rebuild of FA. Gym and Portion of Lord Building (requires temporary PE/ Athletics)

PE would need to be held off site for one year or more. During the short duration of construction, PE would still be required. In Winchester, the OPM noted that the school switched their PE to focus on yoga and Pilates. The gymnasium was off line for one year, but it helped decrease construction time.

7 - Renovation of Freshman Academy, Gymnasium and Lord Building.

A large portion of the Lord building would have classes without exterior daylight. The design team noted that they would save as much natural light as they could.

8 - New Construction Existing Site

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The existing location size is 3.2 acres; the gross square footage is 575,000. The design team is exploring this as a scenario.

9 - New Construction Site

The difference between all new construction and a full renovation with a small addition is that the renovation would leave the shell of the building. Renovating the 1920 building is an option that may pose challenges to phasing. The new school would be a great option, but the question is what to do with the displaced students. The phasing and square feet are variables that will be provided in terms of financial cost to the SBC. B. Martin noted it is hard to justify spending $230M on a building and not know from the outside that the money was invested in the building. B. Martin inquired about the number of stories that are being considered for the 1980 building. R. Bell stated that there is no limit as it is unrestricted. In order to help minimize safety costs, the design team will try to limit the number of floors so that the building is not considered a high rise. It may be more expensive for over two stores. A possibility is to access the site next to the School, which is currently a dentist office. It would be more cost effective to have 2-3 floors with less roof space.

B. Budget Implications of Options

M. McGovern started the discussion of progress so far. Soon, the OPM and design team will be able to give the SBC options with financial scenarios. M. Williams noted that the key to each scenario is the cost. R. Underwood asked what the value is of the dentist office. It is possible for the City to begin talks with the owner, to see if they would want to move. S. Gendron asked what the cost would be if the City used eminent domain. This could impact the time factor. A POS could result in an outrageous number resulting from a bargaining ploy. The option of a land swap opportunity will be discussed. S. Gendron asked if the City made a generous offer before the information is released to the public. The amount to acquire property is not reimbursable by the MSBA. Modular class rooms are also not reimbursable. There may be a tradeoff that is ultimately paid by taxpayers.

R. Bell wanted to clarify that the meeting will discuss visible options without cost and that some may be better than others. Without definite scope, costs will be estimated. A detailed cost analysis will be given in the spring.

C. Analysis of Sites/ Selection

J. Dowd discussed the 15 criteria that the selected sites were analyzed on. A key factor is the number of acres.

Existing HS Location

The existing site is in close proximity to services, transportation and parking. The site is also already owned by the City. There are potential environmental issues with construction on the existing site. The site is also limited in space.

Cawley Stadium

The site has 31 usable acres, which is large enough for the project and is city owned. The location does not have close proximity to services and transportation. J. Drown noted that the maximum site cost that the MSBA reimburses is up to 8%. This would include bringing in utilities, parking and lighting. 6 acres are required for parking alone for seniors and staff. The design team noted that they could build around the football field. M. McGovern discussed the criteria. There may be a large debate with the general public regarding moving the high school out of the down town area. He noted that a public discussion should be set up. The December 8 meeting can be used to provide the public with the top three sites selected by the SBC.

Wang MS/ LeBlanc Park

The site has 31 usable acres and is city owned. The site is not in close proximity to services or transportation.

South Common Park

The site is in close proximity to services and transportation. There are land use restrictions and the usable acreage is 2.3 acres. Approximately $1M in grant funding has been invested into this park to improve the space. Appealing to the legislature may be easier said than done. The OPM has had an experience with this in Westfield where the project was held for 5 years. R. Underwood stated that the project may shrink and that the reimbursement may as well. B. Martin asked what the next step would be. R. Underwood asked if the change in perception is what we would want to do. B. Martin noted that the neighborhoods want the High School to be downtown. It was also noted by the design team that the land is dedicated in deed as park land.

Regatta Field

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The usable acreage on the site is 19 acres. There area is a Flood Plain and is owned by MA DOT. There are also wetlands that divide the site. The site offers limited proximity to services.

Rollie's Farm

The site is zoned correctly for the building. Usable acres, however, only total 11.18 acres. The land is privately owned and has limited access to services and transportation.

Carlisle St

Property is City owned and has the usable acreage. The lot is in Chelmsford with limited access to services and transportation.

Discussion

The SBC has determined that the existing location, Cawley stadium and the Wang MS. LeBlanc Park. South Common, Regatta Field, Rollie's Farm and Carlisle St fall short in acreage and ownership. R. Healy noted that the top three options would demonstrate to the MSBA that alternative site locations have been considered. It will be worth looking into both Cawley Stadium and Wang MS/ LeBlanc Park be vetted further. It would be beneficial to look into the transportation of students across the city bridges commuting to both alternative locations.

Vote

M. Vaughn noted that the PDP due diligence requires the SBC to select the top three sites. He suggested that the SBC vote on the possible locations.

R. Healy motioned that the SBC endorse the three most favorable sites: Existing HS location, Cawley Stadium, and Wang MS/ LeBlanc Park for more information. Seconded by G. Frisch. All in favor, so voted.

6 - Community Outreach

6.1 Update on Neighborhood Meetings

K. Murphy noted that the City Council was under the impression that the repair would only cost $231M and was surprised. The City Council will vote for a loan order in the

amount necessary once a final location is chosen. G. Frisch inquired about the local share of $100M. C. Baldwin noted that the tax rate will increase $174/average single family home. M. McGovern stated that the reality of the project is that it will be the only major project in the city for the next decade. This is due to the limited capacity to issue debt while keeping taxes level. C. Baldwin discussed the capital plans for the city including street and sidewalk improvements as well as additional ongoing projects such as the canal bridges. R. Healy noted that any major improvements to the Police Department would be off the table. B. Martin stated that real estate value may improve with the new school, which may help to balance costs. The goal at the moment is to achieve the educational process designed. If only improvements are done which could cost $230M, the City may then be required to invest in a new high school in the next decade. S. Gendron asked about the 80% reimbursement from the MSBA for the new high school. M. McGovern noted that it is 70% now, and may drop in the future. B. Martin stated it will be easier to look at the dollar figures once the analysis is concluded. R. Healy noted that the ineligible costs will also need to be stated. R. Conley stated that the reimbursement rate is currently 65-70%.

6.2 12/8 Community Meeting Presentation Review

The range of cost for the feasibility allows the SBC to weigh options until there is a strong reason to remove options. S. Gendron asked if the MSBA would be satisfied with this. M. McGovern noted that the top three sites should be shared with the City Council, School Committee and the public. B. Martin suggested that it may be best to consider investing in each of the three top sites. R. Healy stated that direction and fine tuning is needed. S. Gendron thought it would be important to inform the public of the 8% reimbursement for the site. M. Williams spoke about the December 8, 2016 meeting being an opportunity to inform the community. M. McGovern noted that adding 8% as a con to the sites that includes bringing more services into the sites. M. Williams said that Perkins Eastman will add the information collected from the meeting in the next presentation.

6.3 Website Development Update

The City is working with a vendor that is creating a new city website. For the moment, a landing page will be created for the High School Project. Once the city site is live, the vendor will begin working on a separate site for the High School Project. The website will have the meeting minutes, presentations and a list of the SBC members.

7 - Next Steps

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The next meeting will be January 5, 2017.

R. Healy motioned to adjourn, seconded by M. Vaughn.

HEATHER VARNEY
Notary Public
Commonwealth of Massachusetts
My Commission Expires Oct. 2, 2020

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Lowell High School Project

School Building Committee

Agenda Items – January 5, 2017

- Review of Educational Plan

- Preliminary Design Program Update
  - Base Repair Option 1
  - Report on Development of other options- New, Reno, Reno/Add
  - Phasing Implications of Options
  - Analysis of Sites – Existing, Cawley & Wang
  - Review Planning Options being sent to estimators

- Community Outreach
  - 12/8 Community Meeting Review
  - Additional Community Meetings

- Website Development Update

- Next Steps
  - February 1 School Committee Vote on Ed. Plan
  - February 2 SBC Mtg. (Ed. Plan and draft PDP Submittal review)
  - February 16 SBC *Additional* Mtg. (Vote on approval of PDP Submittal)
  - February 24 PDP Submittal to MSBA

SKANSKA

City of Lowell
Lowell High School Project
Actual Cashflow

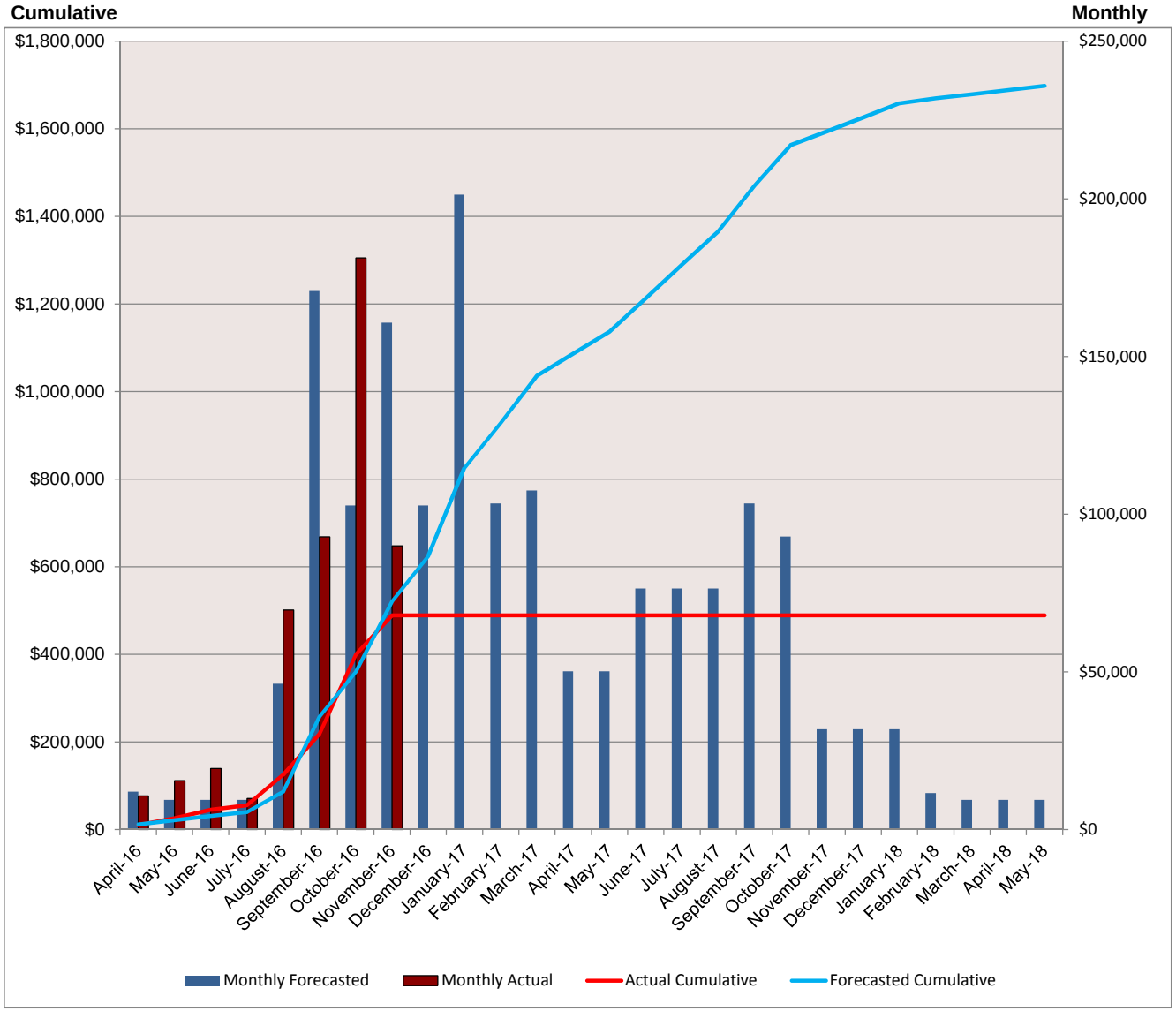
TOTAL PROJECT BUDGET - ALL COSTS ASSOCIATED WITH THE PROJECT ARE SUBJECT TO 963 CMR 2.16(5)	Propay Cost Codes	*Feasibility Study Agreement	April, 2016	May, 2016	June, 2016	July, 2016	August, 2016	September, 2016	October, 2016	Paid to Date	November 2016 Invoices	Invoiced to Date	Percent Complete	Amount Remaining
Feasibility Study Agreement														
OPM Feasibility Study	*0001-0000*	$458,760	$ 10,735	$ 15,520	$ 19,350	$ 9,912	$ 9,668	$ 20,715	$ 15,603	$101,503	$ 18,810	$120,313	26%	$338,447.50
A&E Feasibility Study	*0002-0000*	$1,095,000	$ -	$ -	$ -	$ -	$ 60,000	$ 72,138	$ 165,706	$297,844	$ 71,152	$368,996	34%	$726,004.00
Env. & Site	*0003-0000*	$144,067	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0	$ -	$0	0%	$144,067.00
Other	*0004-0000*	$302,173	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0	$ -	$0	0%	$302,173.00
Feasibility Study Agreement Subtotal		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$92,853**	**$181,309**	**$399,347**	**$89,962**	**$489,309**	**24%**	**$1,510,692**
Owner's Project Manager														
Total Project Budget		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$92,853**	**$181,309**	**$399,347**	**$89,962**	**$489,309**	**24%**	**$1,510,692**
			$10,735	$26,255	$45,605	$55,517	$125,185	$218,038	$399,347					

SKANSKA

Lowell High School Project

Actual/Forecasted Cashflow

December-16





The City of LOWELL *Alive. Unique. Inspiring.*

LOWELL HIGH SCHOOL PROJECT

JANUARY 5TH 2017

School Building Committee

City Hall

10:00am -11:30am



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LOWELL HIGH SCHOOL PROJECT

MEETING AGENDA

- Schedule for Educational Plan for Approval and Preliminary Design Program
- Design Options:
  - Base Repair
  - Other options: Renovation, Renovation/Addition, & New
  - Analysis of Sites: Existing, Wang, & Cawley
  - Phasing Implications of Options
- Community Outreach
  - Community Meeting Presentation Review
  - Additional Community Meetings
- Website Development Update
- Next Steps

Existing Site - Full Renovation



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6+

BUILDABLE AREA = 6.94 ACRES

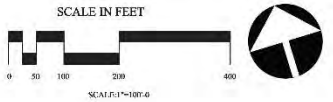
Note: Test fit in progress to determine if program fits on site

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Internal academic spaces w/ no natural light



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LOWELL HIGH SCHOOL PROJECT

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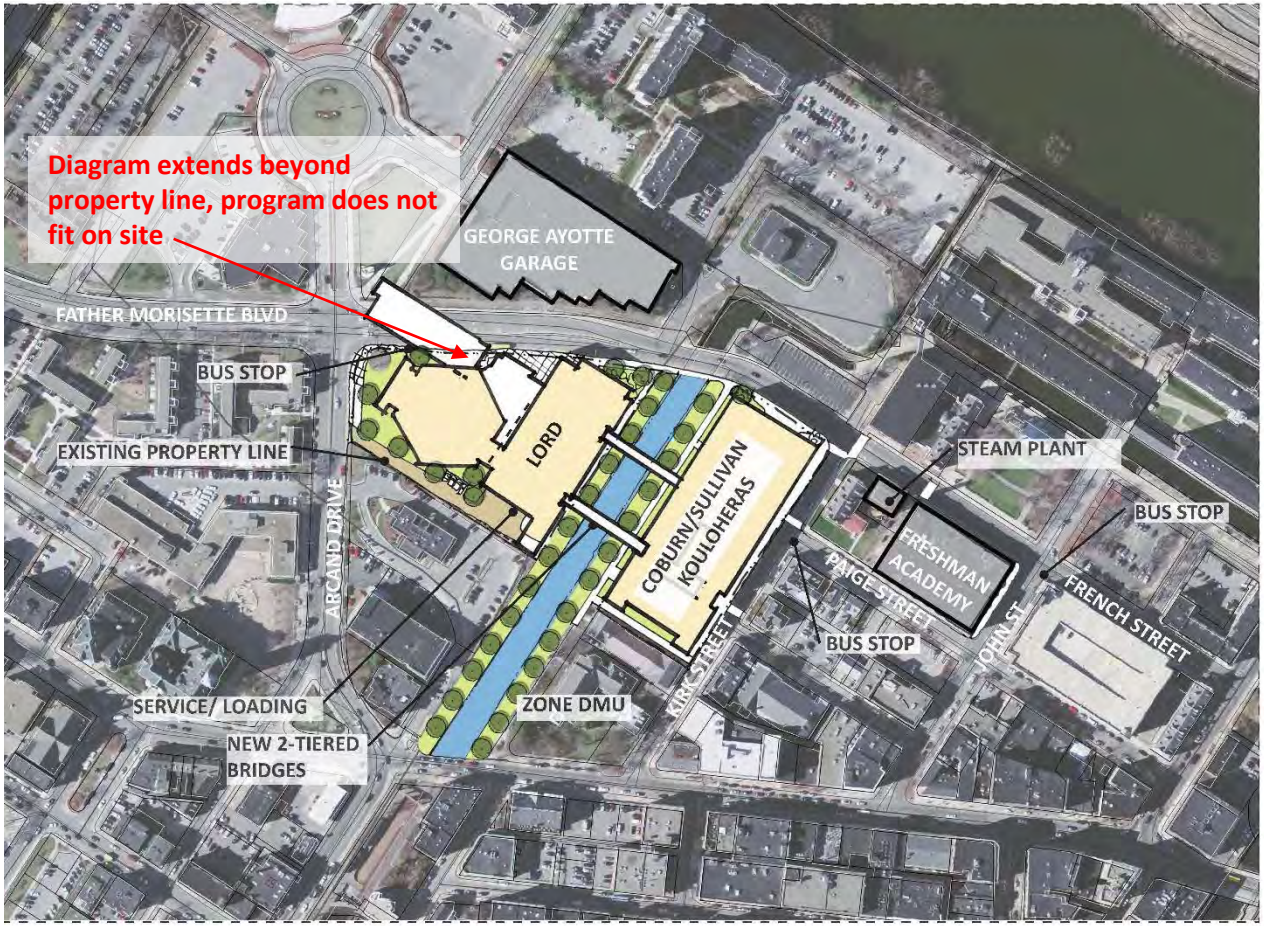
Existing Site – Addition/Renovation Option 1



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6+

BUILDABLE AREA = 6 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy) Returns Freshman Academy & Steam Plant to City

Pros:

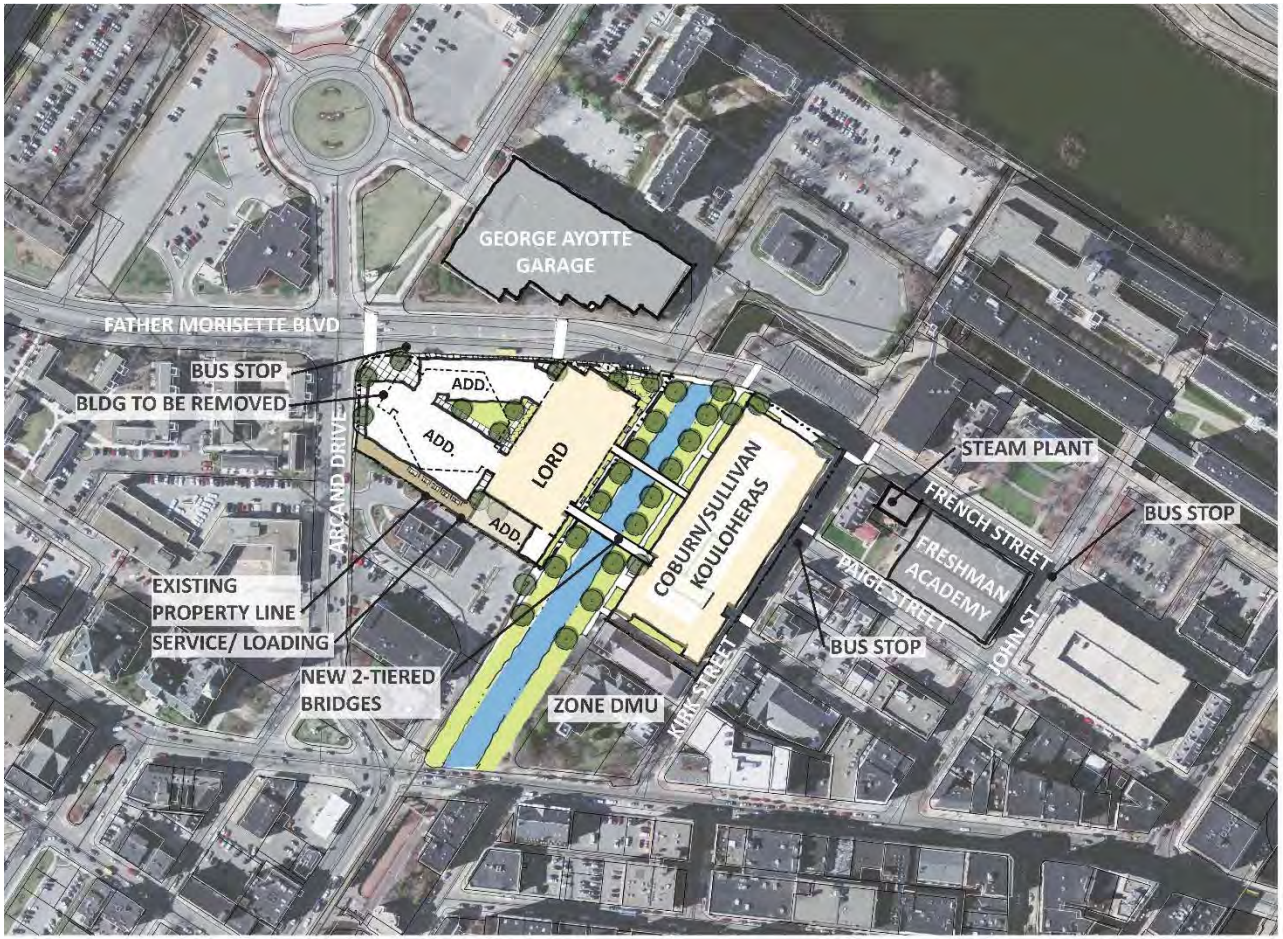
- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Program doesn't fit on site
- Internal academic spaces w/ no natural light
- Less efficient building



Existing Site – Addition/Renovation Option 2



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6

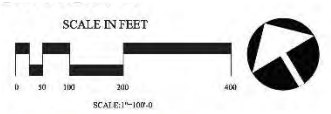
BUILDABLE AREA = 6 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy)
Returns Freshman Academy & Steam Plant to the City

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- Meets the Program

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- Internal academic spaces w/ no natural light



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Expanded Existing Site – Addition/Renovation Option 3



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE (WITH EXPANDED SITE)=8.0
USED ACREAGE=8.0

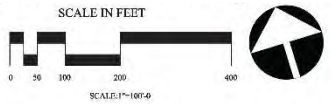
BUILDABLE AREA = 7.4 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy)
Returns Freshman Academy & Steam Plan to the City

Pros:

- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- On campus PE fields
- Improved service/loading area
- Meets the Program
- Natural Light in all Academic Spaces

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs



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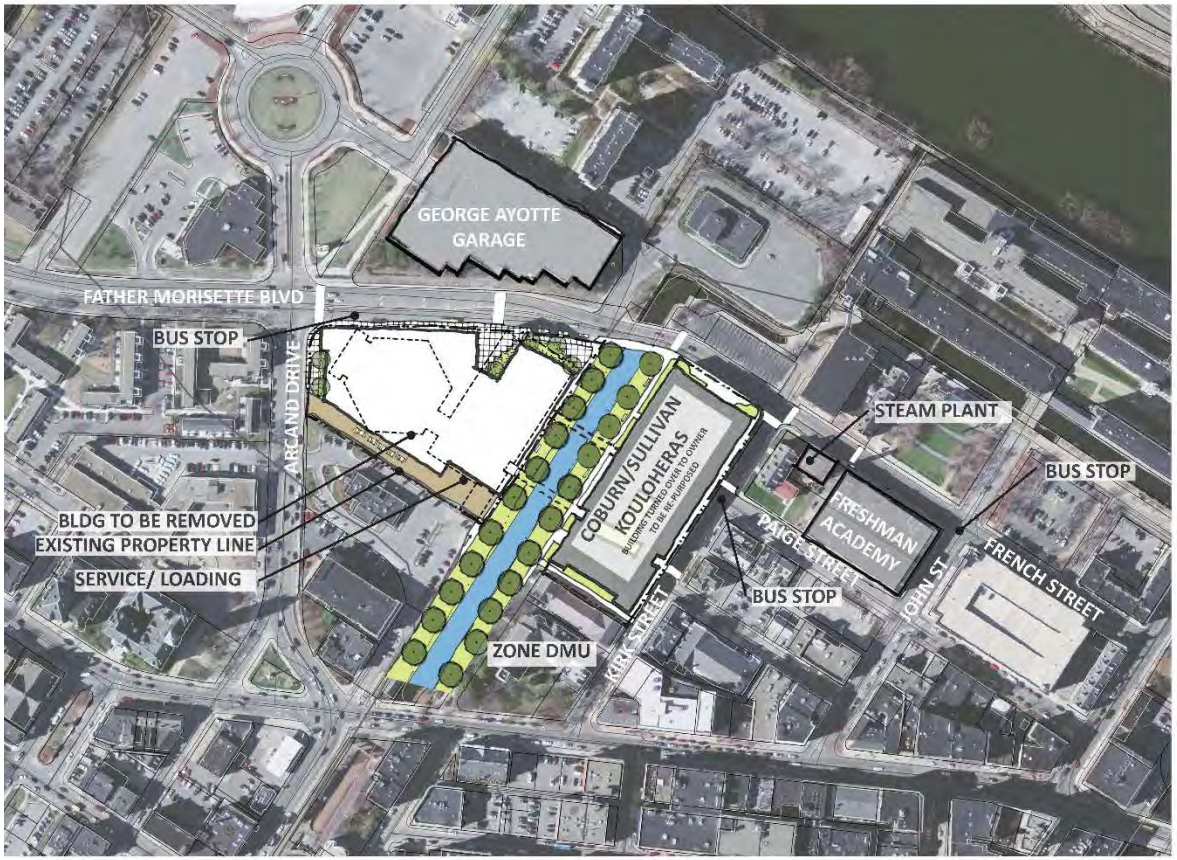
New School at Existing Site



PARKING SPACES
- GEORGE AYOTTE GARAGE (1200 SPACE CAPACITY)
- 5 + HC PARKING SPACES

BUS DROP OFF: CLOSEST STOPS NOTED ON PLANS

SITE ACREAGE=6.6
USED ACREAGE=6.6

BUILDABLE AREA = 2.7 ACRES
(Excludes .94 acres for Steam Plant & Freshmen Academy & 3.3 acres for Coburn/Sullivan/Kouloheras)
Returns C/S/K, Freshman Academy, Steam Plant to City

Pros:

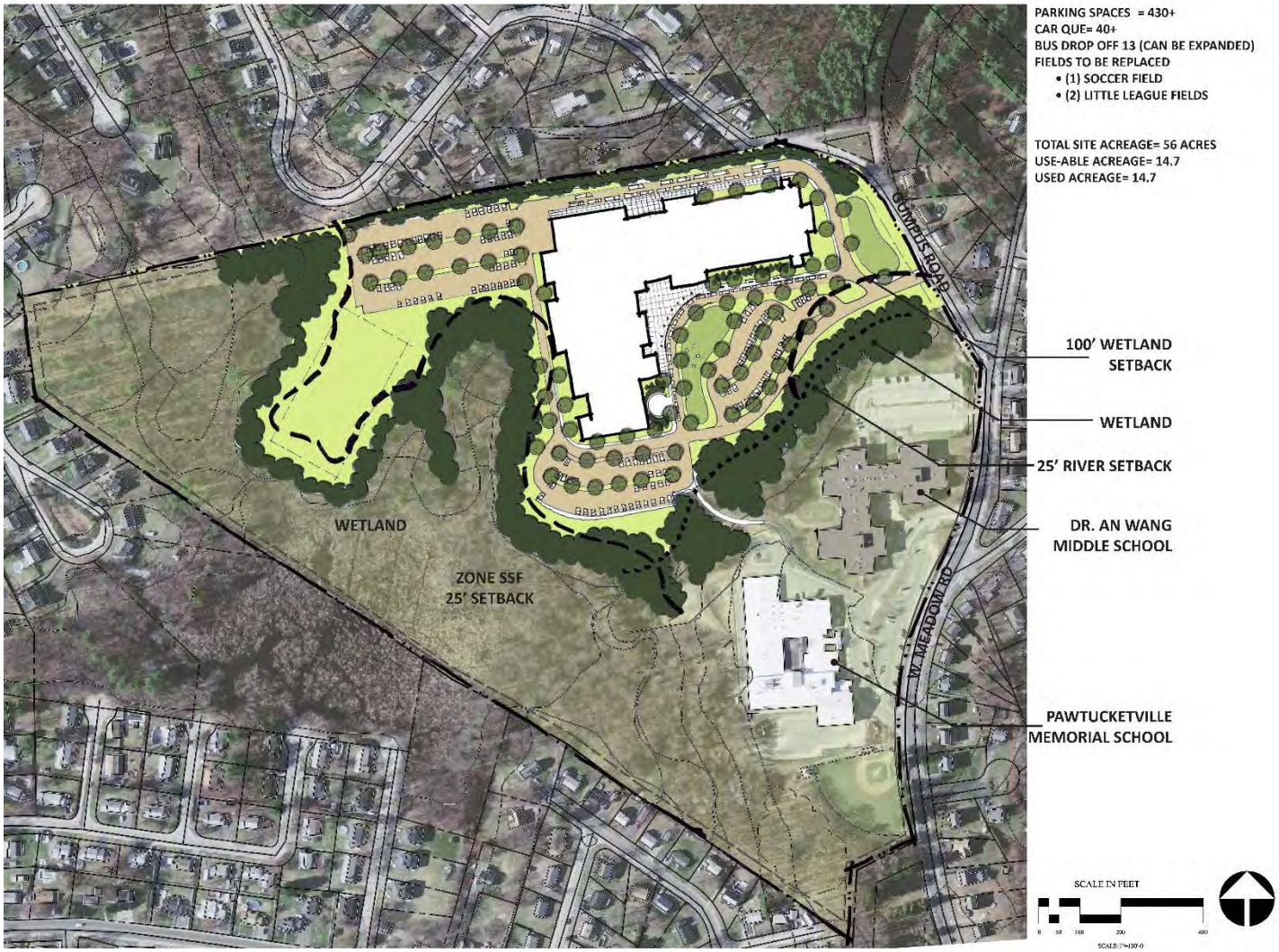
- Proximity to Services
- Walking/Bus Proximity
- Existing Parking
- City Owner
- Meets program
- New construction
- More Efficient Building
- Fits all program

Cons:

- Potential Environmental Issues
- Limited Site Size
- Phasing Costs
- No campus PE fields
- High rise w/ additional mechanical costs
- Some internal academic spaces w/ no natural light



Wang Site



BUILDABLE AREA = 14.7 ACRES

Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add
- More efficient building
- No phasing
- On-site parking/bus queueing/drop off & pick-up
- On-site PE field

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Elementary/MS Students on Same Campus as High School
- Loss of Some Ball Fields
- Heavy traffic in residential area
- Non-reimbursable site development costs

Cawley Site



BUILDABLE AREA = 30 ACRES
(includes Memorial Stadium)

Pros:

- Useable/Buildable Area
- City Owned
- New Construction vs. Reno/Add
- More efficient building
- No phasing
- On-site parking/bus queueing/drop off & pick-up
- On site PE fields

Cons:

- Proximity to Services
- Walking/Bus Route Proximity
- Loss of some existing fields
- Non-Reimbursable Site Development Costs

Next Steps

- January 6 Send Design Options to Estimators
- February 1 School Committee Vote on Ed. Plan
- February 2 SBC Mtg.? (Ed Plan and draft PDP Submittal review)
- February 7 City Council Meeting
- February 9 SC/ SBC Mtg. (Ed.Plan and Approval PDP Submittal Review)
- February 16 SBC Possible Additional Mtg.? (Vote on approval of PDP Submittal)
- February 24 PDP Submittal to MSBA

Office of the City Manager
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Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: Jan 5, 2017
Time: 10:00AM
Location: Mayors Reception Room, City Hall

1. - Attendance

Attendees: Kevin Murphy, Conor Baldwin, Robert Healy, Mike Vaughn, William Samaras, Brian Martin, Lisa DeMeo, Gary Frisch, Rick Underwood, Steve Gendron, David Beati and Jay Mason.

Also in attendance: Mike McGovern, Rodney Conley

From Skanska: Mary Ann Williams, Jim Dowd

From Perkins Eastman: Alicia Caritano, Robert Bell, Joe Drown and Dawn Guarriello

2. - Review of Educational Plan

K. Murphy began the discussion talking about the preliminary concepts. He noted that the key factor that is missing is the financial aspect, which Perkins Eastman is currently working on. K. Murphy also stressed the importance of the financial costs in making a final decision. He continued that he has been impressed with the work thus far.

The program will be completed January 15, 2017. The plan will then be sent to the School Committee for two week review in February, the target meeting dates are February 1 and February 15, 2017. S. Gendron asked if the target date could be the later date to give the committee members time to review. M. Williams pointed out that the OPM is submitting the document to the MSBA February 24, 2017. B. Martin stated that the School Committee will target February 1, 2017. Once the Educational Plan is completed, the SBC would like the City Manager and School Committee to receive it so that a final vote may be taken on February 15, 2017.

It was addressed that the Educational Plan is a narrative on objectives and policies with no final preliminary designs. Mid-January the School Committee will receive the Educational Plan. S. Gendron suggested that the School Facilities Subcommittee may meet by the end of January to begin discussion as soon as possible.

M. Williams noted that the Educational Plan will incorporate the vision of several sessions and that not much of the information should be new. It is a formal report that integrates the community discussions.

K. Murphy stated that other School Committee members may be less involved in the process and would like more time to review. The OPM is trying to keep the SBC on track and move the process along the design time line. M. Williams asked if the SBC would like to issue the document now as a draft to the School Committee, and fine tune it over the next two weeks. S. Gendron asked if the document is completely focused on educational goals. K. Murphy stated that the School Committee plays a key part in the process of approving the Educational Plan. He continued that the School Committee can extend the two week meeting if they feel they need to do so.

3 - Preliminary Design Program Update

K. Murphy commented on the students being the number one strength and a credit to the City. A FFE consultant commented on being impressed with the wonderful feeling on the campus. Lowell High School was the first coeducational high school in Massachusetts. The SCOG Analysis posed an opportunity for a decision to be made. The building can be brought up to code, accessibility standards and the systems can be replaced, but this would not support the educational and visioning goals. K. Murphy stated that the City Council may ask questions related to the line item costs.

R. Bell stated that the design team is looking for feedback from the SBC, they want to make sure that every rock is turned over.

3.1 Base Repair Option 1

R. Bell discussed the base repair option and how the design team is performing a fit test to see if the program fits on site. He noted that if the goal is to have a standard room size of 900 square feet; a wall would be knocked down to enlarge a 750 square foot room but not a 800 square foot room. He mentioned design problems with this, such as having to leave extra space for an existing window. Restructuring the walls inside the building will help meet educational objectives. This option leaves the freshman off site and limits the green space available. Phased construction is complex with multiple costs associated with it including portable class rooms. Inefficiencies in size of the building as well as inefficient use of space. There are also potential environmental issues, risks and costs associated with base repair.
M. Williams asked what the duration of the renovation is projected. J. Drown stated that all the options include 36-42 month duration. This can be adjusted with the creation of swing space for temporary classrooms off site until the project is complete. M. Williams asked if the students would remain on site if they cannot shift schools, and if this would increase the projected timeline. J. Drown stated that there needs to be temporary space for students to learn. M. Williams noted that this cost close to $7M in Winchester, which was note reimbursable by the MSBA. The Education Delivery Plan may help decrease costs of classrooms. G. Frisch asked

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what number of students would be displaced by the renovation. M. Williams replied that at least one grade at a time, approximately 900 students.

3.2 Addition/ Reno Option 1

The white image on the slide that sticks out into the street would be a three story building. This option does not work as the buildings do not fit onto the site. The freshman would be moved from the Freshman Academy to the new building in the street. The added extensions to the library and loading dock.

3.2 Addition/ Reno Option 2

The fieldhouse is demolished; three additional building structures are built. One is a two story pool/gymnasium which could possibly house the freshman until their rooms are constructed. S. Gendron inquired if the field house includes a track. R. Bell replied that it does, an oblong 136 meter track. J. Mason asked if this includes a pool. R. Bell noted that it does include a 8,000 square foot pool; which is larger than the current 7,000 square foot pool. It was also noted that pools are not reimbursable by the MSBA. L. DeMeo asked if the bus drop would be relocated. It has not been relocated in the depiction, but can be looked into. G. Frisch asked if the students would need to be relocated. The gymnasium would take about a year to a year and a half, PE would be the only necessary courses moved. K. Murphy stated that an alternative space for PE and sports would be needed. M. Williams proposed temporary modular classrooms; perhaps on top of the Tsongas Arena parking garage. R. Bell stated that this option removed the need for modular classrooms, as the freshman can be moved once their class rooms are built; creating free swing space. The design team stressed that they would like the process to be quick and limit disruptions. They can construct the shell of a building and customize the inside. This option includes pre-engineered structures and can greatly excel construction time. A new face of the building will be visible to the public. A main entry would be created that is secure and safe. The green space can be utilized by ROTC students. Possible modifications to PE would include Ti Chi, yoga and Pilates.

K. Murphy stated it may be better to disrupt PE classes than the core educational courses. B. Martin agreed. He continued that although Lowell has the largest athletic program in MA, the students will be up to the challenge; they are adaptive. B. Martin stated that he would be less inclined to disrupt limited mobility or special education students.

R. Underwood asked if they could construct a building over the canal. K. Murphy noted the city owns rights to the air above the canal only, allowing the foot bridges to be built. L. DeMeo stated the City would need to work with Enel on the issue if this were pursued. M. Williams thought

this may be a consideration, but it is important to take into account the trolley and natural lighting that would be lost. R. Bell said that the design team is willing to explore all options. The suggestion by R. Underwood may displace more students when the buildings are tied in structurally. S. Gendron commented on the cost that may be associated with this concept.

R. Bell stated that the designs all have a two story bridge so that construction never takes away from mobility. An extra bridge will be constructed, so that one may be renovated while minimizing impact on students. M. Vaughn asked if a temporary bubble has been considered, like in Boston. The major vendor for bubbles has been contacted, and Skanska will look into the projected costs. M. Vaughn asked what would happen to the Freshman Academy. R. Bell noted the empty building would be turned over to the City.

3.3 Addition/ Renovation Option 3

This plan returns the Freshman Academy and STEAM plan to the high school. The space below the Lord building is where a fieldhouse would be created. The current field house would be demolished, which allows the designers to build with limited displacement of students. Logistically this option adds more green space and visual appeal.

The site would include an extended property line, increasing the total square acres to approximately 7.4. This option may be less efficient than Option 2 but feasible compared to Option 1. The design team listed the positive and negative aspects of this design.

The Coburn building would also be fully renovated with this option too. S. Gendron asked if the class rooms would be reconfigured. R. Bell replied yes, they would try to incorporate light wells to let more natural light in as well. He continued that the science labs would be 1,440 square feet where as they are currently 700 square feet. S. Gendron asked if the hallways would change during the renovation. R. Bell mentioned that the lockers may be removed from the corridors. The need for physical text books is diminishing as technological environment advances to e-books. J. Mason asked what the cost would be. R. Bell stated that the revnovation would be easier in the older building, as the structure is key. The Lord building would not be as easy since the rooms are not as large. It is highly likely that walls would be moved blocking windows. K. Murphy pointed out that this option afforded little to no disruption to PE and Educational classes, no modular classrooms or alternative sites would be required. G. Frisch asked about the possibility of taking over the business location (dentist office). R. Bell replied that there is a community, political and financial aspect to this option. He stressed the notion that the options are concepts, not definite. K. Murphy stated that the City is duty bound to minimize distruptions and to come up with concepts. J. Drown made a note that modular classrooms are not reimbursed by the MSBA, and that this option would make the City’s funding most effective.

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3.4 New School at Existing Site

The option of building a new school on the existing site creates a 6 story building. In a compromise with limited footprint and vertical circulation, the gymnasium and the media center would be located on the top floor. This option would be very disruptive for students. The science labs would also be on the inside with little to no natural light. S. Gendron asked if the additional / renovation option that includes the dentist office, would help extend the foot print. He also asked if there would be access to bus routes on site to limit traffic.

3.5 Wang Site for New High School

The building is projected to be 4 stories, which is more efficient. The site is an ideal property for lighting and energy efficiency according to the design team. There would be no phasing or educational disruption for students. The proximity to the downtown and transportation is limited. The state would only reimburse 8% of the site cost. S. Gendron asked for a rough cost estimate. M. Williams noted it would be irresponsible for the OPM or design team to provide a rough estimate at this time, there are many moving variables.

3.6 Cawley Stadium Site for New High School

The building is projected to be 4 stories, as well. There is also no educational disruption due to phasing. Some fields would be lost in the construction including Martin Softball field and Desmond Freshman Football field. The site cost is projected to exceed the 8% reimbursement. The parking lot behind the school would be over the City line, extending into Tewksbury. S. Gendron expressed his concern with considering traffic in the neighborhood and residential areas. W. Samaras noted that this should also be considered for the Wang site. L. DeMeo noted that Tewksbury has similar paving and parking ordinances to Lowell. She asked the design team to look into the parcel to see if the area is zoned correctly for the parking lot. L. DeMeo also noted that there is a long standing issue with the brook on Clark Road, the project would need to consider the environmental impact of adding water to the brook.

3.7 Discussion

The SBC confirmed one of the options, Add/Reno Option 3, leaves the Freshman Academy free. M. Vaughn suggested that the Freshman Academy, if vacant, was used for a field house during the renovations. R. Underwood stated that the School Department has ideas for the building as well if the City allows. R. Bell stated that the PE Program may not be accommodated in the existing space.

G. Frisch asked if R. Bell would review the suggestions that the design team will look into.

1) Building air rights over the canal.

2) All new buildings expanded site

3) Traffic/ Permitting/ Zoning at Cawley

4) Repurposing the Freshman Academy

5) Roadway connection from Father Morrissett Blvd. to Merrimack Street.

6) New building on the existing location with a renovated 1922 building.

S. Gendron asked if the design team would consider changing the exterior color of the bricks when renovating the buildings. M. McGovern stated it would be more expensive to match the bricks than contrast them. M. Vaughn suggested using the 1922 building for PE and building a new Lord building.

S. Gendron stated that he regrets having eliminated South Common from the list of possible sites. He stated that it is centrally located near transportation and closer to the downtown. M. Williams noted that the OPM has had experience with other communities that involved dealing with Article 97 that delayed the project time line 5 years. L. DeMeo mentioned one dealing with Article 97 that lasted 14 months, and that was unheard of. It is possible if the SBC follows this route that the feasibility study would be extended. S. Gendron asked if the City could speak to State Delegators. M. Williams noted that the MSBA will not let the City proceed without ownership of the preferred site.

S. Gendron motioned that a study for the South Common site be performed, and to inquire with State Delegation of the likelihood of this passing. Seconded by G. Frisch.

J. Mason motioned to amend S. Gendron's motion for South Common, to include the City performing a study on accessing the Dentist site.

Discussion followed including the current grants being used for South Common. The City would need to give back funding for: $400,000 grant for the Parks Department, $400,000 grant and $400,000 that is bonded for Waste Water Utility. This motion would impact the timeline for the PDP submission, which would be into March rather than February. W. Samaras suggested contacting advocates for the park. W. Samaras noted that there are other State Delegates (not just the four from Lowell) and many are strong advocates that helped obtain funding for South Common.

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R. Healy respectfully requested to amend the motions, making S. Gendron's and J. Mason's separate motions. He stated that the city is paying for the architect and OPM to complete the feasibility study; based on the last meeting the SBC voted on the top three sites. Going back to include an additional site will cost additional fees. M. Williams noted that February 24, 2017 is the targeted submission date for the MSBA; the City will need to show ownership of the properties at that time.

3.8 Votes

S. Gendron motioned that a study for the South Common site be performed, and to inquire with State Delegation of the likelihood of this passing. Seconded by G. Frisch. 5 Yes, 6 Opposed; so voted.

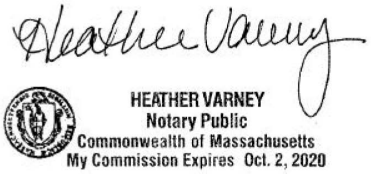
J. Mason	Yes
C. Baldwin	No
R. Healy	No
L. DeMeo	No
G. Frisch	Yes
M. Vaughn	No
S. Gendron	Yes
R. Underwood	Yes
D. Beati	Yes
B. Martin	No
W. Samaras	No

B. Martin motioned to refer the motion by J. Mason to the City Manager to inquire into the acquisition of the dentist office and refer back to the SBC. All in favor, so voted.

4 - Next Steps

M. Williams noted that the expanded site, Wang and Cawley have not been eliminated. The three sites will be submitted to the MSBA. The design team and the OPM will continue to investigate and explore each option in depth. M. Williams also noted that the investigation will include residential impact in a report for the next meeting in February. C. Baldwin motioned to adjourn, seconded by W. Samaras.





SKANSKA

Lowell High School Project

School Building Committee

Agenda Items – February 7, 2017

- Educational Plan status update

- Preliminary Design Program Update
  - Review of Estimates, Phasing Implications and Design Status
    - Base Repair
    - Full Renovation
    - Add/Reno Opt. 1A “air rights”
    - Add/Reno Opt. 2 Existing Site (demo FH)
    - Add/Reno Opt. 3 Existing Expanded Site (demo FH)
    - Add/Reno Opt. 4 Existing Site (demo FH & Lord)
    - Add/Reno Opt. 5 Existing Expanded Site (demo FH & Lord)
    - New School Existing Site
    - New School Existing Expanded Site
    - New School Wang Site
    - New School Cawley Site
  - Selection/Approval of Options for City Council Review/Approval
  - Authorization for OPM to Submit PDP to MSBA no later than Feb. 24

- Community Outreach
  - 2/8 Belvidere Neighborhood Assn. Meeting Review
  - Additional Community Meetings

- Website Development Update

- Next Steps

SKANSKA

City of Lowell
Lowell High School Project
Actual Cashflow

TOTAL PROJECT BUDGET - ALL COSTS ASSOCIATED WITH THE PROJECT ARE SUBJECT TO 963 CMR 2.16(5)	Propay Cost Codes	*Feasibility Study Agreement	April, 2016	May, 2016	June, 2016	July, 2016	August, 2016	September, 2016	October, 2016	November, 2016	Paid to Date	December 2016 Invoices	Invoiced to Date	Percent Complete	Amount Remaining
Feasibility Study Agreement															
OPM Feasibility Study	*0001-0000*	$458,760	$ 10,735	$ 15,520	$ 19,350	$ 9,912	$ 9,668	$ 20,715	$ 15,603	$ 18,810	$120,313	$ 19,030	$139,342	30%	$319,418.00
A&E Feasibility Study	*0002-0000*	$1,095,000	$ -	$ -	$ -	$ -	$ 60,000	$ 72,138	$ 86,231	$ 71,152	$289,521	$ 68,438	$357,959	33%	$737,041.19
Env. & Site	*0003-0000*	$144,067	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,475	$ -	$79,475	$ 2,508	$81,983	57%	$62,084.00
Other	*0004-0000*	$302,173	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0	$ 7,335	$7,335	2%	$294,837.55
Feasibility Study Agreement Subtotal		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$92,853**	**$181,309**	**$89,962**	**$489,309**	**$97,311**	**$586,619**	**29%**	**$1,413,381**
Owner's Project Manager															
Total Project Budget		**$2,000,000**	**$10,735**	**$15,520**	**$19,350**	**$9,912**	**$69,668**	**$92,853**	**$181,309**	**$89,962**	**$489,309**	**$97,311**	**$586,619**	**29%**	**$1,413,381**
			$10,735	$26,255	$45,605	$55,517	$125,185	$218,038	$399,347	$489,309					

SKANSKA

City of Lowell
Lowell High School Project
Actual Cashflow

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A&E Feasibility Study	*0002-0000*	$1,095,000	$ -	$ -	$ -	$ -	$ 60,000	$ 72,138	$ 86,231	$ 71,152	$289,521	$ 68,438	$357,959	33%	$737,041.19
Env. & Site	*0003-0000*	$144,067	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,475	$ -	$79,475	$ 2,508	$81,983	57%	$62,084.00
Other	*0004-0000*	$302,173	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$0	$ 7,335	$7,335	2%	$294,837.55
Feasibility Study Agreement Subtotal		$2,000,000	$10,735	$15,520	$19,350	$9,912	$69,668	$92,853	$181,309	$89,962	$489,309	$97,311	$586,619	29%	$1,413,381
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Total Project Budget		$2,000,000	$10,735	$15,520	$19,350	$9,912	$69,668	$92,853	$181,309	$89,962	$489,309	$97,311	$586,619	29%	$1,413,381
			$10,735	$26,255	$45,605	$55,517	$125,185	$218,038	$399,347	$489,309					

Perkins Eastman DPC

Lowell High School, Lowell, MA
Conceptual Cost Estimate

January 31, 2017

Design Options

			Base Repair Existing Site		Full Renovation Existing Site		Add/Reno Option 1A Existing Site		Add/Reno Option 2 Existing Site		Add/Reno Option 3 Expanded Existing Site	
Gross Floor Area (sf) =			1	628,000	2	641,670	3	617,356	4	624,138	5	638,701
			Element ($)	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**
A10 Foundations			226,905	0.36	561,754	0.88	2,645,140	4.28	4,039,209	6.47	4,137,668	6.48
B10 Superstructure			2,959,569	4.71	4,337,827	6.76	6,050,089	9.80	8,850,317	14.18	8,093,974	12.67
B20 Exterior Closure			6,055,060	9.64	10,473,118	16.32	11,713,484	18.97	14,573,055	23.35	12,536,748	19.63
B30 Roofing			8,588,349	13.68	7,191,260	11.21	9,136,869	14.80	5,920,305	9.49	3,763,162	5.89
C10 Interior Construction			7,401,877	11.79	16,143,075	25.16	16,567,339	26.84	17,409,776	27.89	14,008,472	21.93
C20 Staircases			1,801,578	2.87	2,165,269	3.37	2,169,579	3.51	2,268,558	3.63	1,749,412	2.74
C30 Interior Finishes			10,720,322	17.07	13,799,685	21.51	14,672,396	23.77	15,930,197	25.52	12,694,483	19.88
D Services			67,552,964	107.57	68,986,639	107.51	68,511,556	110.98	71,029,916	113.80	72,462,044	113.45
D10 Conveying Systems			477,962	0.76	491,575	0.77	506,232	0.82	532,641	0.85	322,297	0.50
D20 Plumbing			9,897,224	15.76	7,374,728	11.49	7,300,670	11.83	7,543,104	12.09	7,762,398	12.15
D30 HVAC			26,295,941	41.87	30,571,461	47.64	30,330,739	49.13	31,449,323	50.39	32,107,207	50.27
D40 Fire Protection Systems			4,035,314	6.43	4,011,264	6.25	4,000,467	6.48	4,166,760	6.68	4,265,218	6.68
D 50 Electrical Systems			26,846,523	42.75	26,537,611	41.36	26,373,448	42.72	27,338,090	43.80	28,004,924	43.85
E Equipment and Furnishings			6,072,937	9.67	8,144,666	12.69	8,445,430	13.68	8,997,477	14.42	8,308,265	13.01
E10 Equipment			4,298,015	6.84	4,582,852	7.14	5,105,534	8.27	5,757,667	9.22	4,764,128	7.46
E 20 Fixed Furnishings			1,774,922	2.83	3,561,814	5.55	3,339,896	5.41	3,239,810	5.19	3,544,137	5.55
F10 Special Construction			0	0	36,986	0.06	2,481,771	4.02	2,420,764	3.88	2,482,585	3.89
F10 Special Construction			0	0.00	36,986	0.06	2,481,771	4.02	2,420,764	3.88	2,482,585	3.89
F20 Selective Building Demolition			8,084,276	12.87	11,220,341	17.49	10,299,414	16.68	8,697,370	13.94	6,531,277	10.23
F2010 Selective/Building Demolition			3,894,276	6.20	7,030,341	10.96	6,554,414	10.62	4,364,524	6.99	2,198,431	3.44
F2020 Bulk Demo							72,000	0.12	659,846	1.06	659,846	1.03
F20 Hazardous Abatement			4,190,000	6.67	4,190,000	6.53	3,673,000	5.95	3,673,000	5.88	3,673,000	5.75
Sub Total Building Cost			**119,463,837**	**190.23**	**143,060,620**	**222.95**	**152,693,067**	**247.33**	**160,136,944**	**256.57**	**146,768,090**	**229.79**
G10 Site Preparation			293,707		577,837		796,152		796,152		981,921	
G20 Site Improvements			336,156		1,456,514		2,366,088		2,366,088		2,918,175	
G30 Site Civil/Mechanical Utilities			457,000		628,129		746,694		746,694		921,233	
G 40 Site Electrical			673,000		629,977		563,568		563,568		695,067	
Sub Total Construction			**121,223,700**	**193.03**	**146,353,077**	**228.08**	**157,165,569**	**254.58**	**164,609,446**	**263.74**	**152,284,486**	**238.43**
Design Contingency 15% reno & 10% new			18,183,555	28.95	21,513,902	33.53	22,097,479	35.79	21,679,064	34.73	19,675,156	30.80
General Conditions $300k/mo. (new) 250k/mo. (reno)		66mo.										
		60mo.			15,000,000							
		54mo.					13,500,000				13,500,000	
		48 mo.	12,000,000						12,000,000			
		42 mo.										
		36 mo.	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
		30 mo	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Phasing	3.00%		4,182,218		5,036,009		5,377,891		5,588,655		5,158,789	
Sub Total			155,589,473	247.75	187,902,989	292.83	198,140,939	320.95	203,877,165	326.65	190,618,430	298.45
General Requirements	4.00%		6,223,579	9.91	7,516,120	11.71	7,925,638	12.84	8,155,087	13.07	7,624,737	11.94
Sub Total			161,813,052	257.66	195,419,108	304.55	206,066,577	333.79	212,032,252	339.72	198,243,168	310.38
Bonds	1.00%		1,618,131	2.58	1,954,191	3.05	2,060,666	3.34	2,120,323	3.40	1,982,432	3.10
CDI / Subguard	1.25%		2,042,890	3.25	2,467,166	3.84	2,601,591	4.21	2,676,907	4.29	2,502,820	3.92
Insurance - CCIP	2.65%		4,385,063	6.98	5,295,772	8.25	5,584,314	9.05	5,745,981	9.21	5,372,303	8.41
Permits (Assumes Limited Fees)	0.00%		0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sub Total			169,859,135	270.48	205,136,238	319.69	216,313,147	350.39	222,575,463	356.61	208,100,722	325.82
GMP Contingency	3.00%		5,095,774	8.11	6,154,087	9.59	6,181,997	10.01	6,360,968	10.19	5,947,295	9.31
CM Fee & OH	2.50%		4,373,873	6.96	5,282,258	8.23	5,562,379	9.01	5,723,411	9.17	5,351,200	8.38
Sub Total			179,328,782	285.56	216,572,583	337.51	228,057,523	369.41	234,659,841	375.97	219,399,218	343.51
Escal. 3% per yr. til mid point construction			25,070,164	39.92	35,236,359	54.91	34,482,297	55.85	32,805,446	52.56	33,173,162	51.94
Sub Total Construction Cost			**204,398,945**	**325.48**	**251,808,942**	**392.43**	**262,539,820**	**425.26**	**267,465,287**	**428.54**	**252,572,380**	**395.45**
Temp Facilities 32 Classroom Allowance			5,225,406	48 mo.	6,264,186	60 mo.	2,867,869	54 mo.	16 cr			
Temp Facilities Gym Allowance			1,884,158	24 mo.	1,884,158	24 mo.	1,884,158	24 mo.	1,884,158	24 mo.		
Temp Facilities Admin												
Temp Facilities Cafeteria												
Temp Facilities Support												
Total Construction Cost			**211,508,510**	**336.80**	**259,957,287**	**405.13**	**267,291,848**	**432.96**	**269,349,445**	**431.55**	**252,572,380**	**395.45**
Project Soft Costs			**43,592,139**	**69.41**	**52,075,311**	**81.16**	**53,550,809**	**86.74**	**54,228,063**	**86.88**	**62,062,946**	**97.17**
Reimbursable soft cost allowance per MSBA (max 20% of Construction Cost)			34,043,669	54.21	42,526,841	66.28	44,002,339	71.28	44,679,593	71.59	50,514,476	79.09
A/E Fee included above												
OPM Fee included above												
Owner / Architect Consultants included above												
Legal included above												
Utility Allowance included above												
FF&E Allowance $1200 per Student	$1,200	3520	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
IT Allowance $1200 per Student	$1,200	3520	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
FF&E Allowance over MSBA			443,520		443,520		443,520		443,520		443,520	
IT Allowance over MSBA			356,950		356,950		356,950		356,950		356,950	
Moving Allowance			300,000		300,000		300,000		300,000		300,000	
Land Acquisition			0		0		0		0		2,000,000	
Total Project Cost			**255,100,649**	**406.21**	**312,032,598**	**486.28**	**320,842,657**	**519.70**	**323,577,508**	**518.44**	**314,635,326**	**492.62**
Owner Construction Contingency	7%		14,307,926		17,626,626		18,377,787		18,722,570		17,680,067	
Owner Soft Cost Contingency	4%		1,361,747		1,701,074		1,760,094		1,787,184		2,020,579	
Total Project Budget			**270,770,322**	**431.16**	**331,360,298**	**516.40**	**340,980,538**	**552.32**	**344,087,262**	**551.30**	**334,335,971**	**523.46**

	Add/Reno Option 4 Existing Site		Add/Reno Option 5 Expanded Existing Site		New School Existing Site		New School Expanded Existing Site		New School Wang Site		New School Cawley Site	
	6	619,002	7	620,872	8	594,020	9	576,460	10	571,513	11	571,513
	Element ($)	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**
	6,303,789	10.18	6,341,507	10.21	6,272,851	10.56	9,085,010	15.76	6,035,177	10.56	6,035,177	10.56
	11,714,937	18.93	11,774,852	18.97	20,903,564	35.19	21,011,967	36.45	20,111,542	35.19	20,111,542	35.19
	17,095,528	27.62	17,170,403	27.66	20,766,939	34.96	20,153,042	34.96	19,980,094	34.96	19,980,094	34.96
	4,828,475	7.80	4,835,955	7.79	3,558,180	5.99	3,447,231	5.98	3,423,363	5.99	3,423,363	5.99
	17,199,273	27.79	17,253,783	27.79	17,725,557	29.84	15,431,834	26.77	17,053,948	29.84	17,053,948	29.84
	2,227,609	3.60	2,234,565	3.60	1,556,332	2.62	1,510,325	2.62	1,497,364	2.62	1,497,364	2.62
	16,546,398	26.73	16,605,041	26.74	14,618,832	24.61	17,622,382	30.57	14,064,935	24.61	14,064,935	24.61
	69,016,927	111.50	69,226,816	111.50	68,888,499	115.97	65,733,734	114.03	66,278,363	115.97	66,278,363	115.97
	525,886	0.85	527,550	0.85	493,037	0.83	478,462	0.83	474,356	0.83	474,356	0.83
	7,298,366	11.79	7,320,320	11.79	7,241,104	12.19	9,459,709	16.41	6,966,743	12.19	6,966,743	12.19
	30,563,990	49.38	30,656,985	49.38	31,584,043	53.17	27,099,385	47.01	30,387,346	53.17	30,387,346	53.17
	4,072,102	6.58	4,084,668	6.58	3,979,934	6.70	3,862,282	6.70	3,829,137	6.70	3,829,137	6.70
	26,556,584	42.90	26,637,293	42.90	25,590,382	43.08	24,833,897	43.08	24,620,780	43.08	24,620,780	43.08
	9,037,964	14.60	9,067,753	14.60	9,629,064	16.21	9,465,473	16.42	9,264,226	16.21	9,264,226	16.21
	6,155,613	9.94	6,178,708	9.95	5,999,602	10.10	5,914,480	10.26	5,772,281	10.10	5,772,281	10.10
	2,882,351	4.66	2,889,045	4.65	3,629,462	6.11	3,550,994	6.16	3,491,944	6.11	3,491,944	6.11
	3,854,976	6.23	3,878,295	6.25	997,954	1.68	968,453	1.68	960,142	1.68	960,142	1.68
	3,854,976	6.23	3,878,295	6.25	997,954	1.68	968,453	1.68	960,142	1.68	960,142	1.68
	9,419,859	15.22	9,419,859	15.17	3,721,763	12.12	3,721,763	10.48	0.00	0.00	0	0.00
	4,573,096	7.39	4,573,096	7.37	0	0.00	0	0.00	0	0.00	0	0.00
	1,173,763	1.90	1,173,763	1.89	1,173,763	6.06	1,173,763	6.06				
	3,673,000	5.93	3,673,000	5.92	2,548,000	6.06	2,548,000	4.42	0	0.00	0	0.00
	167,245,735	**270.19**	**167,808,829**	**270.28**	**168,639,536**	**283.90**	**168,151,213**	**291.70**	**158,669,154**	**277.63**	**158,669,154**	**277.63**
	797,952		981,921		437,884		623,652		1,950,572		2,653,840	
	2,366,088		2,918,175		1,301,348		1,853,436		5,796,916		7,886,960	
	746,694		920,923		410,682		584,910		1,830,018		2,489,820	
	563,568		695,067		309,962		441,462		1,380,742		1,878,560	
	171,720,037	**277.41**	**173,324,915**	**279.16**	**171,099,412**	**288.04**	**171,654,673**	**297.77**	**169,627,402**	**296.80**	**173,578,334**	**303.72**
	20,915,500	33.79	21,370,962	34.42	17,109,941	28.80	17,165,467	29.78	16,962,740	29.68	17,357,833	30.37
			16,500,000									
	15,000,000											
					12,600,000	21.21	12,600,000	21.86				
	0	0.00	0	0.00		0.00	0	0.00	10,800,000	18.90	10,800,000	18.90
	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	5,779,066		5,840,876									
	213,414,604	344.77	217,036,753	349.57	200,809,353	338.05	201,420,141	349.41	197,390,142	345.38	201,736,168	352.99
	8,536,584	13.79	8,681,470	13.98	8,032,374	13.52	8,056,806	13.98	7,895,606	13.82	8,069,447	14.12
	221,951,188	358.56	225,718,224	363.55	208,841,727	351.57	209,476,946	363.39	205,285,748	359.20	209,805,614	367.11
	2,219,512	3.59	2,257,182	3.64	2,088,417	3.52	2,094,769	3.63	2,052,857	3.59	2,098,056	3.67
	2,802,134	4.53	2,849,693	4.59	2,636,627	4.44	2,644,646	4.59	2,591,733	4.53	2,648,796	4.63
	6,014,780	9.72	6,116,865	9.85	5,659,519	9.53	5,676,734	9.85	5,563,154	9.73	5,685,640	9.95
	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	232,987,613	376.39	236,941,964	381.63	219,226,290	369.06	219,893,096	381.45	215,493,492	377.06	220,238,107	385.36
	6,658,536	10.76	6,771,547	10.91	6,265,252	10.55	6,284,308	10.90	6,158,572	10.78	6,294,168	11.01
	5,991,154	9.68	6,092,838	9.81	5,637,289	9.49	5,654,435	9.81	5,541,302	9.70	5,663,307	9.91
	245,637,303	396.83	249,806,348	402.35	231,128,831	389.09	231,831,839	402.16	227,193,366	397.53	232,195,582	406.28
	39,965,189	64.56	43,541,246	70.13	29,700,055	50.00	29,790,391	51.68	26,649,782	46.63	27,236,542	47.66
	285,602,492	**461.39**	**293,347,594**	**472.48**	**260,828,886**	**439.09**	**261,622,231**	**453.84**	**253,843,148**	**444.16**	**259,432,124**	**453.94**
	4,290,377	36 mo.	4,745,173	42 mo.	8,580,755	36 mo.	9,490,347	42 mo.	0		0	
	2,648,705	36 mo.			2,648,705	36 mo.	3,047,807	42 mo.				
	1,206,669	36 mo.	1,334,580	42 mo.	1,206,669	36 mo.	1,334,580	42 mo.				
	1,340,743	36 mo.	1,482,867	42 mo.	1,340,743	36 mo.	1,482,867	42 mo.				
	2,681,486	36 mo.	2,965,733	42 mo.	2,681,486	36 mo.	2,965,733	42 mo.				
	297,770,471	**481.05**	**303,875,948**	**489.43**	**277,287,242**	**466.80**	**279,943,564**	**485.63**	**253,843,148**	**444.16**	**259,432,124**	**453.94**
	56,721,927	**91.63**	**60,027,262**	**96.68**	**53,315,557**	**89.75**	**55,424,641**	**96.15**	**52,355,014**	**91.61**	**53,123,498**	**92.95**
	47,173,457	76.21	48,478,792	78.08	43,767,087	73.68	43,876,171	76.11	42,806,544	74.90	43,575,028	76.25
	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
	443,520		443,520		443,520		443,520		443,520		443,520	
	356,950		356,950		356,950		356,950		356,950		356,950	
	300,000		300,000		300,000		300,000		300,000		300,000	
	0		2,000,000		0		2,000,000		0		0	
	354,492,399	**572.68**	**363,903,210**	**586.12**	**330,602,799**	**556.55**	**335,368,206**	**581.77**	**306,198,162**	**535.77**	**312,555,622**	**546.89**
	19,992,174		20,534,332		18,258,022		18,313,556		17,769,020		18,160,249	
	1,886,938		1,939,152		1,750,683		1,755,047		1,712,262		1,743,001	
	376,371,511	**608.03**	**386,376,693**	**622.31**	**350,611,505**	**590.24**	**355,436,809**	**616.59**	**325,679,444**	**569.85**	**332,458,871**	**581.72**

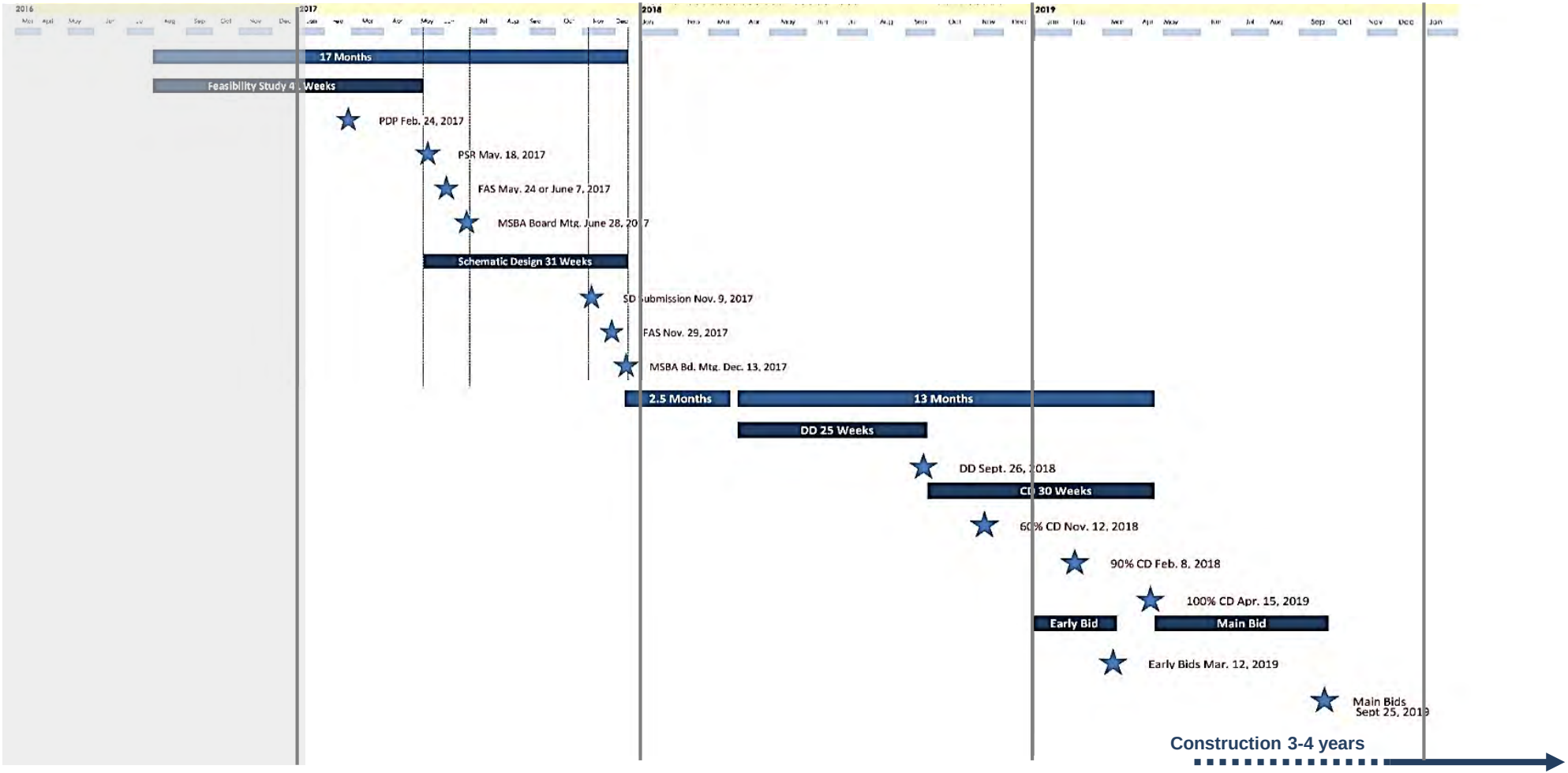


LOWELL HIGH SCHOOL

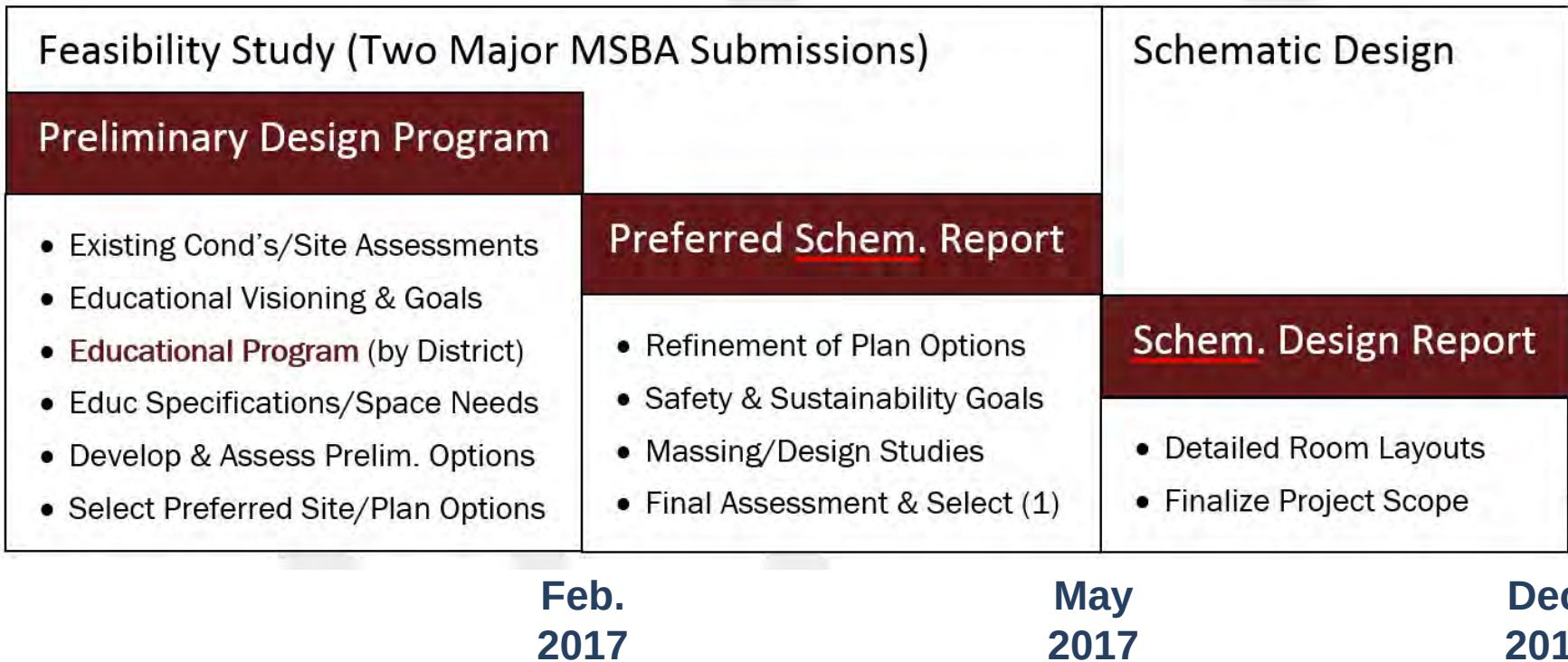
LOWELL CITY COUNCIL & SCHOOL BUILDING COMMITTEE PRESENTATION

FEBRUARY 7, 2017

Perkins Eastman SKANSKA


2016
2017
2018
2019
17 Months
Feasibility Study 4 Weeks
PDP Feb. 24, 2017
PSR May. 18, 2017
FAS May. 24 or June 7, 2017
MSBA Board Mtg. June 28, 2017
Schematic Design 31 Weeks
SD Submission Nov. 9, 2017
FAS Nov. 29, 2017
MSBA Bd. Mtg. Dec. 13, 2017
2.5 Months
13 Months
DD 25 Weeks
DD Sept. 26, 2018
CD 30 Weeks
60% CD Nov. 12, 2018
90% CD Feb. 8, 2018
100% CD Apr. 15, 2019
Early Bid
Main Bid
Early Bids Mar. 12, 2019
Main Bids Sept 25, 2019
Construction 3-4 years

The current phase of work within the MSBA program occurs in 3 major submission over a 16 month period



EXISTING ACREAGE = 6.6

BUILDING (GSF) = 628,000

EXISTING 2, 3 & 5 STORY

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED
+ BUILDING SYSTEMS REPAIRED / REPLACED AND CODE ISSUES RECTIFIED
- DOES NOT MEET EDUC. PLAN OBJECTIVES
- DOES NOT MEET SPACE NEEDS/STANDARDS
- NOT FUNDED UNDER CURRENT MSBA PRGM
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGH OPERATING COSTS (SIZE+ENV.)

CONSTRUCTION

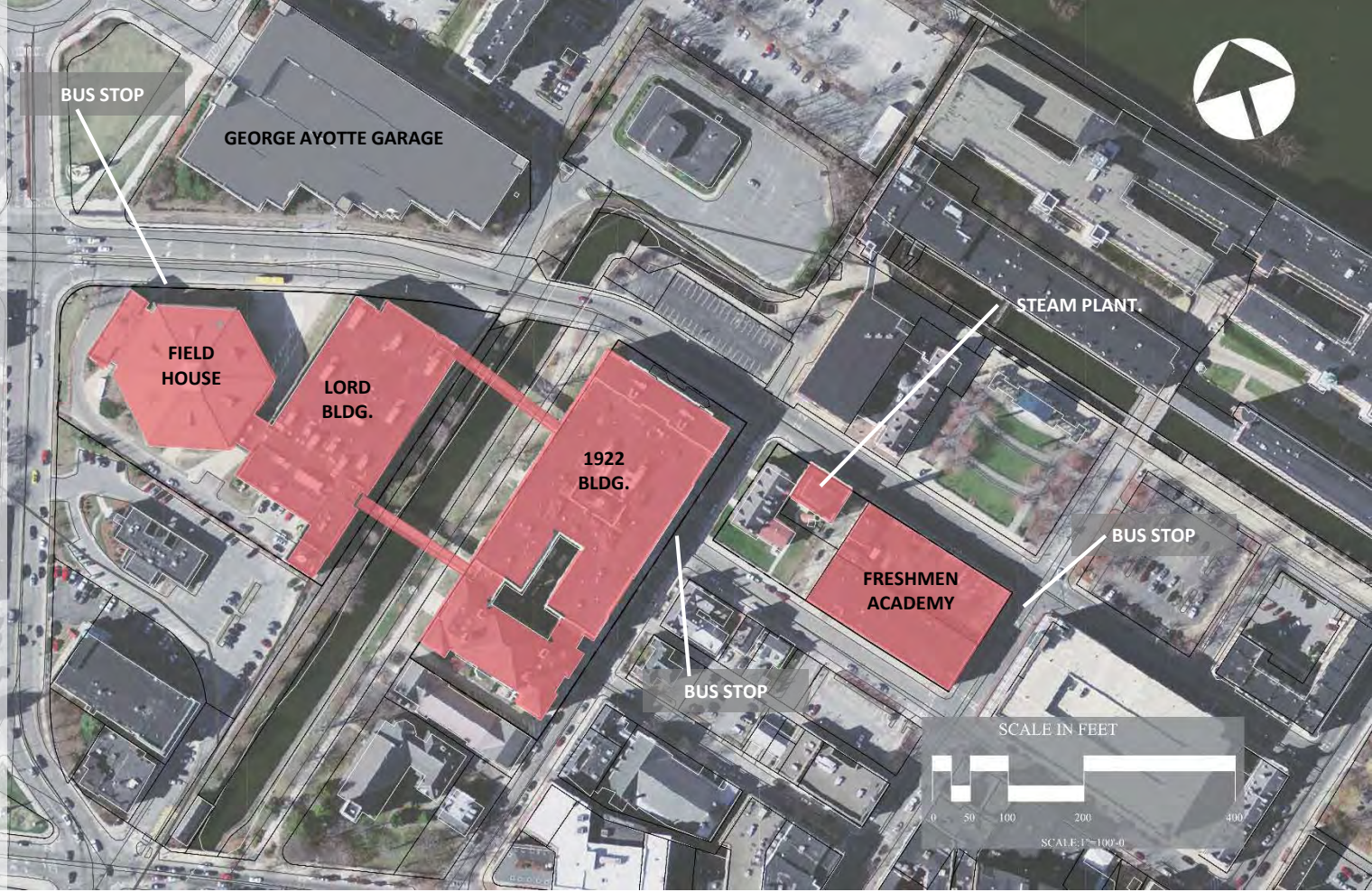
5 YEAR PHASED PROJECT

- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $270,770,322

ESTIMATED CITY'S SHARE = $73,242,815



Lowell High School

BASE REPAIR OF EXISTING

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 6.4

BUILDING (GSF) = 641,600

RENOVATION AREA (GSF) = 623,700

ADDITION/ NEW AREA (GSF) = 17,900

EXISTING 2, 3 & 5 STORY + 2 STORY ADDTN

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ MEETS ALL SPACE NEEDS (COUNT/SIZE)
+/- MEETS SOME EDUC. OBJECTIVES
- COMM./ACTIVITY AREAS SPREAD/SPLIT
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGHER OPERATING COSTS (SIZE+ENV.)

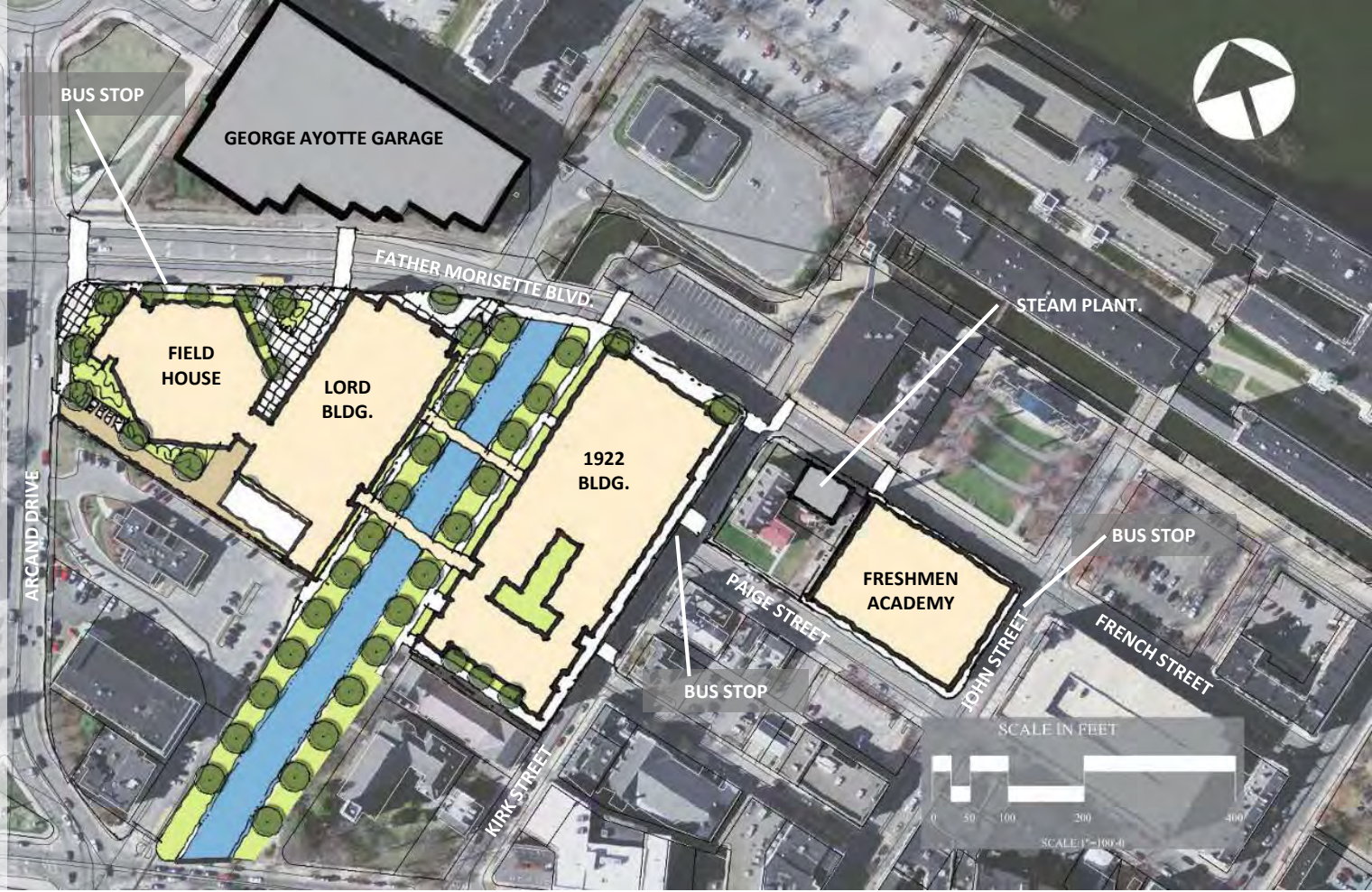
CONSTRUCTION

5 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $331,360,298

ESTIMATED CITY'S SHARE = $116,472,533



Lowell High School | FULL RENOVATION (EXISTING)

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 617,400

RENOVATION AREA (GSF) = 529,100

ADDITION/ NEW AREA (GSF) = 88,300

NEW 2 & 3 STORY ADDITIONS, INCLUDING 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS FULL-RENO, EXCEPT;

+ FRESHMAN RELOCATED ON CAMPUS
+ FORMER BLDG AVAILABLE FOR REUSE
+ NEW ENTRY/FACE TO THE SCHOOL
+ NEW 2-TIER BRIDGES (CIRC./SAFETY)

CONSTRUCTION

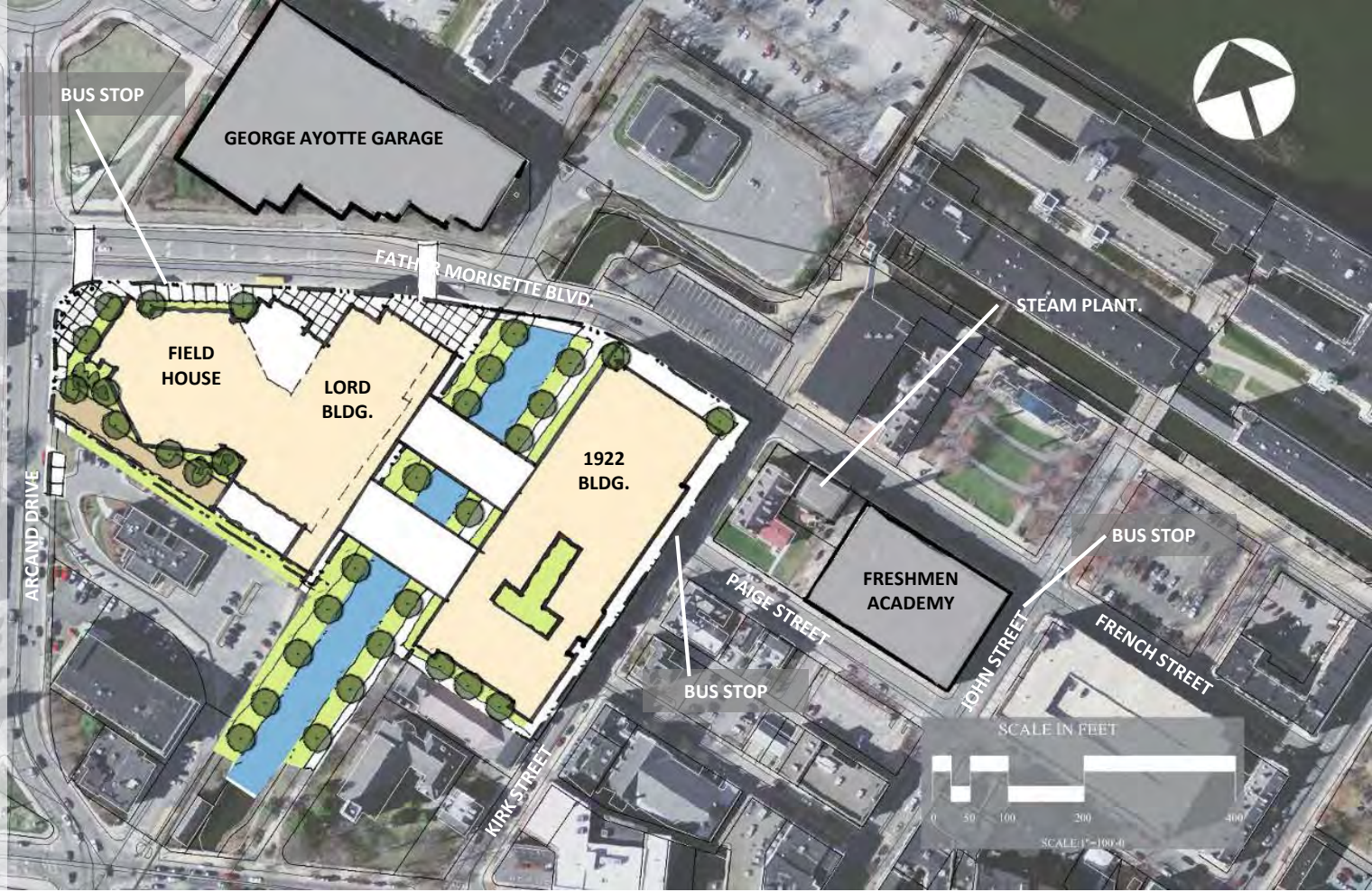
4½ YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $340,980,538

ESTIMATED CITY'S SHARE = $132,448,689



BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 624,100

RENOVATION AREA (GSF) = 454,100

ADDITION/ NEW AREA (GSF) = 170,000

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 1A, EXCEPT;

+ NEW FRESHMAN WING (IDEAL ORG/SUN)
+ NEW FIELD HS (MORE EFFIC./FLEXIBLE)
+ MODEST GREEN SPACE CREATED

CONSTRUCTION

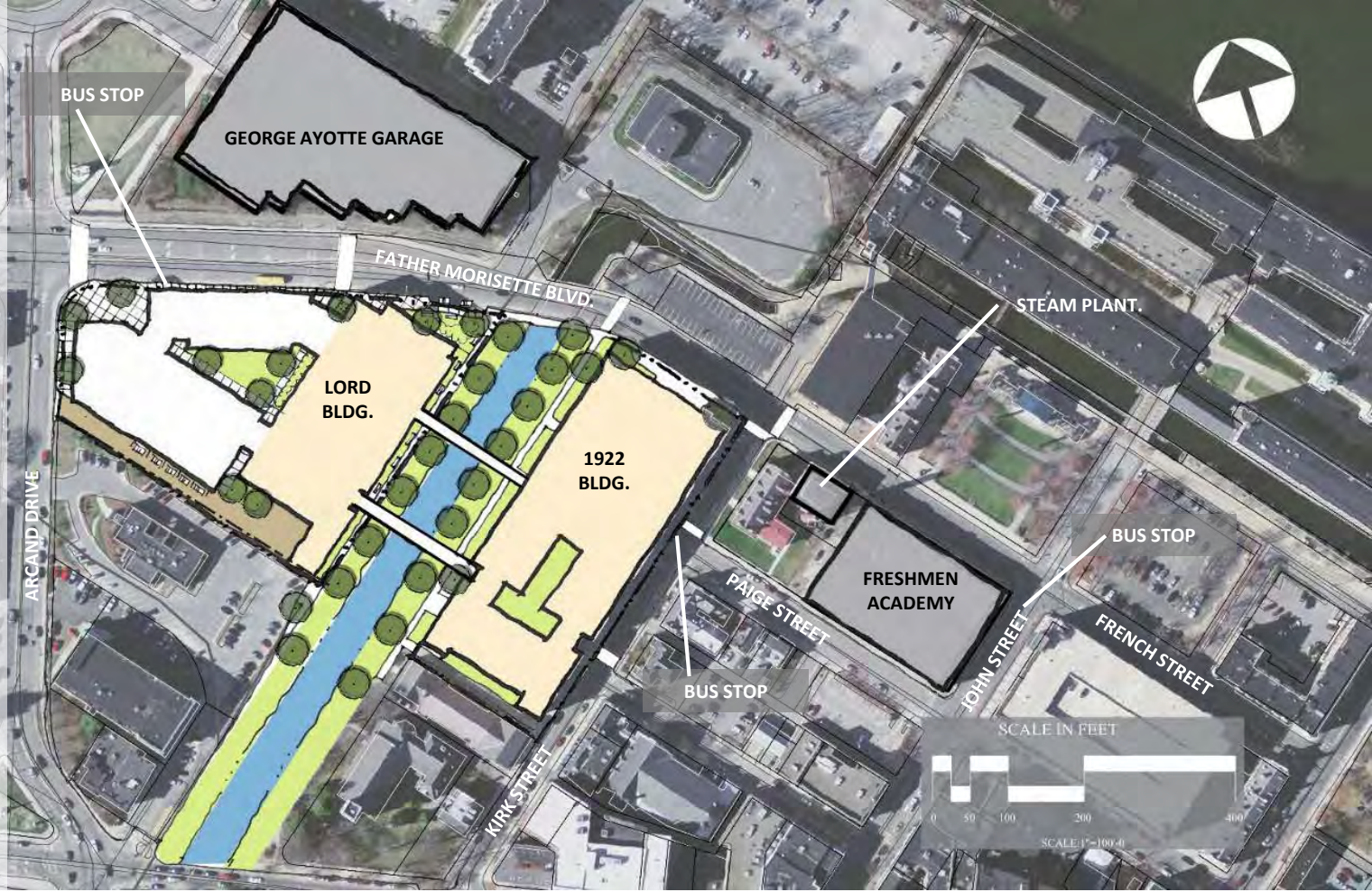
4 YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $344,087,262

ESTIMATED CITY'S SHARE = $135,614,525



BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 638,700

RENOVATION AREA (GSF) = 447,500

ADDITION/ NEW AREA (GSF) = 191,200

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW KITCH./LOADING (BUILT PHASE-1)
+ LIGHT WELLS = NO WINDOWLESS CR'S
+ LARGE GREEN SPACE CREATED

CONSTRUCTION

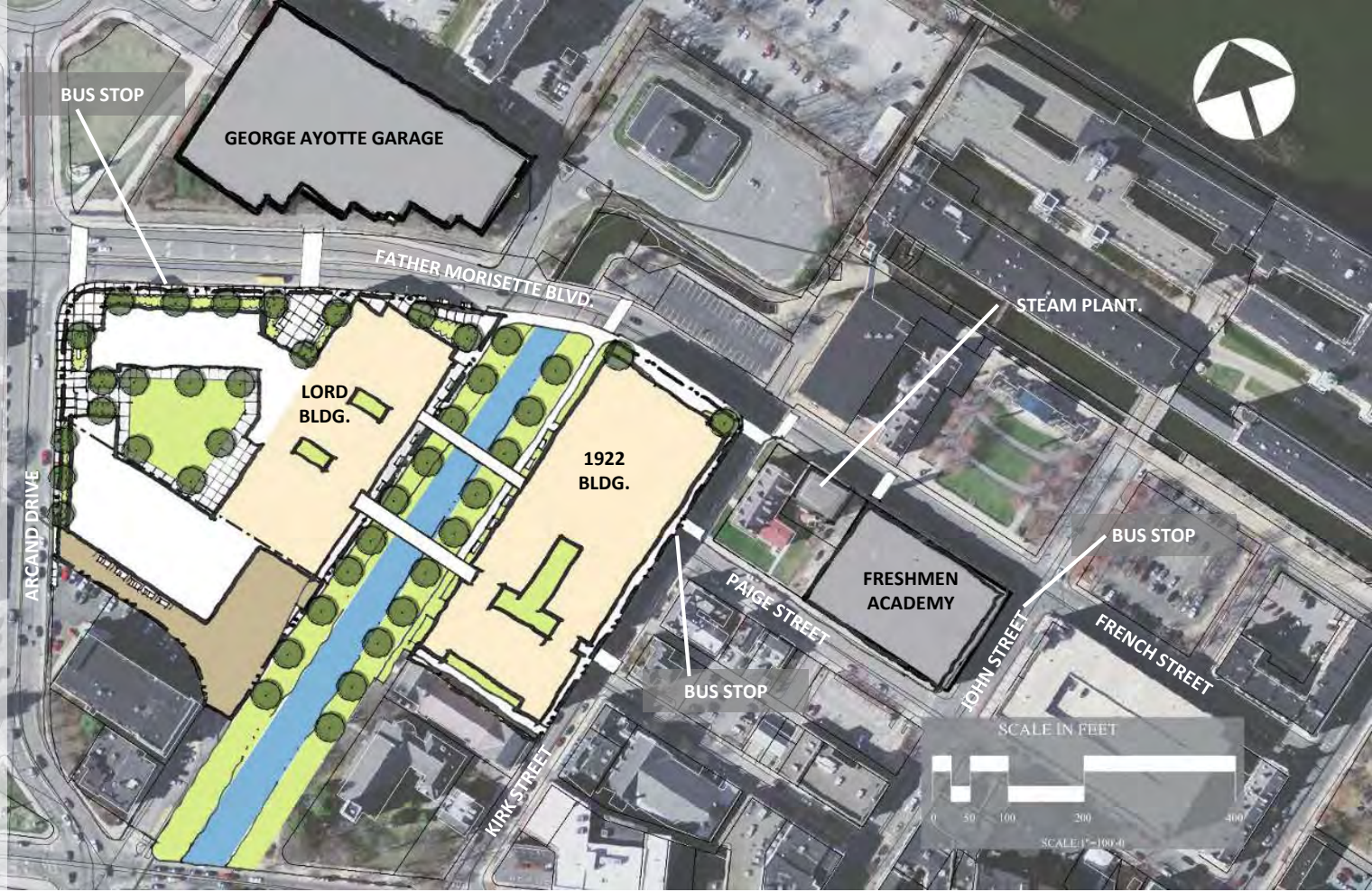
4½ YEAR PHASED PROJECT

+ FEW MODULAR CLASSROOMS REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D

RELATIVE COSTS

TOTAL PROJECT COST = $334,335,971

ESTIMATED CITY'S SHARE = $126,417,978



BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 619,000

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 306,200

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

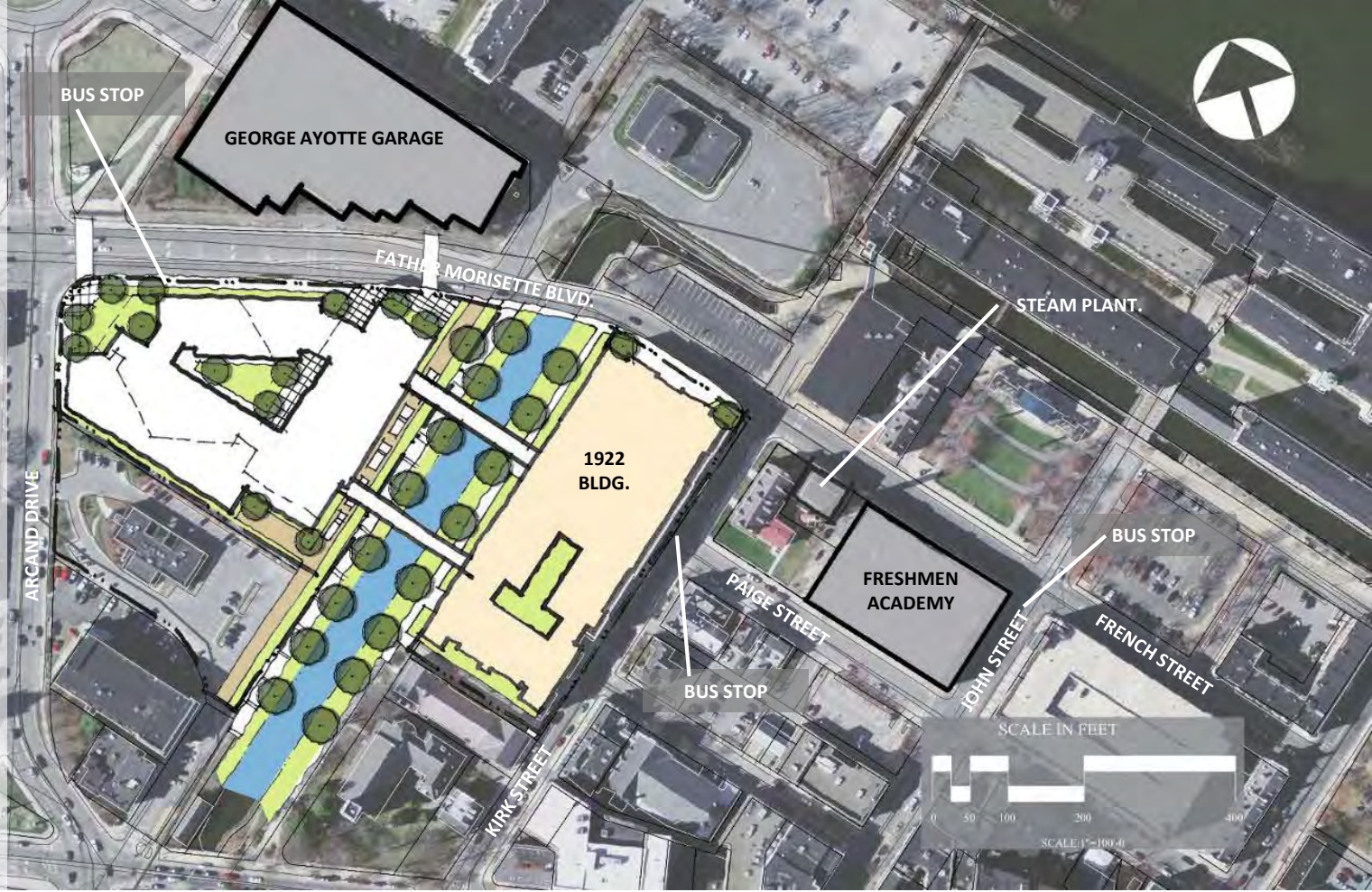
3 YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQUIRED
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $376,371,511

ESTIMATED CITY'S SHARE = $165,786,170



BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 620,900

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 308,100

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 3, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

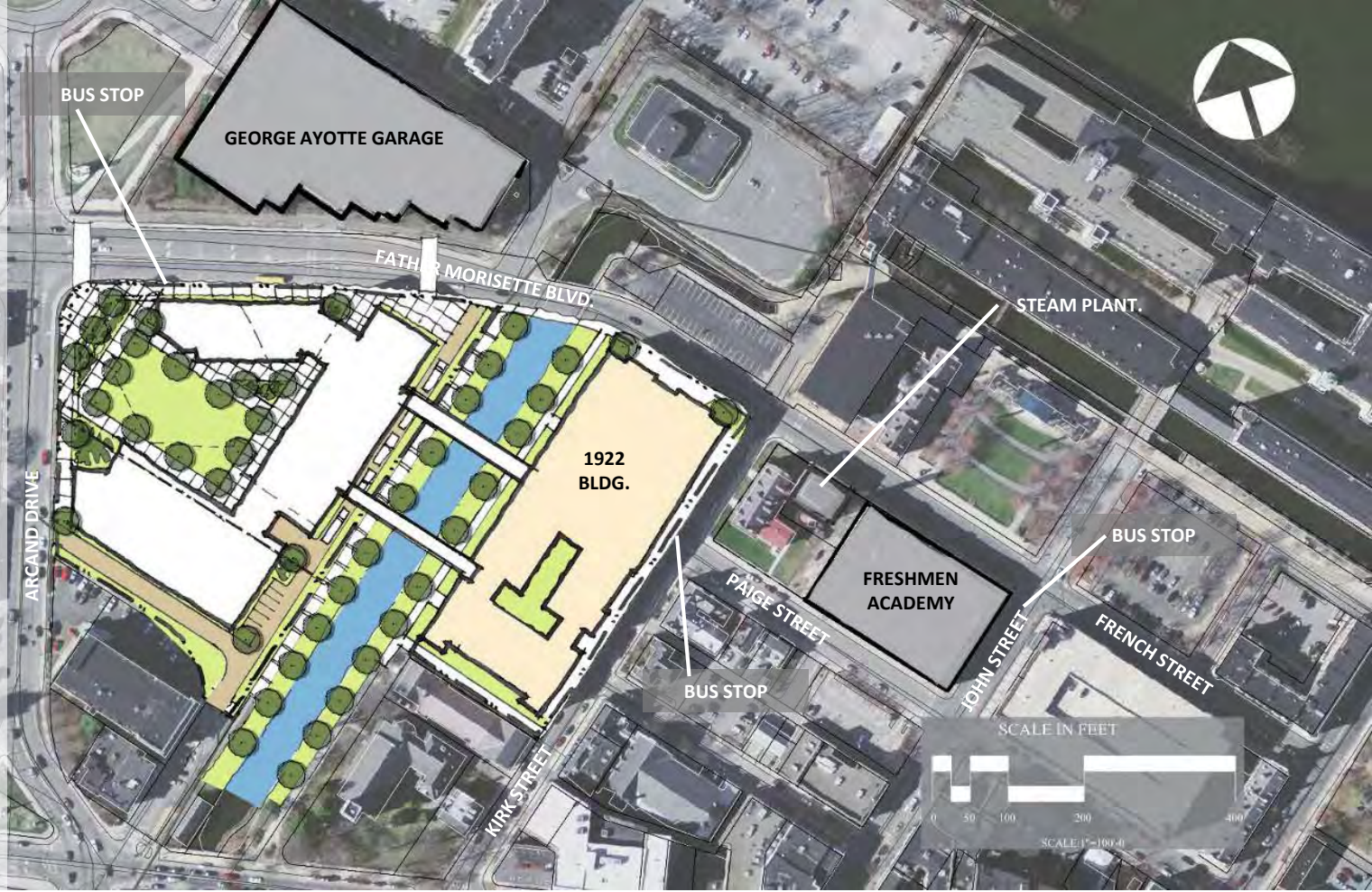
3½ YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $386,376,693

ESTIMATED CITY'S SHARE = $173,976,178



BUILDABLE ACREAGE = 3.3

NEW BUILDING (GSF) = 594,000

NEW 6 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

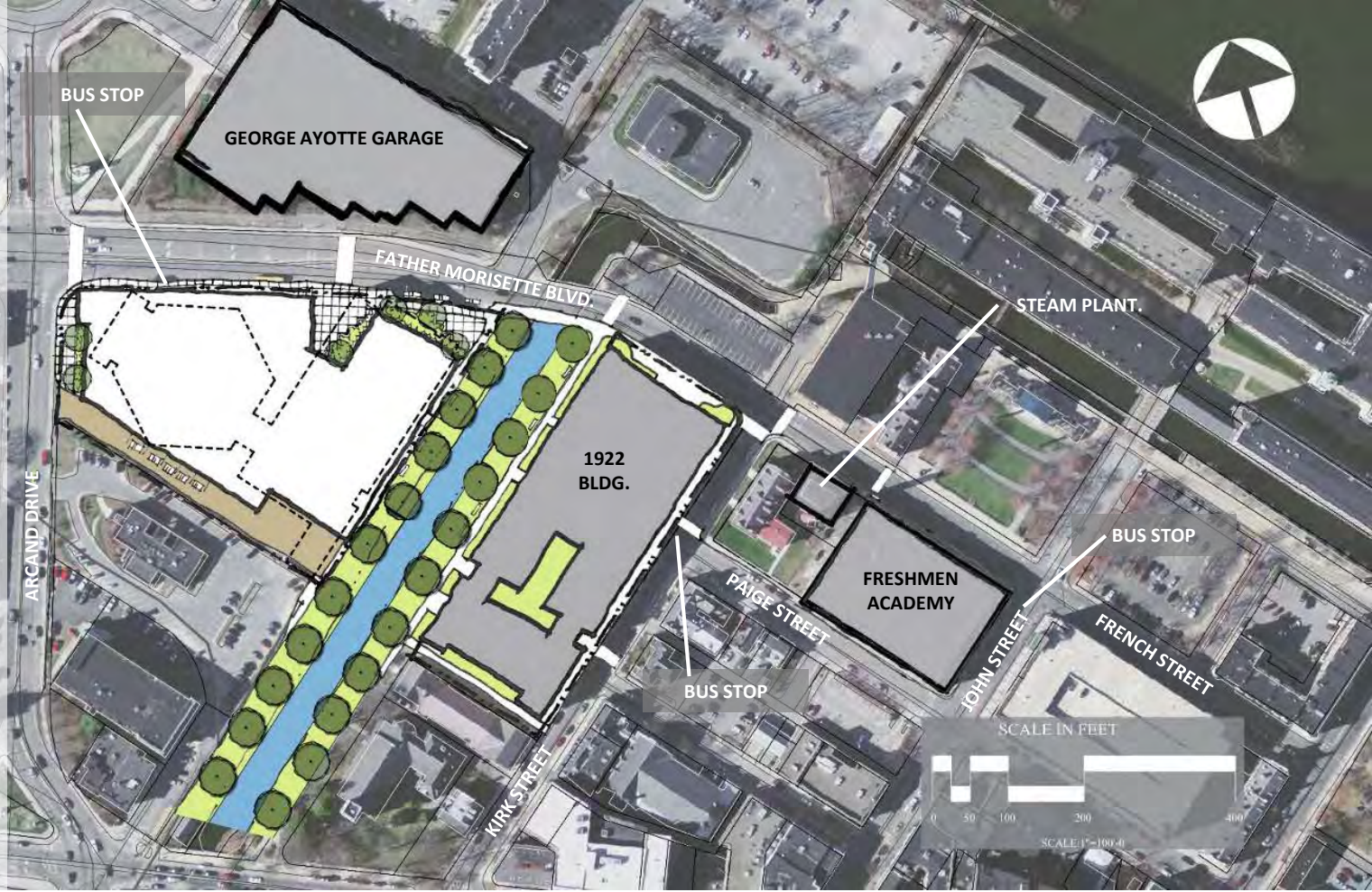
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ BENEFITS OF ALL NEW CONSTRUCTION:
  - ✓ ZONED FOR COMMUNITY/ACTIVITY
  - ✓ MEETS ALL SPACE NEEDS
  - ✓ MEETS MOST ALL EDUC OBJECTIVES
  - ✓ IDEAL FRESHMAN ORG./CLUSTERS
  - ✓ FIELD HS (MORE EFFIC./FLEXIBLE)
  - ✓ MORE EFFICIENT USE/OPERATIONS
+ FORMER FA & 1922 BLDG'S AVAILABLE
- TRIGGERS HIGH RISE CONSTRUCTION
- PUBLIC PROGRAMS ON UPPER FLOORS
- NOT IDEAL NEW ORIENTATION
- WINDOWLESS SCIENCE LABS IN NEW
- LIMITED ACCESS TO GREEN SPACE

CONSTRUCTION

3 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $350,611,505
ESTIMATED CITY'S SHARE = $156,843,060



Lowell High School

NEW SCHOOL - **EXISTING** SITE

Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 4.7

NEW BUILDING (GSF) = 576,500

NEW 5 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ DOES NOT TRIGGER HIGH RISE CONSTR.
+ GOOD COMMUNITY/ACTIVITY ZONE
+ GOOD SOLAR ORIENTATION AT ALL CRS
+ NO WINDOWLESS CLASSROOMS
- NO THRU-ROAD

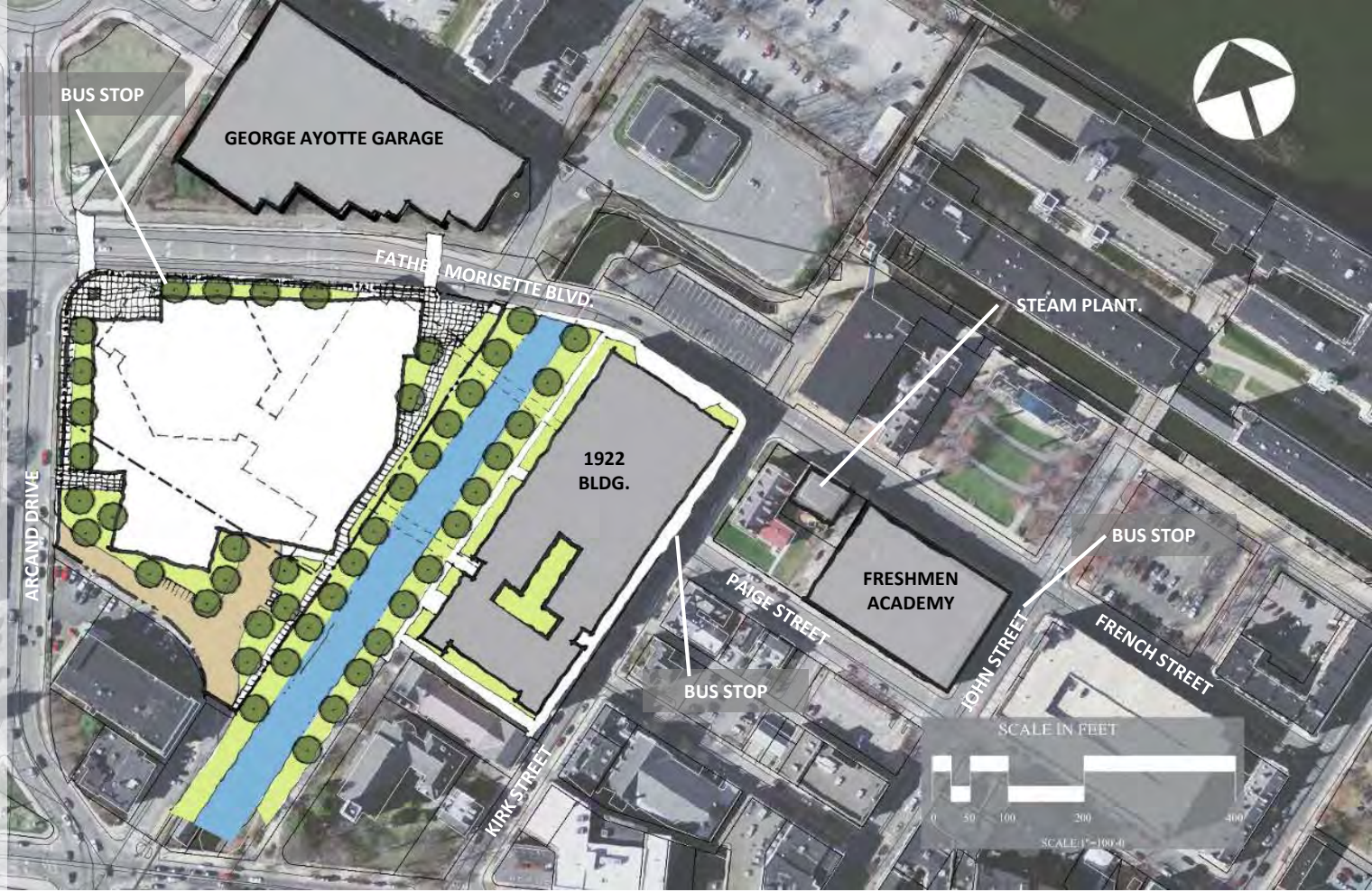
CONSTRUCTION

3½ YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $355,436,809
ESTIMATED CITY'S SHARE = $165,955,019



Lowell High School | NEW SCHOOL – **EXPAND** SITE | Perkins Eastman SKANSKA

BUILDABLE ACREAGE = 14.7

TOTAL SITE ACREAGE = 56.0

NEW BUILDING (GSF) = 571,500

4 STORY BLDG
PARKING = 430 CARS

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ MORE IDEAL 4 STORY CONSTRUCTION
+ AMPLE ACCESS TO GREEN SPACE
+ GOOD SOLAR ORIENTATION FOR ALL
- CO-LOCATED W/ MIDDLE+ELEM. SCHOOL
- LIMITED WALKABILITY /PUBLIC TRANSIT
- NOT CLOSE TO CITY SERVICES
- IN CLOSE PROXIMITY TO RESIDENTIAL AREAS (TRAFFIC + MASSING CONCERNS)

CONSTRUCTION

3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE
- FIELDS TO BE REPLICATED:
(1 SOCCER + 2 LITTLE LEAGUE FIELDS)

RELATIVE COSTS

TOTAL PROJECT COST = $325,679,444
ESTIMATED CITY'S SHARE = $142,245,805



BUILDABLE ACREAGE = 20.0

(16.4 FOR NEW SCHOOL + 3.6 NEW FIELDS)

TOTAL ACREAGE = 34.0 (4 IN TEWKSBURY)

NEW BUILDING (GSF) = 571,500

4 STORY BLDG

PARKING = 608 CARS

PROS/CONS

SAME AS NEW AT WANG, EXCEPT;

+ ADJACENT TO FOOTBALL STADIUM
+ AMPLE ACCESS TO GREEN SPACE
+ NOT CO-LOCATED W/ OTHER SCHOOLS
+/- MORE ACCOMMODATING ACCESS
- SIGNIFICANT FIELD REPLICATION REQ'D: (MARTIN SOFTBALL + PRACTICE INFIELD, FIELD HOCKEY/LAX PRACTICE FIELD, DESMOND FR & MACHADO JV FOOTBALL PRACTICE FIELDS)

CONSTRUCTION

3 YEAR CONSTRUCTION

+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE

RELATIVE COSTS

TOTAL PROJECT COST = $332,458,871

ESTIMATED CITY'S SHARE = $148,341,142



Lowell High School | NEW SCHOOL – **CAWLEY** SITE | Perkins Eastman SKANSKA



FULL RENOVATION

BUILDABLE ACREAGE = 6.4

BUILDING (GSF) = 641,600
RENOVATION AREA (GSF) = 623,700

ADDITION/ NEW AREA (GSF) = 17,900

EXISTING 2, 3 & 5 STORY + 2 STORY ADDTN

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ MEETS ALL SPACE NEEDS (COUNT/SIZE)
+/- MEETS SOME EDUC. OBJECTIVES
- COMM./ACTIVITY AREAS SPREAD/SPLIT
- FRESHMAN ACADEMY IS REMOTE
(INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGHER OPERATING COSTS (SIZE+ENV.)

CONSTRUCTION
5 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $331,360,298

ESTIMATED CITY'S SHARE = $116,472,533



ADD/ RENO OPTION 1A

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 617,400
RENOVATION AREA (GSF) = 529,100

ADDITION/ NEW AREA (GSF) = 88,300

NEW 2 & 3 STORY ADDITIONS, INCLUDING 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS FULL-RENO, EXCEPT;
+ FRESHMAN RELOCATED ON CAMPUS
+ FORMER BLDG AVAILABLE FOR REUSE
+ NEW ENTRY/FACE TO THE SCHOOL
+ NEW 2-TIER BRIDGES (CIRC./SAFETY)

CONSTRUCTION
4½ YEAR PHASED PROJECT
+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $340,980,538

ESTIMATED CITY'S SHARE = $132,448,689



ADD/ RENO OPTION 2

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 624,100
RENOVATION AREA (GSF) = 454,100

ADDITION/ NEW AREA (GSF) = 170,000

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 1A, EXCEPT;
+ NEW FRESHMAN WING (IDEAL ORG/SUN)
+ NEW FIELD HS (MORE EFFIC./FLEXIBLE)
+ MODEST GREEN SPACE CREATED

CONSTRUCTION
4 YEAR PHASED PROJECT
+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $344,087,262

ESTIMATED CITY'S SHARE = $135,614,525



ADD/ RENO OPTION 3 – EXPANDED SITE

BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 638,700
RENOVATION AREA (GSF) = 447,500

ADDITION/ NEW AREA (GSF) = 191,200

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 2, EXCEPT;
+ NEW KITCH./LOADING (BUILT PHASE-1)
+ LIGHT WELLS = NO WINDOWLESS CR'S
+ LARGE GREEN SPACE CREATED

CONSTRUCTION
4½ YEAR PHASED PROJECT
+ FEW MODULAR CLASSROOMS REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D

RELATIVE COSTS

TOTAL PROJECT COST = $334,335,971

ESTIMATED CITY'S SHARE = $126,417,978



ADD/ RENO OPTION 4

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 619,000
RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 306,200

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 2, EXCEPT;
+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION
3 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQUIRED
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $376,371,511

ESTIMATED CITY'S SHARE = $165,786,170



ADD/ RENO OPTION 5

BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 620,900
RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 308,100

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS OPTION 3, EXCEPT;
+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION
3½ YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $386,376,693

ESTIMATED CITY'S SHARE = $173,976,178



NEW BUILDING - EXISTING SITE

BUILDABLE ACREAGE = 3.3

BUILDING (GSF) = 594,000
ALL NEW AREA (GSF) = 594,000

NEW 6 STORY BLDG + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ BENEFITS OF ALL NEW CONSTRUCTION:
  - ✓ ZONED FOR COMMUNITY/ACTIVITY
  - ✓ MEETS ALL SPACE NEEDS
  - ✓ MEETS MOST ALL EDUC OBJECTIVES
  - ✓ IDEAL FRESHMAN ORG./CLUSTERS
  - ✓ FIELD HS (MORE EFFIC./FLEXIBLE)
  - ✓ MORE EFFICIENT USE/OPERATIONS
+ FORMER FA & 1922 BLDG'S AVAILABLE
- TRIGGERS HIGH RISE CONSTRUCTION
- PUBLIC PROGRAMS ON UPPER FLOORS
- NOT IDEAL NEW ORIENTATION
- WINDOWLESS SCIENCE LABS IN NEW
- LIMITED ACCESS TO GREEN SPACE

CONSTRUCTION
3 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $350,611,505

ESTIMATED CITY'S SHARE = $156,843,060



NEW BUILDING - EXPANDED SITE

BUILDABLE ACREAGE = 4.7

BUILDING (GSF) = 576,500
ALL NEW AREA (GSF) = 576,500

NEW 5 STORY BLDG + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS
SAME AS NEW ON EXIST, EXCEPT;
+ DOES NOT TRIGGER HIGH RISE CONSTR.
+ GOOD COMMUNITY/ACTIVITY ZONE
+ GOOD SOLAR ORIENTATION AT ALL CRS
+ NO WINDOWLESS CLASSROOMS
- NO THRU-ROAD

CONSTRUCTION
3½ YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

TOTAL PROJECT COST = $355,436,809

ESTIMATED CITY'S SHARE = $165,955,019



NEW SCHOOL AT WANG SITE

BUILDABLE ACREAGE = 14.7

TOTAL SITE ACREAGE = 56.0

BUILDING (GSF) = 571,500
ALL NEW AREA (GSF) = 571,500

4 STORY BLDG

PARKING (ON-SITE) = 430 CAR CAPACITY

PROS/CONS
SAME AS NEW ON EXIST, EXCEPT;
+ MORE IDEAL 4 STORY CONSTRUCTION
+ AMPLE ACCESS TO GREEN SPACE
+ GOOD SOLAR ORIENTATION FOR ALL
- CO-LOCATED W/ MIDDLE+ELEM. SCHOOL
- LIMITED WALKABILITY /PUBLIC TRANSIT
- NOT CLOSE TO CITY SERVICES
- IN CLOSE PROXIMITY TO RESIDENTIAL AREAS (TRAFFIC + MASSING CONCERNS)

CONSTRUCTION
3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE
- FIELDS TO BE REPLICATED:
(1 SOCCER + 2 LITTLE LEAGUE FIELDS)

RELATIVE COSTS

TOTAL PROJECT COST = $325,679,444

ESTIMATED CITY'S SHARE = $142,245,805



NEW SCHOOL AT CAWLEY SITE

BUILDABLE ACREAGE = 20.0

(16.4 FOR NEW SCHOOL + 3.6 NEW FIELDS)

TOTAL ACREAGE = 34.0 (4 IN TEWKSBURY)

BUILDING (GSF) = 571,500
ALL NEW AREA (GSF) = 571,500

4 STORY BLDG

PARKING (ON-SITE) = 608 CAR CAPACITY

PROS/CONS
SAME AS NEW AT WANG, EXCEPT;
+ ADJACENT TO FOOTBALL STADIUM
+ AMPLE ACCESS TO GREEN SPACE
+ NOT CO-LOCATED W/ OTHER SCHOOLS
+/- MORE ACCOMMODATING ACCESS
- SIGNIFICANT FIELD REPLICATION REQ'D:
(MARTIN SOFTBALL + PRACTICE INFIELD, FIELD HOCKEY/LAX PRACTICE FIELD, DESMOND FR & MACHADO JV FOOTBALL PRACTICE FIELDS)

CONSTRUCTION
3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE

RELATIVE COSTS

TOTAL PROJECT COST = $332,458,871

ESTIMATED CITY'S SHARE = $148,341,142

OPTIONS	Total Project Budget	District Share	Debt Service Payment (Per year/ 30 year Term)*	Tax Increase on $253,908 home
Base Repair	$ 270,770,332.00	$ 73,242,815.00	$4.71 million	$144
Full Renovation	$ 331,360,298.00	$ 116,472,533.00	$7.49 million	$229
Add/ Reno Option #1A	$ 340,980,538.00	$ 132,448,689.00	$8.52 million	$260
Add/ Reno Option #2	$ 344,087,262.00	$ 135,614,525.00	$8.72 million	$266
Add/ Reno Option #3 Expanded Site	$ 334,335,971.00	$ 126,417,978.00	$8.13 million	$248
Add/ Reno Option #4	$ 376,371,511.00	$ 165,786,170.00	$10.67 million	$326
Add/ Reno Option #5 Expanded Site	$ 386,376,693.00	$ 173,976,178.00	$11.19 million	$342
New School at Existing Site (HR)	$ 350,611,505.00	$ 156,843,060.00	$10.09 million	$308
New School at Expanded Existing Site	$ 355,436,809.00	$ 165,955,019.00	$10.68 million	$326
New School Wang Site	$ 325,679,444.00	$ 142,245,805.00	$9.15 million	$279
New School Cawley Site	$ 332,458,871.00	$ 148,341,142.00	$9.54 million	$291

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Kevin J. Murphy
City Manager
Michael McGovern
Assistant City Manager

School Building Committee MSBA Meeting

Meeting Minutes

Date: February 7, 2016
Time: 10:00AM
Location: Mayor's Conference Room

1. - Attendance

Attendees: Kevin Murphy, Edward Kennedy, Rodney Elliott, Mike Vaughn, Steve Gendron, Salah Khelfaoui, Richard Underwood, Brian Martin, Gary Frisch, Conor Baldwin, David Beati, Lisa DeMeo, James Cook, William Samaras, Robert Healy, Rady Mom, Maryann Ballotta and Jay Mason.

Also in attendance: Mike McGovern and Rodney Conley.
From Skanska: Jim Dowd and Mary Ann Williams.
From Perkins Eastman: Robert Bell and Jim Drown.

2. - Educational Plan Status Update

City Manager K. Murphy began by discussing the instructions that were emailed to School Building Committee members that detailed what would be required of them during this meeting. The agenda and presentation were added to the City website as well for public viewers. K. Murphy continued that the design team will go through each option individually and the SBC can ask questions as the meeting proceeds. He asked that each Committee member vote for their top 4 options, in no particular order. He thanked the public for attending and mentioned that although this is not a public forum, there will be other opportunities for citizens for voice their concerns and comments. K. Murphy made note of officials in attendance including Mayor Kennedy, Councilors Samaras, Elliott, Leahy, and Rourke as well as School Committee Members Hoey and Doherty, and State Representative Mom.

3. - Preliminary Design Program Update

R. Bell mentioned that the SBC will need to narrow the selection down to 4 options. This does not include the base repair option, as this will automatically be included and advanced to the MSBA.

R. Bell gave the audience a background on the process before he continued on to the options. He stated that the most important decisions will be made in the first 16 months. The PDP is due by the end of February to stay on track for Phase 1. He continued that the after the SBC decides on

the top four options, the most viable option will be selected by May. From May to December, the scope and funding will be assessed.

3.1 Review of Estimates, Phasing Implications and Design Status

Base Repair

This option was created in effort to make a meaningful comparative analysis. The base repair would only include bringing the building up to code, not the educational plan that has been created. The base repair is not within the MSBA's program.

Full Renovation

This option does meet the educational program with regards to classroom size and lab sizes. The design team would also be able to cluster the classrooms by subject. R. Bell addressed the pros and cons for the option including its proximity to transportation and businesses. The project would last for 5 years, the longest duration for the proposed options. There would also be the requirement for modular classrooms off site on the surrounding streets. M. Williams noted that the modular classrooms are not reimbursable by the MSBA; but would fall on the City. The cost would not be part of a permanent investment as the modular classrooms are normally rented. R. Bell stated that this option is disruptive but it is the least expensive option. He continued that it does not meet all of the educational objectives, but meets the majority of them. M. Williams stated that the modular classrooms would need to be in close proximity to the school, perhaps on Father Morrissett Blvd. The modular classrooms for this option would be two classes wide. Rep. Mom asked if the modular classrooms would be required for the entire duration. M. Williams replied that it would and that all options are relative. R. Bell stated that the design team would look for ways to decrease cost and duration. The existing building currently surpasses the required square footage, which could mean less modular classrooms with better utilization of current space.

Add/ Reno Opt 1A "Air Rights"

This option includes adding the Freshman Academy. The bridges would add swing space that can help decrease the modular classrooms required. R. Bell noted the pros and cons for the option. The concept of building over the canal is still being studied. The bridges would be built on the second and third floors. This option does not meet all of the educational objectives as some classes and labs would still be windowless. S. Gendron inquired about program space in the bridges, and asked if the freshman would be included. R. Bell noted that the option would include a three story addition with a cafeteria and media center. W. Samaras inquired about the temporary classrooms. R. Bell noted that the change in courses for the gym would require less

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space. M. Williams noted that a combination of created space and temporary classrooms would be addressed. She continued it may be in the best interest of the project to rethink courses temporarily, such as physical education. K. Murphy noted that the Tsongas center is in close proximity and the City can discuss with UML if the students may use the space. R. Elliott inquired about the statement that this option will require less modular classrooms than the prior option. J. Dowd stated that instead of over 30 modular classrooms that the full renovation would require, option 1A would only require around 20. M. Williams noted that the full renovation is expected to have a cost of over $7 Million in modular classrooms while Option 1A is expected to cost only $5Million. R. Bell stated that the media center and library may be used as options for temporary classrooms. S. Gendron asked if the cost of modular will be included in the estimates; which R. Bell replied that the estimates do include the cost. J. Mason asked if the bridges will be double loaded. R. Bell stated that the bridges will be fully programmed as educational spaces during and after construction. W. Samaras asked if the team only investigated modular classrooms or if they included extended days. M. Williams noted that the extended days may impact union contracts and that the City would need to investigate the possibility. She continued that swing space is necessary when space is off line; the team uses the assumption that temporary classrooms will need to be provided. W. Samaras countered that extended hours may help save money and that the City has done it before. M. Williams stated that it may be a scheduling issue and that the reconfiguration of schedule can be studied. E. Kennedy asked what is done with modular classrooms when schools are done with them. M. Williams stated that depending on the need, it is a possibility to get used classrooms. Once the city is further along in the project and there are RFPs submitted, some companies may offer lower rates for refurbished modular classrooms. The challenge is competing with other school projects in the state. M. Williams noted it is better to assume that the project will require new classrooms, inventory will not be known until an RFP is out. E. Kennedy inquired the number of school projects that are currently ongoing in Massachusetts communities. M. Williams noted that the number of school projects has increased form around 13 per year to close to double. She reiterated it is beneficial to assume the worst case scenario regarding rental cost.

Add Reno Opt 2 Existing Site (Demo FH)

The freshmen are moved to the new building in this option. The fieldhouse will be demolished and a 2 story fieldhouse will be erected in its place. The building will make an efficient use of the current footprint. R. Bell noted the pros and cons for the option. The temporary space would only be required for physical education; the construction of the Freshman Academy would create four stories for educational purposes. The new building for the Freshman Academy will be efficient in that it would not require any compromises. The pathways and classrooms will be constructed in direction of North and South to control consistent natural light. M. Williams noted

that the cost is $4Million more than Option 1A and $12Million more than the full renovation. R. Bell stated that this option would take 4 years to complete construction. R. Underwood asked about the calculation of gross square footage, pointing out a typo. The gross square footage of the new area should be 170,000. R. Bell confirmed that the total amount were correct. S. Gendron asked if there were windowless classrooms in this option. R. Bell replied that there are windowless classrooms in the center of the Lord building in the design plan. S. Khelfaoui asked if the modular class rooms were based on the number of students. R. Bell noted that it is based on the number of students, approximately a quarter of the student population that would be displaced at any time during the project. M. Williams stated that the number of students displaced would be split between any additional existing space and modular classrooms. This is approximately 28 modular classrooms with the utilization rate of 80% at maximum efficiency. The rationale is to have any available space in the building used to accommodate students. R. Elliott asked if there was an approximate amount of space available. M. Williams responded that this would be a scheduling exercise and that the project team will work to use the building efficiently. R. Elliott inquired about the square footage that is underutilized currently. M. Williams mentioned that the space summary would include the efficient use and inefficient use of certain spaces. R. Bell said that it is more the case of elbow room rather than space that is not used currently. Rep. Mom asked about the temporary facility at the gymnasium. R. Bell mentioned that the large structure will allow open space to reprogram the current learning environment. He continued that it is possible to use other facilities as well. B. Martin discussed the issues with physical education would not include students who were enrolled in ROTC (400 students), Dance and Band. The number of students impacted by the displacement of physical education will be limited and not as significant. He stated that they are not looking for space for 35,000 students, but rather space for winter sports such as basketball.

Add/ Reno Opt 3 Existing Expanded Site (Demo FH)

This option entails an expanded site. There is an additional parcel in this option that would house the new field house. The parcel enables the construction to take place without disrupting most of the programs. The reconfiguration of the T in the 1922 building will increase natural light and expand greenspace. R. Bell discussed the pros and cons for the option. The duration of construction would be 4 ½ years due to the demolition. M. Williams noted that this option is unusual as the City does not own the property of the expanded site and there is an undetermined cost associated with it. J. Cook asked why the option is $10Million less than the prior option if it includes the land taking and no windowless classrooms. M. Williams stated that part of the reason is that there could be a land taking or purchase of the property for an undetermined amount. J. Mason inquired if the narrow bridge may help decrease cost. R. Bell noted that the options all include adding a 2 story bridge except for the full renovation. M. Williams noted that

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the bridge is not the same in the options J. Mason was comparing. In this option, there would not be classrooms housed on the bridge as was in Option 1A. R. Underwood inquired about Option 3 not including taking the land. R. Bell noted that the land was not included in the cost estimate. W. Samaras inquired about the renovation of the Lord building; he asked what if the building is demolished rather than renovated. He continued, stating that it may be beneficial to look into replacing the old building around the corner. S. Gendron inquired if the light wells in the prior options could be incorporated into other options. R. Bell noted that over 6,000 square feet would need to be taken from available space to incorporate the light wells. E. Kennedy if the $2 Million that was put aside for extra land included demolition costs. R. Bell noted that the $2Million was only for extra land, the demolition costs are included in each option. R. Elliott asked if the cost of land acquisition and financing was reimbursable. R. Bell replied that the MSBA does not reimburse the cost of acquiring land. K. Murphy stated that the CMR report would be posted to the School Building Project website and distributed to the SBC members.

Add/Reno Option 4 Existing Site (Demo FH & Lord)

This option would include the construction of a new facility on the west side of the canal. B. Bell discussed pros and cons for this option. The Lord building would be narrower than the current building allowing for a single road corridor to be constructed along the canal. The building would be five stories, under the high rise classification. This option requires more temporary modular classrooms. The process would be disruptive throughout the 3 year duration. Constructing a new building allows the design of a comparable sized greenspace. L. DeMeo asked if the $2M set aside for the land acquisition included the funds for the rights to build the road. S. Gendron asked if the road acquisition would include a road. K. Murphy stated that there is currently a public way right now from the Masonic Center to the Cobblestones restaurant. L. DeMeo asked if the acquisition of rights for an easement on the property next to the high school. M. Williams noted that this is an issue that the City would need to vet whether the street is public or private. J. Mason inquired about the 2-level cafeteria. B. Bell discussed the idea of splitting the upper and lower cafeteria between the freshman and upperclassmen. S. Gendron asked if the new construction could house students while the Lord building is under construction. B. Bell noted that the only way to create enough swing space would be to use modular classrooms or to build the field house first and then use it to house students. There may be inefficiencies in phasing if housing students in other locations that may increase the cost elsewhere. M. Williams noted that this is the second most expensive option.

Add/ Reno Option 5 Existing Expanded Site (Demo FH & Lord)

This option is the most expensive with extensive modular classrooms required. The new Lord building would be 5 stories and some of the classrooms would be windowless.

New School Existing Site

This option would include a new construction of the Lord building totaling six stories. The plan would have windowless classrooms. The new vertical layout would fit the school's and the community's needs. Classrooms would be clustered in an efficient use of space. There would be an extensive use of temporary classrooms necessary since the entire Lord building would be off line at one time.

New School Expanded Site

This option includes a new 5 story construction on the west side of the canal. The duration of the project under this option would take 3 ½ years. Since the Lord building will be demolished and the new building constructed on the same site, there will be a need for many modular classrooms. J. Mason asked about the daylight in the new building since there would be no sky lights. The positioning of the building facing North and South would allow natural light into many parts of the building. R. Mom inquired as to what the 1922 Building would be used for if the high school is on the west side of the canal. M. Williams stated that what happens to the building and land would be determined by the city. M. Williams also mentioned that this option requires the most modular classrooms, $18 million.

New Site Wang

This option includes a four story building constructed on the Wang site. B. Bell noted that early studies considered adding a garage by the greenspace on the lot. This option is a compromise, as there are approximately 300 parking spots in the feasibility study rather than the projected 500 spaces. B. Bell highlighted the pros and cons for this location. One of the most important aspects for this site is that there would not be any phasing required and no disruption to the current curriculum. M. Williams noted that all though two little league and one soccer field would need to be relocated, this cost is not included in the budget. E. Kennedy inquired about the infrastructure for this option such as the sidewalks and if they were included in the budget. B. Bell replied that although the sidewalks and other infrastructural suggestions and recommendations may be made for offsite, this would not be part of the project scope. S. Gendron asked if the 300 parking spaces would be inefficient and if the state would need to approve this exception. M. Williams replied that it would need to be approved by the MSBA, and that it may impact parking in the surrounding area. S. Gendron continued discussing the parking situation such as number of teachers, students who drive and how the design team arrived at the estimates. R. Underwood inquired about any wetlands on the property. D. Beati noted that in the down town garage, there are not a thousand spots allocate for high school parking. B. Martin stated that his staff has been working on a survey to help get a better

understanding of how many students commute to work and their method of travel. He continued that currently there are 8 to 10% of students that drive to school. W. Samaras highlighted the issue of transportation to school, asking if there has been communication between the LRTA, the city and the school department. R. Elliott stated that the increased traffic and new infrastructure would impact the neighborhood. He asked if it was possible to acquire additional land such as the field site or next to the Wang site; which B. Bell noted the cost of that is not included in the budget.

Cawley

This option is similar to the Wang site in that both buildings will have adequate natural light throughout the classrooms. B. Bell stated that with the design, the city would only need to get a permit from Tewksbury for parking as the building is within the city limits. The building is currently designed as a 4 story construction. The option would require replacing some of the fields at a different location, but the stadium would remain intact. E. Kennedy noted that the building design is tight, and inquired about the environmental impact study would consider the water level. B. Bell stated that the environmental impact of all sites will be determined once the SBC votes on their top locations. S. Gendron asked if the timeline is assuming everything goes according to plan and if additional time was built into the schedule. B. Bell noted that phase one would last a couple of months. S. Gendron continued that if the mediation for the environmental study comes back negative would it impact the schedule? M. Williams noted that until the study is performed, it is impossible to know what kind of impacts it may have. She continued that it would be costly to perform the environmental study at all of the sites now. B. Bell discussed the infrastructure such as the parking and sidewalks. He stated that if these are taken into consideration for this new site, it would need to be applied to all of the other sites as well to be included in the scope of the project. When comparing locations it is easier to compare the same aspects and their respective costs, comparing apples to apples. D. Beati asked about the use of the fields that would need to be replaced. B. Martin noted that they would be the soccer, football and lacrosse fields. W. Samaras inquired about the original bus plan included looping traffic on Douglas and Clark Road, and whether it was considered looking traffic over on Rt. 38 up Village Street. M. Williams replied that it can be looked into, but the plan is highly conceptual at the moment. K. Murphy stated that the team will look into utilizing Rt. 38 to ease traffic congestion. W. Samaras inquired about bussing, noting that either the City or students would need to cover the costs. K. Murphy replied that this is an important issue that is currently being looked into and that the city will look into the ability of the LRTA to transport students. J. Mason asked if any money is set aside for the land in Tewksbury, which B. Bell addressed that the city currently owns the land in Tewksbury. The city would only need to obtain parking permits from the town. J. Cook inquired about the designation of Cawley as park land. K. Murphy noted that this would

not hold up the project, that the issue is resolved. R. Underwood asked if the team has begun conversations with Tewksbury. K. Murphy stated that as of yet the team has not. It would be easier to obtain a parking permit rather than a building permit. R. Healy noted that the zoning has been taken into consideration and that it can be permitted for parking.

B. Martin discussed his reasons for voting for certain options prior to the official vote. He stated it is important to keep the low-income population in mind while making any decisions, as he believes fairness is imperative. He continued that the SBC needs to make difficult choices. He expressed his thoughts on why he believes the high school should stay downtown as a central part of the city. The decision impacts students, families as well as parents.

S. Gendron noted that he agrees with B. Martin. He stated that it is important to consider the educational options for the students. Lowell High School is not a small school, it is substantial in size and would significantly impact neighborhoods. He expressed his belief that moving the school to a different neighborhood would impact each neighborhood in terms of sports, evening events and summer festivities.

S. Khelfaoui stated that the city currently has a lack of space for middle school students. He expressed his wish that the freshman be incorporated into the new high school and recover the Freshman Academy to accommodate middle school students.

W. Samaras noted that there are many conflictions, and as a former Headmaster, he understands the issues that B. Martin raised. He stressed his interest in the cost of bussing students to alternative locations. He continued that the city needs a new high school, and the SBC has one chance to do it right.

R. Elliott commented on the long process that will continue to narrow down the locations. He also stated that there are still unanswered variables, even if the MSBA needs the SBC to narrow the choices down.

D. Beati noted that this is a chance to have a world class campus, downtown or in the suburban neighborhoods. He also stated that the downtown is a viable neighborhood.

J. Mason commented on the disruption issue, as well as what a great long term opportunity this is for the city. He requested that the option be a sustainable model of the school, and that it be taken seriously. He noted that it is important to understand the costs, and how it can impact individual taxes. He stated that $80 more per person is not too much more to ask.

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Assistant City Manager

J. Cook authorized the City Manager to read his vote officially before he left the meeting.

3.2 Selection/ Approval of Options for City Council Review/ Approval

Kevin Murphy, City Manager, Chairman SBC	
Full Renovation	√
Add/ Reno Option 1A "air rights"	
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	√
Conor Baldwin, Chief Financial Officer	
Full Renovation	√
Add/ Reno Option 1A "air rights"	
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	√
Maryann Ballotta, Director of Public Safety R&D	
Full Renovation	
Add/ Reno Option 1A "air rights"	
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	√
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	√

David Beati, Engineer		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	√
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√
James Cook, Executive Director of the Lowell Plan		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	√
	New School Existing Expanded Site	√
	New School Wang Site	
	New School Cawley Site	√
Lisa DeMeo, City Engineer		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	√
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	√
	New School Existing Expanded Site	√
	New School Wang Site	
	New School Cawley Site	

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Rodney Elliott, City Councilor	
Full Renovation	√
Add/ Reno Option 1A "air rights"	√
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	√
Gary Frisch, School Business Administrator	
Full Renovation	
Add/ Reno Option 1A "air rights"	√
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	√
Steve Gendron, School Committee Member	
Full Renovation	
Add/ Reno Option 1A "air rights"	√
Add / Reno Opt 2 Existing Site (demo FH)	√
Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	√
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
New School Existing Site	
New School Existing Expanded Site	
New School Wang Site	
New School Cawley Site	

Robert Healy, Financial Consultant		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√
Edward Kennedy, Mayor, School Committee Chair		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√
Salah Khelfaoui, Ph. D., Superintendent of Schools		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	√
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√

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Michael McGovern
Assistant City Manager

Brian Martin, Head of Schools		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	√
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	
Jay Mason, ACS Lowell- AIA, LEED AP, Principal		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	√
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	√
	New School Existing Site	
	New School Existing Expanded Site	√
	New School Wang Site	
	New School Cawley Site	
Rady Mom, State Representative		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√

William Samaras, City Councilor, Former LHS Headmaster		
	Full Renovation	√
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√
Richard Underwood, Dir. Main. & Facilities - School Dept.		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	√
	New School Wang Site	
	New School Cawley Site	√
Mike Vaughn, Chief Procurement Officer		
	Full Renovation	
	Add/ Reno Option 1A "air rights"	
	Add / Reno Opt 2 Existing Site (demo FH)	√
	Add / Reno Opt 3 Existing Expanded Site (demo FH)	√
	Add/ Reno Opt 4 Existing Site (demo FH & Lord)	
	Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	
	New School Existing Site	
	New School Existing Expanded Site	
	New School Wang Site	
	New School Cawley Site	√

Overview SBC votes for the top four locations: Full Renovation, Add/Reno Opt 2 Existing Site (demo FH), Add/Reno Opt 3 Existing Expanded Site (demo FH) and New School Cawley Site.

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Full Renovation	**9**
Add/ Reno Option 1A "air rights"	5
Add / Reno Opt 2 Existing Site (demo FH)	**15**
Add / Reno Opt 3 Existing Expanded Site (demo FH)	**16**
Add/ Reno Opt 4 Existing Site (demo FH & Lord)	3
Add/ Reno Opt 5 Existing Expanded Site (Demo FH & Lord)	2
New School Existing Site	3
New School Existing Expanded Site	4
New School Wang Site	0
New School Cawley Site	**14**

3.3 Authorization for OPM to Submit PDP to MSBA no later than Feb 24.

The SBC agreed to hold this item.

4. Community Outreach

4.1 2/8 Belvidere Neighborhood Association Meeting Review

The Belvidere Neighborhood Association will meet on February 8, 2017 at the Sullivan School at 6:30PM. The consultants from Skanska and Perkins Eastman will be present. This meeting will be a public forum as will additional community meetings as requested.

5. Website Development Update

The website is in the process of being developed. Currently there is a link on the city's home page to a page created for the Lowell High School project. This webpage has all the links and necessary documents such as meeting minutes, documents and the CMR report. The new site will be launched in April.

6. Next Steps

The next meeting will take place Thursday March 2, 2017 at 10:00 AM in the Mayors Reception Room at City Hall.

R. Healy motioned to adjourn the meeting, seconded by R. Elliott.



LOWELL HIGH SCHOOL

JULY 12, 2016

Perkins Eastman | DPC

UNIQUENESS OF LOWELL





- Historic Fabric
- Broader Context
- Responsible Stewardship

TEAM LEADERS



Joseph Drown, AIA
Principal-In-Charge | Senior Project Manager



Robert Bell, AIA, ALEP, LEED® AP BD+C
Educational Programmer



Dawn Guarriello, AIA, LEED® AP BD+C
Project Architect | Lead Designer



Alicia Caritano, AIA, LEED® AP
Project Manager



Joseph Costa, AIA, LEED® AP
Project Manager

PROGRAMMING / PLANNING



EDUCATIONAL PROGRAM & SPACE SUMMARY



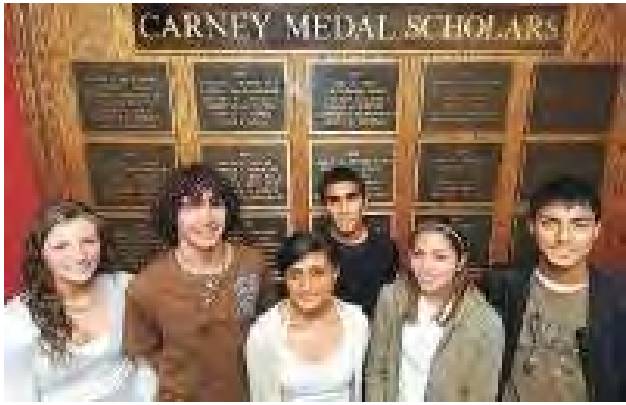


STUDENTS OF LOWELL



A UNIQUE SCHOOL





- 1st CO-ED HS in US
- Ell influx (SIFE)
- Career pathways
- City/history ties

PROGRAM NUANCES

CAREER QUALITY



ELL/SIFE EMERSION



ACCESS TO TECHN. & NOURISHMENT

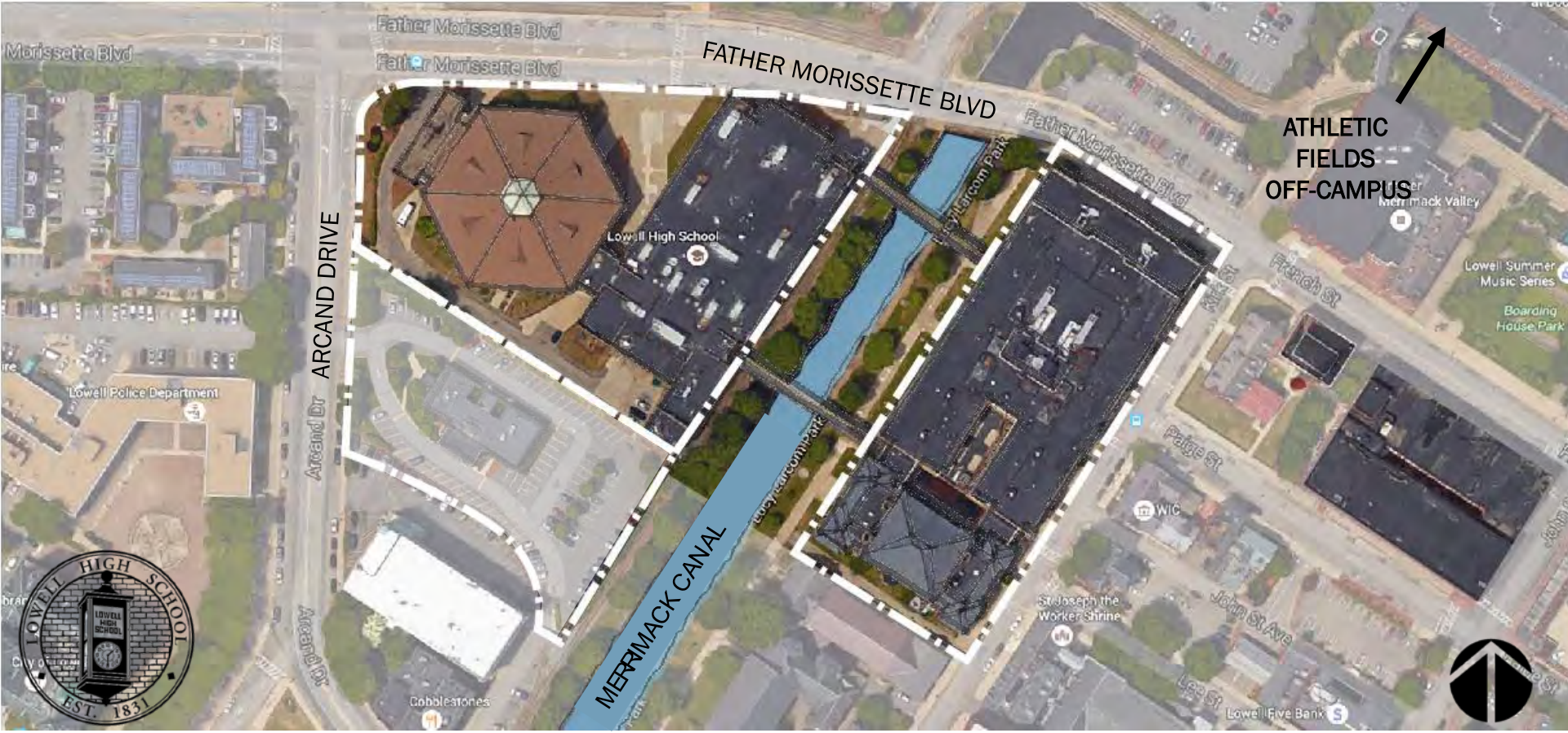




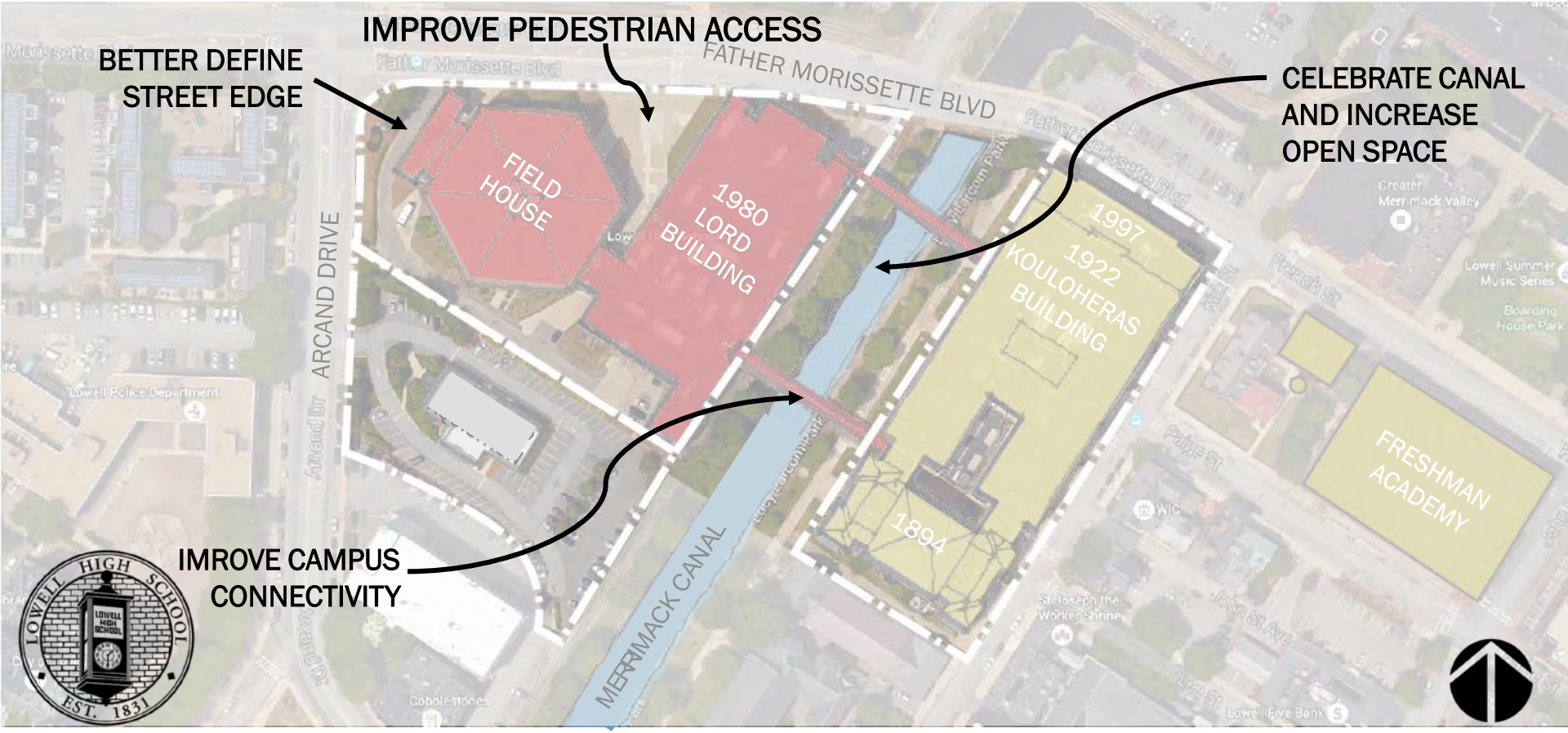
OPPORTUNITIES AND CONSTRAINTS



OPPORTUNITIES AND CONSTRAINTS



OPPORTUNITIES AND CONSTRAINTS





CONTINUITY OF EDUCATION THROUGHOUT RENOVATION

COST CONSCIOUS DESIGN

21ST CENTURY EDUCATIONAL SPACES

SAFETY & SECURITY

ALL STUDENTS ON ONE CAMPUS

CONNECT WITH CITY FABRIC

FOUR KEY ELEMENTS TO SUCCESSFUL PHASING



1. Create Adequate Swing Space
2. Separate Contractors and Students
3. Provide Contractor Space
4. Communicate Progress and Next Steps

RENOVATING HISTORIC SCHOOLS



1. Understand Construction and Limits
2. Work with SHPO/Historic Agencies
3. Creative/Adaptive Re-use
4. Make Process a Learning Opportunity

COST & YOUR EDUCATIONALLY EFFECTIVE DESIGN



RESPECTING YOUR BUDGET

CITY OF LOWELL PROPOSED BUDGET



Alive. *Unique.* *Inspiring.*

LOWELL CITY COUNCIL

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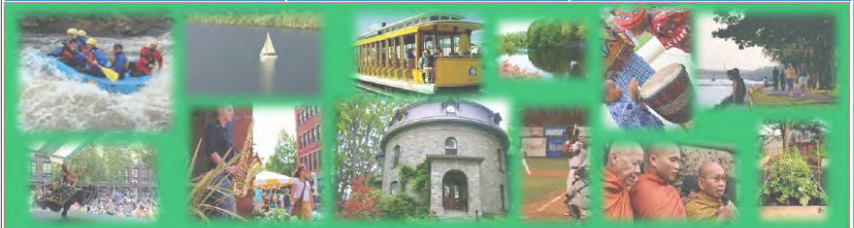
RODNEY M. ELLIOTT

VICE MAYOR
JOHN J. LEAHY

COUNCILORS
COREY BELANGER
EDWARD J. KENNEDY, JR.
WILLIAM F. MARTIN JR.
RITA M. MERCIER
JAMES L. MILINAZZO
DANIEL P. ROURKE
WILLIAM SAMARAS

FISCAL YEAR 2016



KEVIN J. MURPHY,
CITY MANAGER

CONOR BALDWIN,
CHIEF FINANCIAL OFFICER

RODNEY CONLEY
DATA ANALYST

SUBMITTED BY THE CITY MANAGER, LOWELL MASSACHUSETTS

Taunton High School

Phased Occupied Renovation

$165/sf (2007)



Taunton High School
Phased Occupied Renovation
$165/sf (2007)

16% Under Budget



Roosevelt High School

Phased Occupied Historic Renovation

$350/sf (2015)



Roosevelt High School
Phased Occupied Historic Renovation
$350/sf (2015)

2% Under Budget



Essex Technical High School

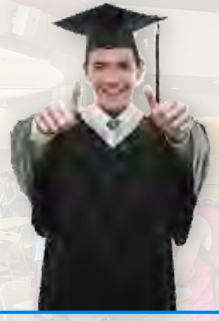
Campus of Multiple Buildings

$287/sf (2014)



Essex Technical High School
Campus of Multiple Buildings
$287/sf (2014)

On Budget



Dr. Martin Luther King Jr. School

Targeting LEED Platinum

$350/sf without PV's (2014)

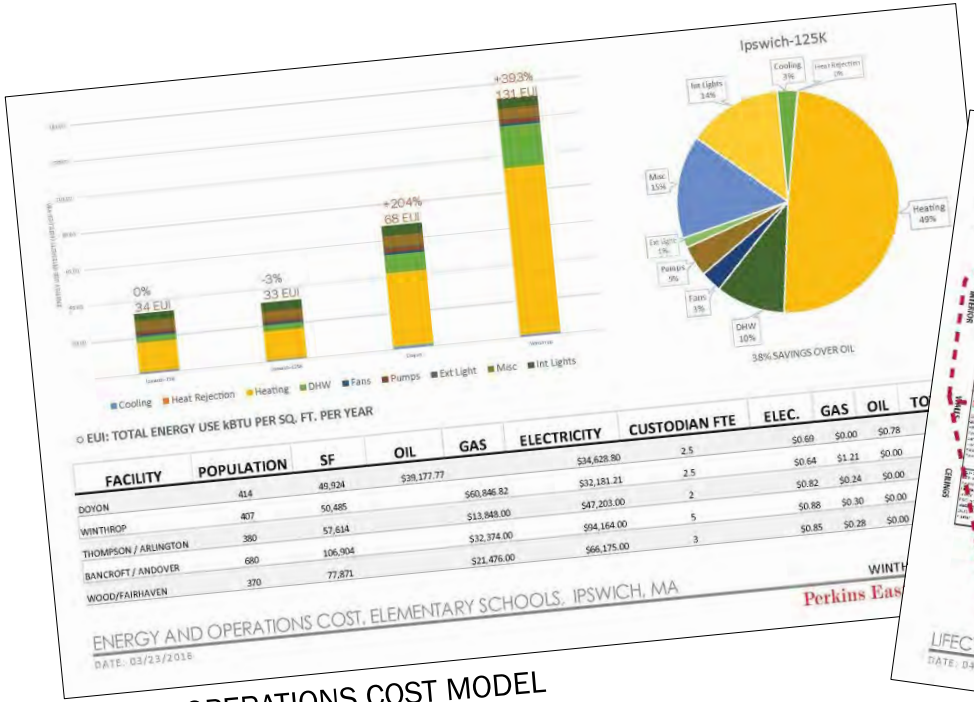


Dr. Martin Luther King Jr. School
Targeting LEED Platinum
$350/sf without PV's (2014)

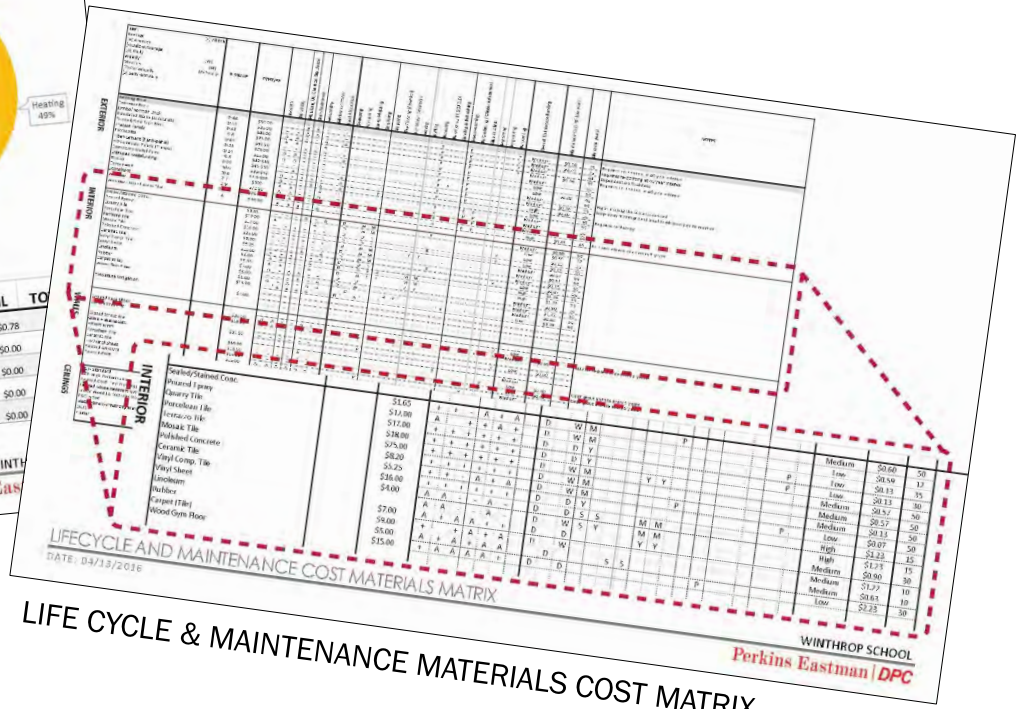
On Budget



YOUR RELIABLE COST MODELS



ENERGY OPERATIONS COST MODEL



LIFE CYCLE & MAINTENANCE MATERIALS COST MATRIX

MANAGING YOUR UNKNOWN RENOVATION COSTS



COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development





COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development

29
Committees, Commissions, Regulatory





COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
Police
Board of Parks
Building Committee
Recreation
MIS Management Systems
CH 91 Waterways
Utility Department
ACOE
National Stormwater Center
School Department
Planning and Development

29
Committees, Commissions, Regulatory

ZERVAS ELEMENTARY SCHOOL, NEWTON, MA

28
Boards, Communities and Commissions



COMMUNITY OUTREACH

City Council
Development Services
Mayor's Office
Board of Health
Emergency Management
Fire
CH 91 Waterways
Traffic
Conservation Commission
Historic Board
Planning Board
Water Utility
Engineers
City Manager
DPW
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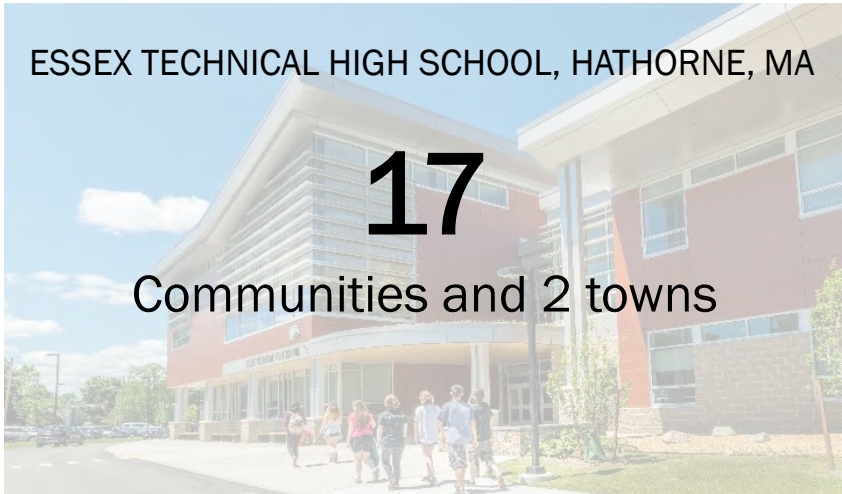
Planning and Development

29
Committees, Commissions, Regulatory





HOW WE CAN HELP YOU



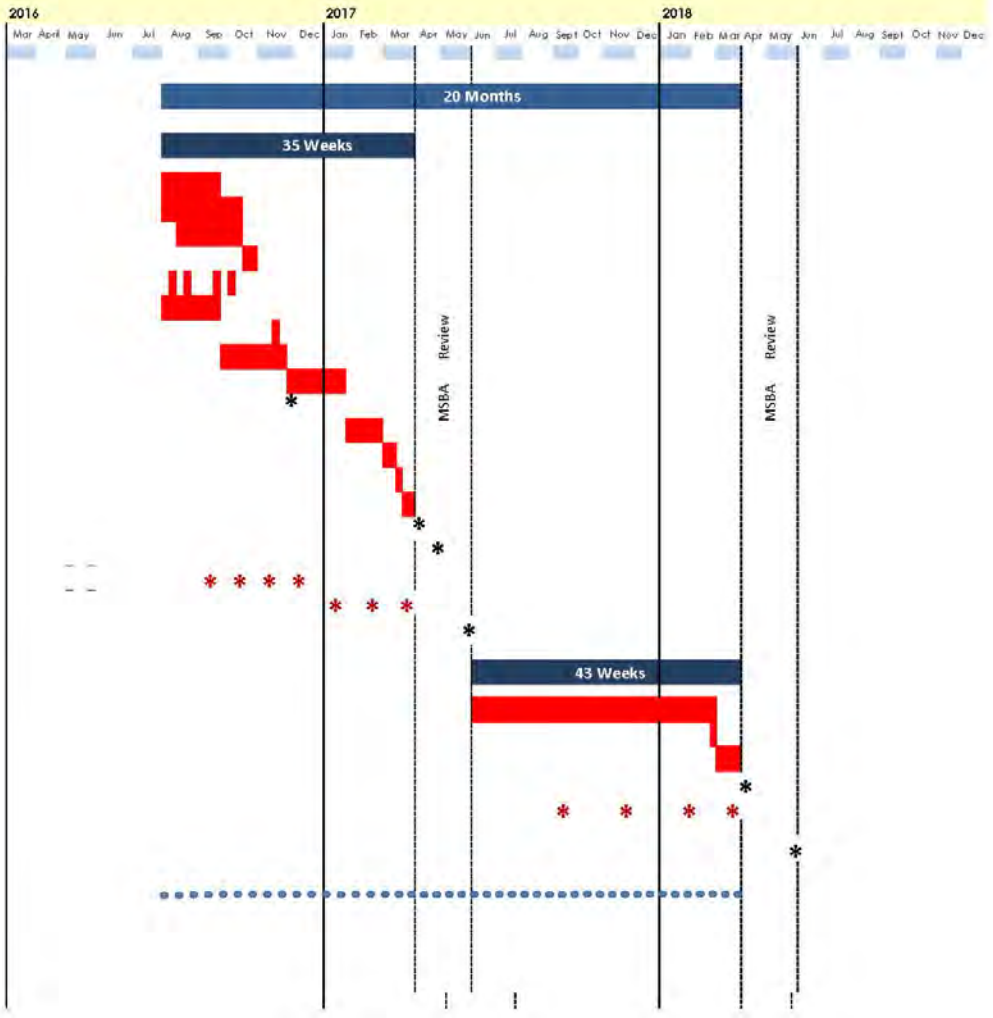


LOWELL HIGH SCHOOL

JULY 12, 2016

Perkins Eastman | DPC

Lowell HS Design Schedule



FEASIBILITY STUDY

- Existing Conditions
- Site Due Diligence
- Building Base Renovation Scoping
- Base Renovation Cost Estimating
- Visioning
- Educational Programming
- Regulatory Agencies
- Development of Alternates
- Preliminary Review of Alternatives
- PDP | Preliminary Design Program Submission — Nov 2016
- Final Review of Alternatives
- Cost comparisons
- Recommendation of Preferred Solution
- Final Design Program
- PSR | Submission Preferred Schematic Report — April 2017
- FAS Meeting — May 2017
- Community Outreach / Public Forums
- Public Presentations
- MSBA APPROVES PREFERRED SD — May 2017

SCHEMATIC DESIGN

- Schematic design & documentation
- Preliminary municipal agency review
- Cost estimating & scope reconciliation
- Submission of Schematic Design — May 2018
- Public Presentations
- MSBA APPROVES SD AND PSB — May 2018

Meetings

- SBC / Working Group Meetings
- Lowell Public Facilities
- Lowell Public Schools
- Neighborhood Groups



The City of LOWELL *Alive. Unique. Inspiring.*

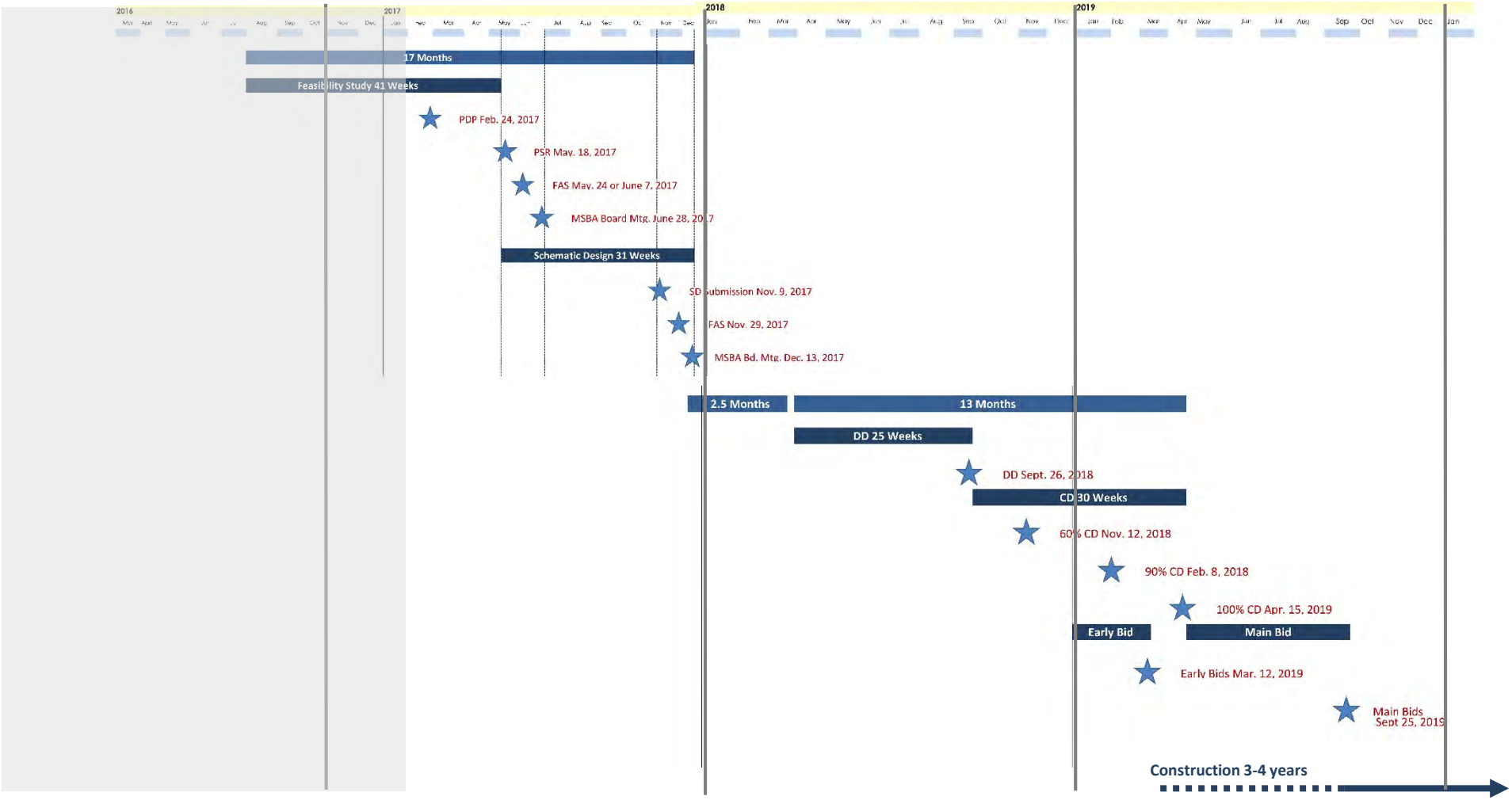
LOWELL HIGH SCHOOL PROJECT

JANUARY 24TH 2017

School Facilities Subcommittee

Project Timeline & Decisions

Overall Design Process (takes approximately 3 yrs, + bid/construction)



LOWELL

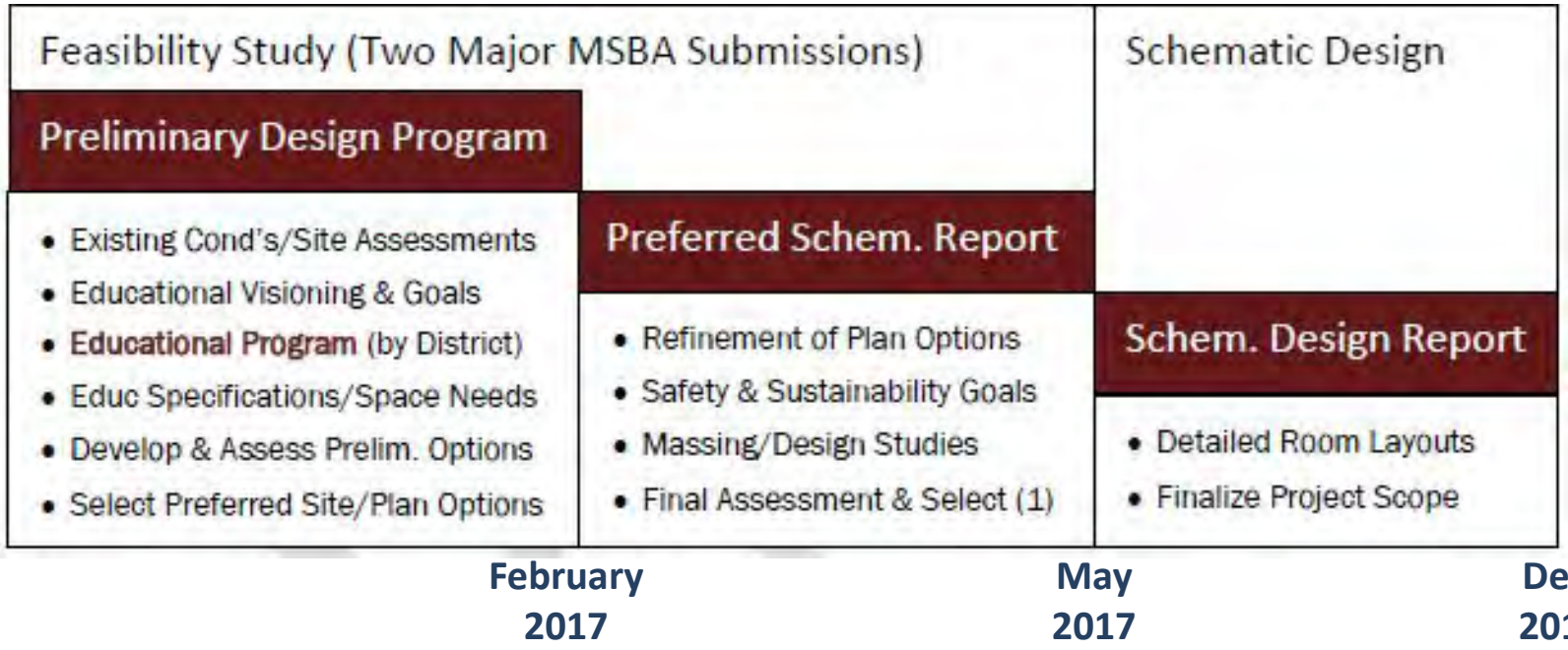
LOWELL HIGH SCHOOL PROJECT

SKANSKA

Perkins Eastman | DPC

Project Timeline & Decisions

The MSBA's study is defined in three major efforts that will occur over 17 months



Educational Vision and Goals

Priorities and Guiding Principals

- Joyful Environment
- Safe and Comfortable
- Flexible & Adaptable
- Meets Needs of Whole Child
- 21st Century Learning Spaces
- Fosters Collaboration and Community
- Real-World, Project Based, Integrated Instruction
- Robust, Integrated and Evolving Technology
- Community Access and Integration
- Historical Context

Educational Vision and Goals

Planning and Design Objectives (not prioritized)

- **Secure and Welcoming**
- **Community Use Zone** (incl. restaurant, bank, store & admin)
- **Social Hub/Heart** (cafeteria and media center)
- **Freshman Academy Wing** (with team clusters)
- **STEM / Humanities Clusters**
- **Flexible Everything**
- **Breakout and Meeting Space**
- **Dispersed Teacher Planning**
- **Display and Exhibition**
- **Outdoor Space**
- **Connect to City/History and Community**

Educational Program vs Programming

Educational Program (often called 'Educational Plan')

Outlines Current Practices/Policies

Defines Changes and Objectives for the Future

…informed by the District's Vision

Culminates in a Narrative Document by the District

Programming

Analysis (assess existing master schedule & all pupil periods)

Adjustments (prorates enrollment, participation & class sizes)

Requirements (tabulates types, counts & utilization of spaces)

…informed by the Educ-Program and Faculty Input

Culminates in a Space Summary by the Architect

Educational Program

Grade and School Configuration

Class Size Policies

School Scheduling Method

Teaching Methodology and Structure

- English Language Arts
- Mathematics
- Science
- Social Studies
- World Language/ELL
- Academic Support
- Student Guidance

Teacher Planning

Lunch (and Breakfast) Program

Technology Instruction (incl. Library/Media Center)

Visual Arts (incl. 2D/3D, Graphics, Photog/Anim. & TV Prod.)

Educational Program

Performing Arts (incl. Band, Piano/Guitar, Chorus & Dance)

Physical Education (incl. Swimming Pool)

Special Education

Vocations and Tech Programs

- Air Force ROTC
- Business Finance
- Communications (TV Studio)
- Culinary
- Engineering
- Environmental Sustainability

Chapter 74 Programs

- Business Marketing

Transportation Policies

Functional and Spatial Relationships

Security and Visual Access Requirements

Educational Program

Other Programs

- In-House Suspension
- Student Activities
- Score Mediation
- MCC/UMASS Programs (Trio)
- Catie's Closet
- Health Center
- Counseling Services
- Safe Harbors

Space Summary

	Existing 3125 students/25 class size avg @ .71% utilization = **177** rooms	Proposed 3520/24/.85% = **172** rooms	MSBA 3520/23/.85% = **181** rooms
Classrooms	**122** (avg. 830sf)	**112** (avg. 900sf)	**120** (850sf)
Science Labs	**26** (avg. 925sf)	**28** (avg. 1,315sf)	**31** (1,440sf)
Art & Music	**9** (in 19,851sf)	**10** (in 18,200sf)	**8** (13,075)
Voc/Tech	**20** (in 28,533sf)	**22** (in 36,215sf)	**24** (38,400)
	177	**172**	**183**
T. Planning	**9,566sf** (incl. little thtr.)	**12,000sf** (incl. little thtr.)	**12,000sf**
Special Educ.	**21,950sf**	**34,700sf** (incl. adapt. PE)	**34,240sf**

Space Summary

	Existing	Proposed	MSBA
Health/PE	**53,268sf** (incl. pool)	**49,950sf** (incl. pool)	**35,912sf**
Media Center	**13,164sf** (w/ tech center)	**21,900sf** (w/ tech center)	**21,900sf**
Auditorium	**20,233sf** (incl. Burgoyne)	**15,516sf** (matches Irish)	**10,400sf**
Caf/Kitchen	**21,955sf** (incl. Freshman)	**25,180sf** (3 seatings)	**25,180sf**
Medical	**2,215sf**	**2,610sf**	**2,610sf**
Admin/Guid.	**15,423sf**	**13,705sf**	**9,785sf**
Custodial	**6,775sf**	**6,440sf**	**4,265sf**
Other	**19,764sf** (incl. comp labs)	**7,700sf** (computer carts)	**0sf**

Common Questions

Who Approves the Program & What is the Schedule?

The MSBA requires certified approval of the PDP by the School Building Committee, although most District's seek approval of the Educational Program by the School Committee.

Are We Locked Into the Program/Space Summary?

The PDP submission is Preliminary in nature, but expected to represent the needs of the school that the District will support. The program may adjust during the next phase, but changes must be explained. The program and project scope becomes 'locked' at the end of Schematic Design.

Does the Program Differ between Plan Options?

All plan options are based on the same preliminary program and although not finalized, allows relative comparisons for the sake of early decisions.

Lowell Public School Committee
Regular Meeting Minutes

Date: January 18, 2017
Time: 6:30PM
Location: City Council Chamber, 375 Merrimack Street, 2nd Floor, Lowell, MA 01852

1. SALUTE TO FLAG

2. ROLL CALL:

On a roll call at 6:34 p.m., members present were, namely: Mr. Hoey, Mayor Kennedy, Ms. Martin, Mr. Descoteaux, Ms. Doherty and Mr. Gignac. Mr. Gendron was absent.

Madeline Leahy, LHS Student Representative was also present.

3. SPECIAL ORDER OF BUSINESS

3.I. Spotlight On Excellence: STEM Academy @ Rogers

1 - 18 - 17 SPOTLIGHT ON EXCELLENCE - STEM ACADEMY.PDF

The Spotlight on Excellence featured the STEM Academy @ the Rogers School. Jason McCrevan and his team of students and staff presented the latest STEM initiatives to the Committee. The following initiatives were shared:

The iCoding Program
Turtle Rehabilitation Program
Spheros
Gardening
Flying a Drone

4. MINUTES

4.I. Approval Of The Minutes Of The Regularly Scheduled School Committee

Meeting Of Wednesday, January 4, 2017

Ms. Martin made a motion to accept the January 4, 2017 Lowell School Committee minutes and to place them on file; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

5. PERMISSION TO ENTER

5.I. Permission To Enter: January 18, 2017

Ms. Doherty made a motion to approve the Permission to Enter; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

6. MEMORIALS

6.I. Memorial - Peter F. Gill

Peter F. Gill, father of Mary Geoffroy, Lowell High School Clerk, and

grandfather of LHS Freshman Academy Social Worker Gina Martel.

6.II. Memorial- Jeffrey Lembo

Jeffrey Lembo, son of Kevin Parrington, Sr., retired Lowell Public School custodian, brother of Colleen Parrington, Sullivan School teacher.

7. MOTIONS

7.I. [By Connie Martin]:

Requesting that the Administration, including all members who are cited as School Committee Representatives, provide the Lowell School Committee with a complete report on the history and current status of the charge filed by the LSAA regarding parking for Central Administration LSAA union members. This report should include:

- the legal language differentiating a "charge" vs a "grievance" and notification protocols required by each,
- a timeline of past meetings with Union leadership and
- all associated documents and minutes from those meetings

Ms. Martin made a motion to approve; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

7.II. [By Robert Hoey]:

Request the Superintendent refer the Homework Policy to the Policy Subcommittee to review and revise if necessary.

Mr. Hoey made a motion to approve; seconded by Mr. Martin. 6 yeas, 1 absent APPROVED

7.III. [By Robert Gignac]:

Request the Superintendent provide a report on all extracurricular activities at each school throughout the district.

A request was made to also have stipends that are given for extracurricular activities included in the report.

Mr. Gignac made a motion to approve; seconded Ms. Doherty. 6 yeas, 1 absent APPROVED

7.IV. [By Jacqueline Doherty]:

Request the Superintendent provide the committee with a report on the time allocated for students to have recess, lunch, physical education, and health at each of our elementary and middle schools. Please include in the report any government mandates or recommendations regarding time allotted for these activities as well as if students are allowed to talk during lunch.

Ms. Doherty made a motion to approve; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

7.V. [By Jacqueline Doherty]:

In view of the upcoming implementation of the Every Student Succeeds Act (ESSA) this fall, request the Superintendent develop local measures of assessment focused on the whole child such as school culture, social and emotional learning, and the arts.

Ms. Doherty made a motion to approve; seconded by Ms. Martin. 6 yeas, 1 absent APPROVED

8 REPORTS OF THE SUPERINTENDENT

8.I. Participation Opportunities In Food & Nutrition Program

The Participation Opportunities in Food & Nutrition Program report shared with the Committee informed the Committee that many children who receive breakfast and lunch during the school year are not receiving the same benefit over the summer break. The food service program is looking to increase participation in the breakfast and lunch program by purchasing a new specialized vehicle. A new truck

would allow the Lowell Public Schools to deliver more prepared food to students in the city. A fifteen inch (15') foot truck would need to be purchased and outfitted with heating and cooling elements, shelving and lettering. The preliminary cost of a new vehicle is $125,000.

Ms. Doherty made a motion to support exploring purchasing a new vehicle to feed children off site during the summer; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

Mr. Gignac made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.VI.; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.II. Science And Engineering Fair Update

The Science and Engineering Fair Update informed the Committee that the Gelfand Family Trust Foundation Grant was awarded to the Lowell Public Schools during the 2013-2014 school year. This four year grant was specifically focused on implementing a sustainable Science and Engineering Fair in a district that did not have a pre-existing program. The Lowell Public Schools also has established IDEA Camp as a summer program. The camp provides a venue for teachers to participate in high quality learning opportunities to strengthen their confidence in project based learning. In addition, a STEM club has been established at all middle schools, which continues to be facilitated by at least one STEM advisor.

Mr. Gignac made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.VI.; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.III. Sick Time Report

Ms. Doherty made a motion to refer the Sick Time Report to a Policy Subcommittee for further discussion; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.IV. December Financial Report

Mr. Gignac made a motion to refer the December Financial Report to a Finance Subcommittee for further discussion; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.V. Lowell High School Education Program And Space Use Plan

Mr. Gignac made a motion to refer the Lowell High School Education Program and Space Use Plan to a Joint Facilities and Lowell High School Subcommittee for further discussion; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.VI. Facilities Maintenance Report

The Facilities Maintenance Report gave the Committee an update on the status of the following:

HVAC – The department is working closely with the Department of Public Works (DPW) on HVAC repairs.
Exhaust Venting – Custodial staff has inspected all exhaust venting in bathrooms and classrooms and requests have been entered in the work order system.
Roof Leaks – The department is evaluating roofs and creating replacement plans.
Grounds – The Department is beginning solicitation for the replacement of sprinkler systems in the schools for next year's budget.
Walkways/Stairs/Railings – The department is reviewing pending work orders related to paving, resurfacing or replacement of handicap railings.
Windows – The Lowell Police Department continues to be diligent on patrols in school premises to prevent any vandalism and broken windows.

Mr. Gignac made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.VI.; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

8.VII. Home Education

Superintendent Khelfaoui recommended that the following parents/guardians be allowed to home educate their child:

Nicole & David Nickerson
91 Lupine Road

Ms. Doherty made a motion to approve; seconded Mr. Descoteaux. 6 yeas, 1 absent APPROVED

9 CONVENTION/CONFERENCE REQUESTS

9.I. LHS Drill Team Competition Field Trip- Dayton, Ohio

Headmaster Brian Martin, request permission for AFJROTC staff members Lt col Eileen Ironfield, MSgt Kevin Casilli and TSgt David Smith to travel to Dayton, Ohio with approximately 45 students for the Air Force Drill Competition. The team will depart Lowell High School on Friday, March 17, 2017 and will return on Monday, March 20, 2017. The students will miss two days of school. The estimated cost of the competition will not exceed a total of $23,000 including transportation, lodging and food. The only cost will be for two substitute teachers for two days at the cost of $400 to be charged against LHS Professional Development. This trip will be funded using a combination of AFJROTC funds, student fundraising, and student contribution.

Ms. Doherty made a motion to take and approve both field trip requests together for approval; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

9.II. LHS Trip To Colts Neck, New Jersey For The Air Force Drill Competition Headmaster Brian Martin, request permission for AFJROTC staff members Lt col Eileen Ironfield, MSgt Kevin Casilli and TSgt David Smith to travel to Colts Neck, New Jersey with approximately 45 students for the Air Force Drill Competition. The team will depart Lowell High School on Friday, February 17, 2017 and will return on Sunday, February 19, 2017. The students will miss two days of school.

The estimated cost of the competition will not exceed a total of $10,000 including transportation, lodging and food. The only cost will be for two substitute teachers for one day at the cost of $200 to be charged against LHS Professional Development. This trip will be funded using a combination of AFJROTC funds, student fundraising, and student contribution.

Ms. Doherty made a motion to take and approve both field trip requests together for approval; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

10. PROFESSIONAL PERSONNEL

10.I. The Members Of The United Teachers Of Lowell Hereby Donate Eighteen [18] Sick Leave Days To Ely Rivera, McAvinnue School Paraprofessional.

Mr. Hoey made a motion to approve; seconded Mr. Gignac. 6 yeas, 1 absent APPROVED

11. ADJOURNMENT

Ms. Martin made a motion to adjourn at 8:20 p.m.; seconded by Mr. Gignac 6 yeas, 1 absent
APPROVED

Respectfully submitted,

Dr. Salah E. Khelfaoui, Superintendent and
Secretary to the Lowell School Committee

SEK/mes

Lowell Public School Committee

Regular Meeting Minutes

Date: February 1, 2017
Time: 6:30PM
Location: City Council Chamber, 375 Merrimack Street, 2nd Floor, Lowell, MA 01852

2/1/2017 - Minutes

1. ROLL CALL

On a roll call at 6:40 p.m., members present were, namely: Mayor Kennedy, Ms. Martin, Mr. Descoteaux, Ms. Doherty, Mr Giganc and Mr. Hoey. Mr. Gendron was absent.

Onotse Omoyeni, LHS Student Representative was also present.

2. SALUTE TO FLAG

3. MINUTES

3.I. Approval Of The Minutes Of The Regularly Scheduled Lowell School Committee Meeting Of Wednesday, January 18, 2017

Ms. Martin made a motion to accept the January 18, 2017 Lowell School Committee minutes and to place them on file; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

4. PERMISSION TO ENTER

4.I. Permission To Enter: February 1, 2017

Mr. Hoey made a motion to approve the Permission to Enter; seconded by Ms. Martin. 6 yeas, 1 absent APPROVED

5. MEMORIALS

5.I. Memorial- McOsker

Mary E. (Murray) McOsker, step mother of Fred McOsker, Assistant Principal at the Morey School.

6. MOTIONS

6.I. [By Mayor Edward Kennedy]:

Request that the Superintendent and Administration at Lowell High School provide information regarding how many students walk to Lowell High School and how many students participate in athletic events.

Mayor Kennedy made a motion to approve; seconded by Ms. Martin. 6 yeas, 1 absent APPROVED

6.II. [By Mayor Edward Kennedy]:

Request that the Superintendent and Administration at Lowell High School provide an update on the proposal to institute a STEM curriculum or STEM Academy at Lowell High School.

Mayor Kennedy made a motion to approve; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

6.III. [By Mayor Edward Kennedy]:

Request to either postpone or cancel the School Committee meeting scheduled for April 19th, which falls during April school vacation.

Mayor Kennedy made a motion to cancel the regularly scheduled Lowell School Committee meeting on April 19, 2017; seconded by Mr. Gignac. 6 yeas, 1 absent APPROVED

6.IV. [By Mayor Edward Kennedy]:

Request the Superintendent provide a report and update on the school department's efforts towards recruitment designed to bring diversity to the Lowell High School faculty.

Mayor Kennedy made a motion to approve; seconded by Mr. Hoey. 6 yeas, 1 absent APPROVED

A request was made to also include efforts districtwide in the report.

6.V. [By Mayor Edward Kennedy]:

Request that the Superintendent direct the Lowell High School Administration to take advantage of the free tutoring services offered at the Dharma Center on Merrimack

Street.

Mayor Kennedy made a motion to approve; seconded by Ms. Doherty. 6 yeas, 1 absent APPROVED

6.VI. [By Robert Gignac]:

Request the Superintendent develop and distribute an Organizational Health Survey to all staff and parents throughout the district.

Mr. Gignac made a motion to approve; seconded by Ms. Martin. 6 yeas, 1 absent APPROVED

Tim Blake was registered to speak on this motion and shared a sample of a School Site Council Survey with the Committee.

6.VII. [By Robert Hoey]:

Request that the Superintendent send a letter of appreciation to Coach George Bossi, on behalf of the Lowell Public Schools and the Lowell School Committee, in recognition of Coach Bossi's holiday wrestling tournament, held at the Paul Tsongas Arena annually, and known to bring large crowds into the city.

Mr. Hoey made a motion to approve; seconded by Mr. Gignac. 6 yeas, 1 absent APPROVED

6.VIII. [By Robert Hoey]:

Request that the Superintendent send a letter of congratulations to Coach Tom Cassidy, on behalf of the Lowell Public Schools and the Lowell School Committee, on Greater Lowell Technical High School Gryphons wrestling team's recent win over Lowell High School.

Mr. Hoey made a motion to approve; seconded by Ms. Martin. 6 yeas, 1 absent APPROVED

6.IX. [By Andy Descoteaux]:

Have the Superintendent work with the Lowell High School administration to look into adding the IB (International Baccalaureate) program to offer our advanced HS students another opportunity in addition to AP course work.

Mr. Descoteaux made a motion to approve; seconded by Ms. Doherty. 6 yeas, 1 absent APPROVED

7. SUBCOMMITTEES

7.I. Finance Subcommittee:

Report and Approval of the Minutes of the Meeting of Tuesday, January 24, 2017 [Robert Gignac, Chair]

Mr. Gignac, Chairperson of the Finance Subcommittee spoke to the the Committee about establishing a SPED reserve fund. This would be an additional fund that can accumulate monies from one year to the next year so the district has money for unbudgeted Special Education or transportation expenses. The SPED reserve fund was signed into law in 2016 and it allows school districts by a majority vote of the School Committee and City Council to establish and appropriate or transfer money to a reserve fund to be used in the upcoming fiscal years to pay without further appropriation for unexpected or unbudgeted Special Education costs, out of district tuition or transportation. The balance in the SPED reserve fund can't exceed 2 % of the annual net school spending of the school district. In order for the district to have the SPED reserve fund the School Committee would have to approve establishing it by a majority vote and City Council would also have to approve it by a majority vote. Currently, our Circuit Breaker account has a cap of 1 years' worth of revenues.

Mr. Gignac made a motion to establish the SPED Reserve Fund; seconded by Ms. Doherty. 6 yeas, 1 absent APPROVED

Mr. Gignac then spoke to the Committee about the year to date expenditures report as of December 31, 2016 that was discussed at the Subcommittee meeting. The report highlighted ten (10) accounts with budgetary actions needed. The Subcommittee addressed how often transfers will be made and if the Committee can receive an update on the transfers more regularly and if the monthly report can include showing the balances from the beginning of the year as well as year to date. The Assistant Superintendent of Finance will be adding another column to the monthly report to show the balance from the beginning of the year.

Mr. Gignac made a motion to accept the report as a report of progress; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

7.II. Joint Facilities And Lowell High School Subcommittee Meeting

A request was made to take the agenda out of order to discuss the Joint Facilities and Lowell High School Subcommittee Meeting by general consent.

Report and Approval of the Minutes of the Joint Facilities and Lowell High School Subcommittee Meeting of Tuesday, January 24, 2017 [Steve Gendron, Chairperson and Robert Gignac, Chairperson]

Mr. Gignac, Chairperson of the Lowell High Subcommittee asked Mr. Martin, Head of School to address the Committee. Mr. Martin thanked the School Committee, the City Manager and his staff and the City Council for choosing Lowell High School and for supporting the high school during this process. Mr. Martin and other staff members from Lowell High School presented an overview of the PowerPoint presentation that was provided at the Subcommittee meeting of the overall design process. Designing a school this size takes about 3 years and currently Lowell High is in the feasibility study. The MSBA's study is defined in three major efforts that will occur over 17 months.

Mr. Gignac made a motion accept the Education Plan for the New LHS Project as presented; seconded by Ms. Doherty; 6 yeas, 1 absent APPROVED

Mr. Gignac made a motion accept the report as a report of progress; seconded by Mr. Hoey; 6 yeas, 1 absent APPROVED

8. REPORTS OF THE SUPERINTENDENT

8.I. Online Community Resource Guide

Deputy Superintendent Jeannine Durkin announced the launching of the Lowell Public Schools Online Community Resource Guide. The Resource Guide is designed to assist students, parents and school personnel in easily locating and accessing resources that are available in and around Lowell. Deputy Superintendent Durkin briefly showed the Committee how to access this site via the web.

Mr. Hoey made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.III.; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

8.II. Chapter 70 State Aid

Assistant Superintendent Frisch/CFO informed the Committee that according to the DESE the Lowell Public Schools net school spending requirement calculation increased by $6,107,324 from $183,238,362 to $189,345,686 or a 3.3 % increase. The $6,107,324 increase is made up of a state share component of $4,932,022 (80.75%) and a local share component of $1,175,302 (19.25%). The required local contribution is paid in two parts: 1) cash and 2) in-kind costs paid by the City on behalf of the Lowell Public Schools.

Mr. Hoey made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.III.; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

8.III. Proposed 2018 Budget Calendar

Mr. Gignac made a motion to make the following changes to the proposed 2018 Budget Calendar; seconded by Ms. Doherty. 6 yeas, 1 absent APPROVED

- Wednesday, April 12, 2017 - Public Session - The Superintendent to present the FY18 recommended budget. - City Hall Council Chambers
- Wednesday, April 26, 2017 - changed to a Finance Subcommittee - Rogers School - TV Studio
- Wednesday, May 3, 2017 -- Budget Hearing - asked to be changed to the City Hall Council Chambers
- Wednesday, May 10, 2017 - Budget Hearing & Adoption - asked to be changed to the City Hall Council Chambers

Mr. Hoey made a motion to accept the following Reports of the Superintendent as reports of progress: 8.I., 8.II. and 8.III.; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

9. NEW BUSINESS

9.I. Budget Transfer

Mr. Gignac made a motion to approve the following budget transfer; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

From: 1400 531800 Printing & Binding $500

To: 2400 541500 Choral Supplies $500

The purpose of this transfer is to add a choral supply account at the Moody School.

9.II. Disposal Of Surplus Supplies

On December 7, 2016 the Business Office presented a list of textbooks deemed to be surplus by the Currriculum Office to the School Committee. At this time, there is no vendor who is willing to take the textbooks on assignment or willing to take the textbooks for "trade-in" for future purchases. With the support of the School Committee the Business Office is requesting disposing and removing all textbooks listed in said list from school premises. The textbooks will be offerred "free" to staff and students and then the remaining books would be recycled throught the school's recycling program over a period of time.

Ms. Doherty made a motion to approve the Disposal of Surplus Supplies; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

9.III. SPED Reserve Fund - New Legislation

The SPED Reserve Fund - New Legislation was discussed and voted on during the Finance Subcommittee portion of the agenda.

10. CONVENTION/CONFERENCE REQUESTS

10.I. LHS - Business Professionals Of America Framingham, MA

Head of School Brian Martin, request permission for Lowell High School Business Professional Advisor, Jill McNamara along with 15 members of the Lowell Chapter of the Business Professionals of America to attend the National Leadership Conference in Framingham, MA from Saturday, March 4, 2017 through Monday, March 6, 2017 at the Sheraton Tara Hotel & Conference Center. Students will be absent from school on Monday, March 6, 2017. The only cost will be $100 for a substitute teacher for 1 day and will be paid by Lowell High School Individual School account. The cost of the conference will be paid for through The 1826 School Store for students and staff. Students have been raising funds to defray the cost of the trip and each student will pay $200 of the $250 per student. This will include all meals and 2 nights at the

Sheraton Tara. There will be no additional cost to the Lowell School Department budget.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

10.II. LHS - New England Wrestling Championship

Head of School Brian Martin, request permission for a one night over night stay on March 3 and 4, 2017 for LHS Wrestlers to attend the New England Wrestling Championship to be held at the Providence Career and Technical Academy in Providnece, RI. The Students will be under the supervision of Head Coach George Bossi, and assistant coaches James Dillon, Michael Dillon, and George Gilbride. Transportation will be via private vehicle provided by the Lowell High School Wrestling Coaches with written parental permission. The cost of the trip will not exceed $2000.00 paid by the Lowell High Athletic Department.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

10.III. LHS- Outdoor Adventures Russell, MA

Head of School Brian Martin, request permission for Outdoor Adventures Advisor, Kendra Bauer and Donna Newcomb, both employees of Lowell School Department, to participate in an overnight winter adventure excursion supported by the Appalachian Mountain Club's Youth Opportunity Program with 10 – 14 club members. They will be traveling to Noble View Outdoor Center in Russell, Massachusetts from Monday, February 20 – Wednesday, February 22, 2017 (school vacation week). No substitutes are required. The club will travel via school bus, which will be paid for by the students and subsidized by the club's funds.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

10.IV. LHS Trip To Greece April 2018

Lowell High School staff Jill McNamara, Wayne Taylor and Danielle Lessard, along with chaperone Jo Ann LaBranche who is CORI and 24 students, to travel to Greece, Athens, and Islands during April 2018 school vacation. The total cost of $3,335 will be paid by each student traveling. The cost of $200 for two substitute teacher will be paid by the LHS Individual School Budget.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

10.V. Thomas Thornton Student Council Workshop Hyannis, MA.

Permission for eleven (11) Student Council Representatives as well as Student Council Advisor, Thomas Thornton to attend the 2017 Massachusetts Association of Student Council Workshop on Wednesday, March 8 through Friday, March 10, 2017 held at the Resort & Conference Center at Hyannis, in Hyannis, MA. Students will miss three (3) days of school. No substitutes will be needed and all expenses will be paid through the Office of Student Activities at LHS funds not to exceed $2,100. There is no cost to the Lowell School Department.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

10.VI. Bartlett School Music Teacher - Albany, NY

Bartlett School Music teacher, Rachel Crawford to attend an out of state conference as part of an National Science Foundation. The conference will be held in Albany, NY on April 7th and 8th 2017. The total cost of $726.00, including the daily substitute will be paid by UML the National Science Foundation Grant. There is no cost to the Lowell Public Schools.

Ms. Doherty made a motion to take and approve all six (6) field trip requests together for approval; seconded by Mr. Descoteaux. 6 yeas, 1 absent APPROVED

11. COMMUNICATIONS

11.I. Letter Of Appreciation To William Haddad, Executive Director Of On The Move

Mr. Hoey made a motion to accept the communication and place it on file; seconded by Mr. Gignac. 6 yeas, 1 absent APPROVED

12. ADJOURNMENT

Ms. Martin made a motion to adjourn at 8:20 p.m.; seconded by Mr. Gignac 6 yeas, 1 absent APPROVED

Respectfully submitted,

Dr. Salah E. Khelfaoui, Superintendent and
Secretary to the Lowell School Committee

SEK/mes

LOWELL SCHOOL COMMITTEE

REGULAR MEETING MINUTES

Wednesday, August 17, 2016
TIME 6:35 PM

SALUTE TO FLAG:

1. - SALUTE TO FLAG:

ROLL CALL:

2. - ROLL CALL:

On a roll call at 6:35 p.m., all members were present, namely: Mr. Descoteaux, Ms. Doherty, Mr. Gendron, Mr. Gignac, Mr. Hoey, Mayor Kennedy and Ms. Martin.

MINUTES:

3. *2016 / 332* - Approval of the Minutes of the Regularly Scheduled School Committee Meeting of Wednesday, July 20, 2016

VOTING
Motion by: Robert Gignac
Second by: Connie Martin

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

4. - A motion was made to defer action on the ratification of the contracts until the Committee meets in Executive Session at the end of the meeting.

VOTING
Motion by: Robert Gignac
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

PERMISSION TO ENTER:

4.1. *2016 / 313* - Contract Ratification: Superintendent of Schools
Contract Ratification: Deputy Superintendent
Contract Ratification: Assistant Superintendent for Curriculum and Instruction

A motion was made to defer action on the ratification of the contracts until the Committee meets in Executive Session at the end of the meeting. The motion passed.

5. ***2016 / 323*** **- Permission to Enter: August 17, 2016**

VOTING
Motion by: Robert Hoey
Second by: Jacqueline Doherty

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

MEMORIALS:

6. ***2016 / 333*** **- Dan Leahy, former State Representative, City Councilor and father of Kathleen Ramirez, Greenhalge School Teacher.**

PUBLIC PARTICIPATION:

7. ***2016 / 330*** **- Eilish Connaughton, to speak on Agenda Item # 2016/315**

8. - A motion was made to rename the Butler Auditorium to the Mary Alice Foley Auditorium.

VOTING
Motion by: Stephen Gendron
Second by: Robert Gignac

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

SUBCOMMITTEES:

8.1. *2016 / 315* - Facilities: Report of the Meeting of Thursday, August 11, 2016 [Steve Gendron, Chairperson]

Mr. Gendron, Chairperson of the Facilities Subcommittee spoke to the Committee about renaming the Butler School Auditorium. Mr. Gendron asked Eilish Connaughton, retired Butler School Principal to address the Committee about her request to rename the auditorium after Mary Alice Foley, long time educator and former Assistant Principal at the Butler. Ms. Connaughton said that Ms. Foley inspired the children and was a tireless worker. A motion was then made to rename the Butler School Auditorium the Mary Alice Foley Auditorium. The motion passed. Mr. Gendron then gave a Status Update on Skanska, OPM on the High School Project. A PowerPoint presentation was given at the subcommittee meeting explaining that the feasibility study has started and that the process will take four to five months. The PowerPoint presentation went thru step by step what will take place during the feasibility study. Mary Ann Williams was present from Skanska and she addressed the Committee informing them about the School Building Committee Schedule and the Project Schedule. She also gave an explanation of the overall feasibility and schematic design process.

The report was accepted as a report of progress.

VOTING
Motion by: Robert Gignac
Second by: Connie Martin

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

9. - A motion was made to defer the Finance Subcommittee report to the next Lowell School Committee meeting on September 7, 2016.

VOTING
Motion by: Robert Gignac
Second by: Connie Martin

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

9.1. *2016 / 316* - Finance: Report of the Meeting of Wednesday, August 17, 2016 [Robert Gignac, Chair]

A motion was made to defer the Finance Subcommittee report to the next Lowell School Committee meeting on September 7, 2016. The motion passed.

10. - A motion was made to suspend the rules to allow Sandra McNamara to speak about National Night Out. The motion was approved by General Consent.

10.1. - A motion was made to have the Superintendent make a plan for future school involvement for National Night Out.

VOTING

Motion by: Robert Gignac
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

REPORTS OF THE SUPERINTENDENT:

10.1.1 *2016 / 307* - Doors Open Lowell Public Schools

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Dr. Khelfaoui spoke briefly to the Committee about the Doors Open Lowell Public Schools report that he received from Anne K. Sheehy, Assistant Director of Human Resources. Dr. Khelfaoui then asked Ms. Sheehy to address the Committee about the report. The report includes a community school visitation schedule for the 2016-2017 school year. This is a planned public forum for participation in Lowell Public Schools in the form of a "doors open", monthly visiting session at each and every elementary, middle and alternative school in the district. Bus transportation will also be provided.

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

11. ***2016 / 309*** **- Food and Nutrition Department Year in Review**

Sharon Lagasse and Kristian Webber from Aramark presented to the Committee a Food and Nutrition Department - Year in Review. The review included a PowerPoint presentation and Ms. Lagasse and Ms. Webber discussed the following topics:

- CEP
- FarmLogix
- Harvest of the Month
- Nutrition Education
- Communication
- School Based Pantry
- Program Growth

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

12. ***2016 / 327*** **- First Book**

Mickie Dumont and Amy Bission from the United Teachers of Lowell spoke to the Committee about the upcoming Distribution Day on Saturday, October 22, 2016 at the Rogers STEM school. The UTL is partnering with the Lowell Public Schools and Lowell's network of educational supporters to get 40,000 to 44,000 free brand new books into the hands of our families, students and educators.

The report was accepted as a report of progress.

VOTING

Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

13. ***2016 / 311*** **- Purchase Orders Report**

Mr. Frisch, School Business Administrator spoke to the Committee about the Purchase Order report that he had provided to the Committee. Mr. Frisch said that the report included all purchase orders that were opened between June 14th thru July 5th.

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

14. **-** **A motion was made that the School Committee request that the City Council increase the budget by $527,642 to pay for the Kindergarten Paraprofessionals.**

VOTING
Motion by: Robert Gignac
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.			x	
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

14.1. - A motion was made to increase the Suspense Account by $527,642 as a supplemental appropriation for the 2016-2017 school year.

VOTING

Motion by: Robert Gignac

Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.			x	
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

14.1.1 ***2016 / 320*** **- Budget Summary**

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Mr. Frisch, School Business Administrator spoke to the Committee about the Year End Budget report that he had provided to the Committee. The report informed the Committee that the revised budget amounts to $158,010,396, from the total budget of $155,991,000 that has been expended through August 11, 2016. The remaining budget includes $1,967,724 encumbered for purchases. The available budget after deducting encumbrance amounts to $51,671.01.

At this time, all budget adjustment has been made to all the accounts bringing them to positive balances. The food service transfers to reimburse the local budget for administrative indirect costs have been adjusted and reflect the appropriate amounts per the detailed supporting documentation.

Mr. Frisch also addressed the circuit breaker account. As of June 30, 2016 the circuit breaker account had $2.8 million dollars of which $548,000 exceeds the allowable carry over limit. The district is only allowed to carry over $2.3 million which will result in money reverting back to the City. The district will be asking for the School Committee to request the $527,642 from the City Council to pay for the Kindergarten Paraprofessionals due to the fact that the Kindergarten grant was recently cut.

The report was accepted as a report of progress.

VOTING

Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

15. ***2016 / 328*** **- DESE Notification of LHS Disproportionate Suspension Data**

Superintendent Khelfaoui asked Jeannine Durkin, Assistant Superintendent for Student Support Services to give the Committee an update on the Massachusetts Department of Elementary and Secondary Education Notification of LHS Disproportionate Suspension Data. Ms. Durkin informed the Committee that the data showed disparities in rates of suspension at LHS for one cohort of students. Mr. Martin and Ms. Durkin participated in a phone conference with Rachelle Engler Bennett, Director of the Office of Learning Supports and Early Learning at the Massachusetts Department of Elementary and Secondary Education on June 29, 2016 related to the student discipline data and the professional learning network the Department is launching.

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

16. **- A motion was made to approve the title change from Assistant Superintendent to School Business Administrator, but to leave all other language the same.**

16.1. - A substitute motion was made to refer the Purchase Policy and Procedures Revisions to the Finance Subcommittee for further discussion.

VOTING
Motion by: Stephen Gendron
Second by: Connie Martin

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

16.1.1 ***2016 / 321*** **- Purchase Policy and Procedures Revisions**

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A substitute motion was made to refer the Purchase Policy and Procedures Revisions to the Finance Subcommittee for further discussion. The motion passed.

VOTING
Motion by:
Second by:

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.				
Gendron, Stephen				
Descoteaux, Andre				
Doherty, Jacqueline				
Gignac, Robert				
Hoey, Robert				
Martin, Connie				

17. - A motion was made to ask the Superintendent to make a plan to take care of the school grounds at our schools whether exploring it through donations or help from the community.

VOTING

Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

17.1. ***2016 / 326*** **- Facilities Updates**

Superintendent Khelfaoui asked Rick Underwood, Interim Facilities Director to give the Committee an update on the summer projects taking place at our schools as well as getting the buildings ready for the start of school. Mr. Underwood informed the Committee that a lot of work is being done throughout the district and that the schools will be ready on the first day of school. Many Committee members discussed the school grounds and making sure that the lawns are always cut and that the school yards are kept clean. A motion was then made to ask the Superintendent to make a plan to take care of the school grounds at our schools whether exploring it through donations or help from the community. The motion passed.

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

18. ***2016 / 331*** **- Proposed Hiring Policies**

Dr. Khelfaoui spoke briefly to the Committee about the Draft Proposed Hiring Policies that he received from Anne K. Sheehy, Assistant Director of Human Resources. Dr. Khelfaoui then asked Ms. Sheehy to address the Committee regarding the policies. The policy includes the practices relative to the hiring process. The three main points of the policy is as follows:

1. The Lowell Public Schools will establish school-based interview teams, train teams in issues of diversity, equity and inclusion, and prepare teams to hold school based interviews.
2. The Lowell Public Schools will institute an early hiring candidate pool, enabling us to hire as early as possible to obtain the highest quality candidates for teaching and administrative positions.
3. Lowell residents holding Massachusetts Department of Elementary and Secondary Education certifications and the necessary qualifications, receive interviews when they apply for positions of any kind in the Lowell Public Schools.

VOTING
Motion by: Robert Hoey
Second by: Robert Gignac

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie				

19. ***2016 / 324*** **- Personnel Report**

Superintendent Khelfaoui shared the Personnel Report that he received from Michael Cassidy, Director of Human Resources. The report officially informs the Committee of all retirements, resignations, promotions and new hires.

The report was accepted as a report of progress.

VOTING
Motion by: Connie Martin
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

20. ***2016 / 329*** **- List of Eligible Teachers**

Superintendent Khelfaoui shared with the Committee the List of Eligible Teachers Report that he received from Michael Cassidy, Director of Human Resources.

The report was accepted as a report of progress.

VOTING
Motion by: Stephen Gendron
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

21. ***2016 / 308*** **- Home Education**

Superintendent Khelfaoui recommended that the following parents/guardians be allowed to home educate their child:

Crystal and Arthur Gonsalves
86 Belmont Avenue
&
Jess Morrissette
54 Geana Land

VOTING
Motion by: Connie Martin
Second by: Robert Hoey

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

22. - A motion was made to have one clerical position at Lowell High School put back into the budget and to restrict the savings from the elimination of the Energy Management position to the Facilities Department until a recommendation is brought forward to the School Committee.

VOTING

Motion by: Robert Gignac
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

NEW BUSINESS:

22.1. ***2016 / 310*** **- Update on Business Office Reorganization and District Hiring**

Superintendent Khelfaoui asked Mr. Frisch, School Business Administrator to give the Committee an update on the Business Office Reorganization and District Hiring. Mr. Frisch went over the proposed changes in the business office. The changes will improve internal controls, provide more efficiency in operations and provide improved service to internal departments and public requests. The following changes will be made:

- The payroll supervisor duties will be absorbed by the three (3) payroll clerks and the Assistant Business Manager.
- Rick Underwood moves from Interim Facility Director to Facility Director.
- Mike Cassidy, Human Resources Director will become the Assistant Business Manager at his current salary.
- Robert McCleod, Payroll Supervisor will become the Internal Auditor at his current salary.
- Paul Wedel who is a contracted employee will become a Network Engineer at $85,000.
- A LHS clerk will be added to the budget and the Energy Management position will be cut.
- Nan Murphy and Jason DiCarlo will both receive a $15,000 stipend to assist with Leadership Academy. Pina Maggio will receive a stipend of $7,500 to assist with the Lowell Academy.
- Assistant Superintendent of Curriculum, Director of Human Resources, Director of Information Services and Instruction Technology Support are vacant positions to be hired.

A motion was then made to have one clerical position at Lowell High School put back into the budget and to restrict the savings from the elimination of the Energy Management position to the Facilities Department until a recommendation is brought forward to the School Committee. The motion passed.

The report was accepted as a report of progress.

VOTING
Motion by: Andre Descoteaux
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

23. ***2016 / 318*** **- Vote to accept Grant Award of 2,000 to Dr. An Wang School**

The grant fund of $2,000 from the Wang Foundation to offset The Greenhouse project costs: and the grant funds be deposited in the Dr. An Wang School student activity account and payment(s) dispersed from the Dr. An Wang student activity account for said purpose.

VOTING
Motion by: Robert Hoey
Second by: Connie Martin

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

24. ***2016 / 322 -*** **Expenditure Transfer Request**

A motion was made to make the following Expenditure Transfers.

Expenditure Transfer #1

To:	Food Service Reimbursement Reclassify (see Expenditure Transfer Form #1)	151,429
From:	Employee Salary Accounts	151,429

The purpose of this transfer is to adjust the indirect administrative costs to the documentation (see the attached Food Service Reimbursement Documentation).

To:	Employee Salary Account	39,398.83
From:	Retirement sick leave payout	39,398.83

Expenditure Transfer #2

To:	Kindergarten Grant (see Expenditure Transfer Form #2)	$45,632.73
From:	Employee Salary Accounts	$45,632.73

The purpose of this transfer is to charge the local funds for their portion of the Kindergarten grant from 2015-16.

VOTING

Motion by: Connie Martin
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

25. ***2016 / 325*** **- Budget Transfer**

The following budget transfers were requested:

Budget Transfer #1

To:	Deficit Accounts (see Budget Transfer Form #1)	$839,081.64
From:	Surplus Accounts	$839,081.64

The purpose of this transfer is to zero out the deficits in account from accounts having surpluses.

Budget Transfer Request #2

To:	Employee Salary Accounts (see Budget Transfer Form #2)	
		$4,831,607.58
From:	Employee Salary Accounts	$4,752,914.85
	Other Surplus Accounts	$ 78,692.73
	Total	$4,831,607.58

The purpose of this transfer is to zero out the deficits in employee salary accounts. The deficits were realized when the employee union and non-union groups were settled. The original budget did not account for the increases from the settlement.

Budget Transfer Request #3

To:	Deficit Accounts (see Budget Transfer Form #3)	$45,632.73
From:	Surplus Accounts	$45,632.73

The purpose of this transfer is to zero out the deficits in the paraprofessional account with a surplus account.

VOTING
Motion by: Robert Hoey
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

EXECUTIVE SESSION:

26. ***2016 / 314*** **- Executive Session:**
Contract Negotiations-Superintendent of Schools
Contract Negotiations-Deputy Superintendent
Contract Negotiations- Assistant Superintendent for Curriculum and Instruction
Litigation and Contract Negotiations- Non-union Personnel

A motion was made to recess at 9:11 p.m. and enter into Executive Session and to adjourn the meeting from Executive Session.

VOTING
Motion by: Robert Gignac
Second by: Stephen Gendron

Committee Member	YES	NO	ABSTAIN	RECUSE
Kennedy, Jr, Edward J.	x			
Gendron, Stephen	x			
Descoteaux, Andre	x			
Doherty, Jacqueline	x			
Gignac, Robert	x			
Hoey, Robert	x			
Martin, Connie	x			

ADJOURNMENT:

27. - ADJOURNMENT:

Motion to recess at 9:11 p.m. by Mr. Gignac; seconded by Mr. Gendron 7 yeas

Respectfully submitted,

Dr. Salah E. Khelfaoui, Superintendent and
Secretary to the Lowell School Committee

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Michael Q. Geary
City Clerk

Lowell City Council
Regular Meeting Minutes

Date: Sep 27, 2016
Time: 6:30 PM
Location: City Council Chamber
375 Merrimack Street, 2nd Floor, Lowell, MA

MAYOR'S BUSINESS

1. - MAYOR'S BUSINESS

1.1. *2016 / 593* **- Communication - (1) Maria Crooker (Alternative House) address Council regarding October being Domestic Violence Awareness Month; and (2) Lianna Kushi addresses Council regarding "Entrepreneurship for All".**

Roll Call showed 9 present.

Mayor Kennedy presiding.

In Council, Ms. Crooker commented on many events surrounding domestic violence week, including "Lowell Takes a Stand on Domestic Violence". C. Leahy recognized the efforts of the Alternative House. C. Elliott commented on the many events during the week. Ms. Kushi commented on the "E for All Program". Mr. Thomas O'Hearn commented on his experience with the program.

In City Council, **Motion** "To accept and place communications on file" by C. Elliott, seconded by C. Leary. So voted.

C. Elliott requested Items #5.1(C) and #5.1(F) be taken out of order by general consent with no objections. So voted.

CITY CLERK

2. - CITY CLERK

2.1. *2016 / 587* **- Minutes of City Council Meeting September 13th, for acceptance.**

In City Council, minutes read, **Motion** "To accept and place on file" by C. Milinazzo, seconded by C. Rourke. So voted.

GENERAL PUBLIC HEARINGS

3. - GENERAL PUBLIC HEARINGS

3.1. ***2016 / 580*** **- Ordinance-Increase salary of City Council, Mayor and School Committee members**

In City Council, Given 2nd Reading and adopted. Public hearing held. No Remonstrants.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.		x				
Leahy, John J.	x					
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x				x	
Samaras, William	x					x

3.2. ***2016 / 581*** **- Vote-Petition Legislature for authority to increase number of signatures qualified to vote for a candidate for said office from 50 to 150.**

In City Council, Given 2nd Reading and adopted. Public hearing held. No Remonstrants. C. Mercier commented that non serious challengers should not corrupt the system and this change would assist with that. C. Elliott noted it was frustrating to spend the money for primaries when they do not appear to be needed but other charter changes (ward voting) would have better effect on the issue. C. Elliott noted most communities only require the fifty signatures. C. Leary noted that people do not run for office because of the amount of time needed to do job. C. Milinazzo noted the subcommittee addressed these issues and questioned when nomination papers would be available.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.		x				
Leahy, John J.	x					
Leary, James	x					

Mercier, Rita M.	x				x	
Milinazzo, James L.	x					
Rourke, Daniel P.	x					x
Samaras, William	x					

UTILITY PUBLIC HEARINGS

4. - UTILITY PUBLIC HEARINGS

4.1. ***2016 / 558*** **- National Grid - Request installation of 5' of 4-4" conduit on William Street to service new Middlesex Community College auditorium.**

In City Council, Given 2nd Reading and adopted. Public hearing held. No Remonstrants. Speaking in favor was David Boucher of National Grid. **Motion** to refer to Wire Inspector for report and recommendation by C. Rourke, seconded by C. Samaras. So voted.

COMMUNICATIONS FROM THE CITY MANAGER

5. - COMMUNICATIONS FROM THE CITY MANAGER

5.1. ***2016 / 612*** **- Motion Responses:**
(A) CopSync Security Communication Alert System
(B) Firearm License
(C) Lowell High School Building Project
(D) 110-119 Chelmsford St.
(E) Lowell Public Schools Outstanding Work Orders
(F) Winn Development Presentation

In Council, **Motion** "To accept and place on file" by C. Elliott, seconded by C. Leahy. So voted.

C. Elliott commented on Motion Response A regarding CopSync Security noting the State law requirement. Manager Murphy noted the process and the requirement for the system if it is budgeted for in the school department. C. Elliott questioned the technology. C. Belanger questioned compliance with State law. Manager Murphy noted if not budgeted for then not mandated. C. Leary noted the safety of the schools.

C. Leary commented on Motion Response B regarding firearm licenses noting the report outlining the past year and questioning training element in the system.

Manager Murphy commented on Motion Response C regarding Lowell High School project noting the feasibility study and introducing Skanska (Owner Rep.) and Perkins Eastman (Architects). Mary Ann William (Skanska) outlined assessment of current site and other

potential sites. Robert Bell (Perkins Eastman) provided history of the company and initial assessment. Manager Murphy commented on the process moving forward and the community involvement in that process. C. Elliott noted that all members of the community should be contacted. Mary Ann William noted that there are several methods of outreach that will be used to connect to the community. C. Elliott questioned the effect of increased enrollment on the process. Mary Ann William noted any large spikes in enrollment should be monitored. M. Kennedy noted that the public input window would be going for about eight weeks. C. Belanger questioned locations of the buildings and noted the process was moving forward in a positive manner. C. Samaras noted that the development team is high level and that information moving forward should be put out to the neighborhood groups. C. Leary noted it was a long road ahead but there has been a good start. C. Leahy questioned rehab process. Mary Ann William noted that they assess what would have value to project. C. Mercier noted that she would not support any public taking of land to expand the location. C. Milinazzo commented on demographics in the City should be analyzed to ensure any site is large enough. Manager Murphy commented on size and time line. C. Elliott commented on the involvement of State agencies in the decision process.

C. Leahy commented on Motion Response E regarding outstanding school work orders noting the report. Rodney Conley outlined the report. **Motion** to refer matter to Municipal Facilities SC by C. Leahy, seconded by C. Leary. So voted.

Manager Murphy commented Motion Response F regarding Winn Development presentation noting the status report on the Hamilton Canal District (HCD) project. Larry Curtis and Michael O'Brien presented for Winn Development. Mr. Curtis provided history of the company and the approach to the development for both residential and commercial. Mr. O'Brien noted the process, the approach and the challenges with the project as well as time lines established. Mr. O'Brien noted that there is a Master Plan developed by the City and that there will be phases to the project. Mr. O'Brien outlined the phases and the time frames for each indicating the challenge of a funding gap which would need to be addressed collectively. Mr. O'Brien noted that ground up construction in gateway cities involve funding gaps and that Winn would be keeping partners informed of same. C. Belanger commented on research and development firms and the recruiting of companies to the HCD. C. Belanger noted that marketing study was not current and it should be revised. Mr. O'Brien noted the need for fresh information. C. Belanger commented on sales as opposed to rentals. C. Belanger noted the need for partnerships. C. Samaras noted need for strong communications between the parties. Mr. O'Brien noted the business friendly attitude of the City and was reason Winn brought part of its work force to Lowell. C. Samaras noted the need for creative approaches to projects. C. Leary questioned the time frame. Manager Murphy outlined time frame for the project. C. Leary questioned Lord Overpass reconstruction and new garage construction as well as updating

marketing study. C. Leary noted the challenge during all of the construction. C. Elliott noted it is a major move forward on the project with a plan in place. C. Leahy noted the residential portion of project and the need to increase average income of citizens of Lowell. C. Mercier noted area was barren and now all new development and was concerned with manner to cover any funding gaps with below market housing. Mr. Curtis commented on funding of these projects require mix use and below market housing. C. Milinazzo noted the reality check of twenty percent below market housing to fund project and the housing is work force housing. Steve Pangiatakos noted work force housing is people this body represents with incomes that are disposable. Manager Murphy noted working relationship is strong with Winn.

C. Rourke requested that Item #9.3 be taken out of order. Approved by general consent with no objection.

5.2. *2016 / 603* **- Communication-Accept Resignation of Angela Vincent from Lowell Sustainability Council**

In Council, **Motion** "To accept and place on file" by C. Rourke, seconded by C. Leary. So voted.

5.3. *2016 / 598* **- Communication - City Mgr. request Out of State Travel (1) DPD.**

In Council, read and adopted. C. Samaras did not participate in discussion or vote on the matter.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x				x	
Leary, James	x					x
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William			x			

VOTES FROM THE CITY MANAGER

6. - VOTES FROM THE CITY MANAGER

6.1. *2016 / 602* **- Vote-Approving the exemption of James Cassella from the provisions of MGL Ch. 268A, s.20.**

In Council, read twice, waived full reading and adopted.

Motion by C. Leahy, seconded by C. Elliott to bundle Items #6.2; #6.3; and #6.4 waive full reading and adopt. So voted.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x				x	
Leahy, John J.	x					x
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

6.2. *2016 / 604* **- Vote-Apply/Accept/Expend $22,000 Office of Elder Services of Merrimack Valley**

In Council, read twice, waived full reading and adopted.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					x
Leahy, John J.	x				x	
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

6.3. *2016 / 609* **- Vote-Auth City Manager Execute License Agreement with Mass Mills I, II, III and MM Picker, LLC for temporary access to 159, 169 and 169.2 Bridge Street**

In Council, read twice, waived full reading and adopted. C. Elliott question reason for vote. Manager Murphy noted the need for a structural analysis on site.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					x
Leahy, John J.	x				x	
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

6.4. ***2016 / 613*** **- Vote-Transfer $21,800 to fund building inspector phones and environmental study for Division of Development Services Dept of Planning and Development**

In Council, read twice, waived full reading and adopted.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					x
Leahy, John J.	x				x	
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

6.5. ***2016 / 614*** **- Vote-Authorize City Manager Execute Strategic Partnership Master Agreement between City, UML and UMass Building Authority as they desire to clarify and affirm aspects of their partnership and collaboration.**

In Council, read twice, waived full reading and adopted. C. Milinazzo supported the process though questioned need for same. C. Belanger commented on contract and that no further approval would be required. Manager Murphy noted the UMass-Lowell requested the agreement. C. Belanger questioned process for Tiger Grants. Manager Murphy noted City

borrows money and UMass-Lowell repays their share for bridges. C. Belanger questioned status of M2D2 status at Canal Place. Manager Murphy noted there was a four year lease remaining. C. Samaras noted a sound partnership with the University and any information regarding expanding would be shared with the City. C. Milinazzo noted that M2D2 could possibly be moving to Haverhill. C. Elliott noted the agreement benefits both parties. C. Leary noted that City succeeds when University succeeds and that success is a good marketing tool.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x				x	
Leary, James	x					x
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

6.6. ***2016 / 615*** **- Vote-Auth Mgr to satisfy outstanding liability (MGL c. 44 s. 64)**

In Council, read twice, waived full reading and adopted.

C. Leahy requested that Items #9.4; #9.5; and #9.6 be taken out of order. Allowed by general consent with no objections.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x				x	
Leary, James	x					x
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.						
Samaras, William	x					

ORDERS FROM THE CITY MANAGER

7. - ORDERS FROM THE CITY MANAGER

7.1. ***2016 / 605*** **- Order-60 day trial (various)**

In Council, read twice, waived full reading and adopted.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.						
Leary, James	x					x
Mercier, Rita M.	x				x	
Milinazzo, James L.	x					
Rourke, Daniel P.						
Samaras, William	x					

REPORTS (SUB / COMMITTEE, IF ANY)

8. - REPORTS (SUB / COMMITTEE, IF ANY)

8.1. ***2016 / 591*** **- Education Partnerships SC September 27, 2016.**

In City Council, C. Samaras reported on the subcommittee meeting noting the attendance and the discussion regarding the growth and position of Middlesex Community College in the community. **Motion** to accept the report as a report of progress by C. Leary, seconded by C. Milinazzo. So voted.

PETITIONS

9. - PETITIONS

9.1. ***2016 / 590*** **- Misc. - Hellenic American Academy (David Conway) request permission to install small banners on lamp posts along Broadway, Dummer and Worthen Streets to identify the Academy.**

In Council, read and **Motion** to refer to Law Department for report and recommendation by C. Mercier, seconded by C. Leary. So voted. C. Mercier requested quick response on the matter.

Manager Murphy noted there was much information needed to move forward. **Motion** by C. Mercier, seconded by C. Leary to approve subject to Manager review and approval. So voted.

9.2. *2016 / 594* **- Misc. - Adriana Tharpe (Drica Fashion) request permission for overhanging sign located at 96 Merrimack Street.**

In Council, read and **Motion** to refer to Law Department for report and recommendation by C. Mercier, seconded by C. Leary. So voted.

9.3. *2016 / 597* **- Misc. - IARR, LLC (Atty. Philip Nyman) request City Council amend Zoning Code by extending current GI zoning district to include parcel of land located between 6 and 2 Industrial Avenue.**

In Council, read and **Motion** to refer to Law Department to draft ordinance by C. Rourke, seconded by C. Milinazzo. So voted.

9.4. *2016 / 596* **- National Grid - Request installation of (1) SO pole located at corner of Gorham and Livingston Streets.**

In City Council, Given 1st reading, waived full reading, **Motion** to refer to Public Hearing on October 11, 2016 at 7 PM by C. Leahy, seconded by C. Leary. So voted.

9.5. *2016 / 610* **- National Grid - Request permission to relay/replace cast iron gas main with plastic gas main in sidewalks on Sixth Street.**

In City Council, Given 1st reading, waived full reading, **Motion** to refer to Public Hearing on October 11, 2016 at 7 PM by C. Leahy, seconded by C. Leary. So voted. C. Leahy questioned location at sidewalk. National Grip representative noted that there was a water main they needed to avoid.

9.6. *2016 / 611* **- National Grid - Request permission to relay/replace cast iron gas main with plastic gas main on Glenwood Street and install plastic gas main on East View Street.**

In City Council, Given 1st reading, waived full reading, **Motion** to refer to Public Hearing on October 11, 2016 at 7 PM by C. Elliott, seconded by C. Leary. So voted. C. Leahy did not participate on vote or discussion on this matter.

CITY COUNCIL – MOTIONS

10. - CITY COUNCIL - MOTIONS

10.1. *2016 / 592* **- C. Mercier - Req. City Mgr. provide a report regarding the structural integrity of the balcony at the Lowell Memorial Auditorium as well as a report regarding the access available into the building from the loading docks for equipment used by the performers.**

In Council, seconded by C. Milinazzo, read and referred to City Manager. So voted. C. Mercier requested update on the matter. Manager Murphy noted a structural analysis was done and the balcony was acceptable and that money would be going to widening entrances to allow larger array of acts to the venue.

10.2. *2016 / 599* **- C. Samaras - Req. City Mgr. have proper department repair sidewalks by St. George's Church at corner of Bower and Fletcher Streets in anticipation of the 100 year anniversary of the church.**

In Council, seconded by C. Mercier, read and referred to City Manager. So voted. C. Samaras noted several events will be planned and needed area to be updated.

10.3. *2016 / 600* **- C. Leary/C. Samaras - Req. City Mgr. work with the police department to monitor and to change the pattern of speeding and aggressive driving on Princeton Boulevard.**

In Council, no second needed, read and referred to City Manager. So voted. C. Leary noted area has become a racetrack and is in need of enforcement. C. Samaras noted there should be some analysis done on speeding in the City on main roads.

10.4. *2016 / 601* **- C. Belanger - Req. City Mgr. issue a report relative to the City's ability to naming rights of City owned parcels; for example LeLacheur Park, Cawley Stadium, etc.**

In Council, seconded by C. Elliott, read and referred to City Manager. So voted. C. Belanger noted idea has been discussed in the past but it should be further examined to allow naming rights while maintaining important community connections as it is a source of income for the City.

10.5. *2016 / 607* **- C. Belanger - Req. City Mgr. work with DPD on a new marketing strategy for**

the Hamilton Canal District now that the Judicial Center construction has begun.

In Council, seconded by C. Elliott, read and referred to City Manager. So voted. C. Belanger noted new Judicial Center should be marketed and new rules should be used as landscape is changing.

10.6. *2016 / 608* **- C. Belanger - Req. City Mgr. work with Traffic Engineer on reducing or eliminating on street parking at night on lower Bridge Street to improve inbound morning traffic flow.**

In Council, seconded by C. Elliott, read and referred to City Manager. So voted. C. Belanger noted the need to ease the traffic flow in the area in the morning.

10.7. *2016 / 588* **- M. Kennedy/C. Leahy/C. Leary/C. Samaras - Req. City Mgr. take proper steps to install a traffic crossing light along Andover Street in the vicinity of Douglas and Arbor Roads.**

In Council, no second needed, read and referred to City Manager. So voted. C. Samaras noted it was a busy street with many cars travelling on it. C. Leahy commented on the other end of Andover Street regarding work that may be done by State. M. Kennedy noted that the area warrants a look at a possible light. C. Milinazzo noted that there are a variety of lights to choose from.

10.8. *2016 / 589* **- M. Kennedy - Req. City Auditor provide City Council with an analysis of the financial impact the Charter Schools have on the City.**

In Council, seconded by C. Milinazzo, read and referred to City Auditor. So voted. M. Kennedy noted that issues may arise if new schools are brought on line.

ANNOUNCEMENTS

11. - ANNOUNCEMENTS

In City Council, C. Mercier commented on recent Kinetic Sculpture Race.

ADJOURNMENT

12. - Time for meeting to stand adjourned.

Motion to Adjourn by C. Milinazzo, seconded by C. Samaras. So voted.

Meeting adjourned at 9:25 PM.

Michael Q. Geary, City Clerk

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Michael Q. Geary
City Clerk

Lowell City Council
Regular Meeting Minutes

Date: Nov 22, 2016
Time: 6:30 PM
Location: City Council Chamber
375 Merrimack Street, 2nd Floor, Lowell, MA

CITY CLERK

1. - CITY CLERK

1.1. *2016 / 732* **- Minutes of City Council Meeting November 15th, for acceptance.**

Roll Call showed 9 present.

Mayor Kennedy presiding.

C. Rourke requested moment of silence in darkened chamber for Mary Donovan.

In City Council, minutes read, **Motion** "To accept and place on file" by C. Mercier, seconded by C. Milinazzo. So voted.

GENERAL PUBLIC HEARINGS

2. - GENERAL PUBLIC HEARINGS

2.1. *2016 / 708* **- Ordinance-Create one (1) new grant funded position entitled Substance Abuse Coordinator and establish salary in the Health and Human Services Department**

In City Council, Given 2nd Reading and adopted. Public hearing held. No Remonstrants. Speaking in favor was Kerran Vigroux (Health and Human Services) who outlined the ordinance noting the need and purpose of the position. C. Belanger noted the importance of the position to deal with current drug epidemic and the money will attract qualified applicants. C. Belanger noted the person filling the position should also be a member of the Task Force as well.

Motion by C. Rourke seconded by C. Milinazzo to bundle Utility Public Hearings (Items 3.1; 3.2; 3.3 and 3.4) as one. So voted.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x				x	
Elliott, Rodney M.	x					
Leahy, John J.	x					
Leary, James	x					
Mercier, Rita M.	x					x
Milinazzo, James L.	x					
Rourke, Daniel P.	x					
Samaras, William	x					

UTILITY PUBLIC HEARINGS

3. - UTILITY PUBLIC HEARINGS

3.1. ***2016 / 596*** **- National Grid - Request installation of (1) SO pole located at corner of Gorham and Livingston Streets.**

In City Council, Given 2nd Reading and **Motion** to refer to Wire Inspector for report and recommendation by C. Leary, seconded by C. Leahy. So voted. Public hearing held. Speaking in favor was Ken Dobe (National Grid). No Remonstrants. C. Leahy noted the issue concerning abutter had been resolved.

3.2. ***2016 / 702*** **- National Grid/Verizon NE - Req. permission to relocate pole 4 at 35 Carter Street.**

In City Council, Given 2nd Reading and **Motion** to refer to Wire Inspector for report and recommendation by C. Leary, seconded by C. Leahy. So voted. Public hearing held. Speaking in favor was Ken Dobe (National Grid). No Remonstrants.

3.3. ***2016 / 703*** **- National Grid/Verizon NE - Req. permission to relocate pole 23 at corner of Westford and School Streets.**

In City Council, Given 2nd Reading and **Motion** to refer to Wire Inspector for report and recommendation by C. Leary, seconded by C. Leahy. So voted. Public hearing held. Speaking in favor was Ken Dobe (National Grid). No Remonstrants.

3.4. ***2016 / 704*** **- National Grid/Verizon NE - Request permission to install (1) joint owned pole at corner of Willie and Franklin Streets.**

In City Council, Given 2nd Reading and **Motion** to refer to Wire Inspector for report and recommendation by C. Leary, seconded by C. Leahy. So voted. Public hearing held. Speaking in favor was Ken Dobe (National Grid). No Remonstrants.

COMMUNICATIONS FROM THE CITY MANAGER

4. - COMMUNICATIONS FROM THE CITY MANAGER

4.1. ***2016 / 743*** **- Motion Responses:**
(A) Swamp Locks Lighting
(B) Increase Illegal Dumping Fines
(C) Western Avenue
Informational:
(D) LowellSTAT Public Report for Economic Development
(E) 2016 MassWorks Grant
Petition Response:
(F) Hampshire Street

In Council, **Motion** "To accept and place on file" by C. Milinazzo, seconded by C. Samaras. So voted.

C. Rourke commented on Motion Response B regarding illegal dumping fines requesting overview procedure. Manager Murphy commented on the new fines and how they will help prevent future dumping. C. Rourke noted the use of portable camera to monitor sites.

C. Leahy commented on Motion Response C regarding Western Avenue noting they should still look for ways to connect this area with the downtown. Manager Murphy noted the reluctance on the part of the railroad company to install crossing in that area. C. Samaras noted the need to connect this parcel and that the administration should still continue to seek out funding to install a crossing.

C. Milinazzo commented on Informational Response D regarding LowellSTAT report on economic development requesting it be put on website and further commented on the rate of unemployment contained in the report. Rodney Conley (STAT) commented on the unemployment rate. C. Belanger commented on Class C office space downtown and noted that the second and third floors in buildings are not being used and there should be more attention to filling those spaces. Manager Murphy commented on the outreach being used to fill the vacancies.

Registered speaker, Armand Hebert, commented on Informational Response E MassWorks Grant.

C. Mercier commented on Petition Response regarding Hampshire Street noting information should be made available to abutters.

4.2. ***2016 / 740*** **- Communication - City Mgr. request Out of State Travel (1) LFD.**

In Council, read and adopted. C. Milinazzo questioned if vendor was paying for travel should City accept that as a gift. Manager Murphy noted that travel was part of the bid. C. Mercier commented that cost of truck should include the inspection of same.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x					
Leary, James	x				x	
Mercier, Rita M.	x					
Milinazzo, James L.	x					x
Rourke, Daniel P.	x					
Samaras, William	x					

VOTES FROM THE CITY MANAGER

5. - VOTES FROM THE CITY MANAGER

5.1. ***2016 / 738*** **- Vote-Declare Surplus 682 Lawrence St (min. bid $50,000)**

In Council, read twice, waived full reading and adopted. C. Belanger questioned the use. C. Leahy questioned the amount.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x					
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					x
Rourke, Daniel P.	x				x	
Samaras, William	x					

5.2. *2016 / 739* **- Vote-Authorize City Manager Execute Lease of Cemetery Building Space at Westlawn Cemetery I to Edward Weza d/b/a Weza Landscaping & Construction**

In Council, read twice, waived full reading and adopted. C. Leahy noted it would be helpful with maintaining the cemeteries. Manager Murphy noted same entity was awarded the contract.

VOTING

Committee Member	YES	NO	ABSTAIN	RECUSE	MOTION	SECONDED
Kennedy, Jr, Edward J.	x					
Belanger, Corey	x					
Elliott, Rodney M.	x					
Leahy, John J.	x					x
Leary, James	x					
Mercier, Rita M.	x					
Milinazzo, James L.	x					
Rourke, Daniel P.	x				x	
Samaras, William	x					

REPORTS (SUB / COMMITTEE, IF ANY)

6. - REPORTS (SUB / COMMITTEE, IF ANY)

6.1. *2016 / 733* **- Finance SC November 22, 2016.**

In Council, C. Elliott provided report regarding the new high school building project noting updating estimates and having early discussions of how the project should develop. C. Leary noted it was a good meeting and the body needs to be proactive with the time frames as well as seeking other options. **Motion** by C. Elliott, seconded by C. Leary to accept the report as a report of progress. So voted.

C. Milinazzo requested suspension of the rules to discuss zoning matter. No objection. So voted. **Motion** by C. Milinazzo, seconded by C. Mercier forward section 5 of proposed zoning changes which improve permit efficiency to law department to draft as ordinance. So voted.

6.2. *2016 / 679* **- Wire Insp. - National Grid - Request permission to install (1) SO Pole on east side of intersection of Lawrence and Andrews Streets near 706 Lawrence St.**

In Council, **Motion** to accept and adopt accompanying order by C. Samaras, seconded by C. Rourke. So voted.

PETITIONS

7. - PETITIONS

7.1. ***2016 / 734*** **- Claim - (1) property.**

In Council, read and **Motion** to refer to Law Department for report and recommendation by C. Rourke, seconded by C. Samaras. So voted.

7.2. ***2016 / 742*** **- Misc. - Generation Citizen Program (LHS students) request permission to speak to City Council regarding lighting in the downtown area.**

In Council, read and **Motion** to refer to Youth Service SC for report and recommendation by C. Belanger, seconded by C. Elliott. So voted. The following members of the Generation Citizens Program addressed the Council; Pichanny Som, Ian Kiuna and Nicole Chennett. C. Belanger was impressed with the energy of the group. C. Elliott commented on the work being done by group. C. Leahy noted the group made excellent points. C. Samaras commented that these are the students who deserve a quality place to learn.

CITY COUNCIL - MOTIONS

8. - CITY COUNCIL - MOTIONS

8.1. ***2016 / 735*** **- C. Mercier - Req. City Mgr. find ways and means to illuminate the cross walk on Broadway Street in front of Senior Center with possibly reflectors or a solar light for vehicular and pedestrian safety.**

In Council, seconded by C. Leahy, read and referred to City Manager. So voted. C. Mercier noted it was a safety issue that needed to be addressed.

8.2. ***2016 / 736*** **- C. Rourke - Req. City Mgr. establish an E-Commerce position at the LPD to provide a safe location for legal E-Commerce transactions.**

In Council, seconded by C. Leary, read and referred to City Manager. So voted. C. Rourke noted increase in online trading and that it should be monitored for fraud.

8.3. ***2016 / 741*** **- C. Samaras - Req. City Mgr. invite members of the Lowell Parks & Conservation Trust to update City Council regarding the Concord River Greenway and its connections to other trails.**

In Council, seconded by C. Rourke, read and referred to City Manager. So voted. C. Samaras noted there should be a review of existing and completed trails and Economic Development SC

should be a forum to research same. C. Leary noted the need to see what can be taken and the funds that would be needed for such a venture.

8.4. *2016 / 744* **- C. Leary - Req. City Mgr. invite Lowell Telecommunication Corporation's (LTC) new Director; Wendy Blom, to present before the City Council regarding LTC's current objectives and new initiatives for 2017.**

In Council, seconded by C. Leahy, read and referred to City Manager. So voted. C. Leary noted the need to discuss direction and goals of the LTC as the City is the main source of funding for that entity. C. Elliott recognized that local programming is critical for the area.

8.5. *2016 / 745* **- C. Leahy - Req. City Mgr. have DPD provide a report regarding Franklin Park development with Habitat for Humanity.**

In Council, seconded by C. Leary, read and referred to City Manager. So voted. C. Leahy noted it would be area around Rock Street. C. Rourke requested update in Chelmsford Street area.

8.6. *2016 / 746* **- C. Leahy - Req. City Mgr. have Parks Dept. repair fence on Moody Street near St. Josephs.**

In Council, seconded by C. Leary, read and referred to City Manager. So voted. C. Leahy noted it was a neighborhood concern.

8.7. *2016 / 747* **- C. Leahy/C. Rourke - Req. City Mgr. explore possibility of reducing speed limits throughout the City, especially in densely populated areas, in accordance with the Innovative Cities Grant.**

In Council, no second needed, read and referred to City Manager. So voted. C. Leahy noted it may be needed to satisfy certain grants given to City.

C. Elliott requested suspension of the rules to discuss recent crime in City. No objection. So voted. C. Elliott commented on crime at Westminster complex and outlined the various problems in that area. C. Belanger noted it was ongoing problem and the police are called there often. Manager Murphy noted there is a meeting scheduled with management company of the complex. C. Rourke note a small police precinct at site may resolve some issues. C. Leahy commented that there were several code violations at the site. C. Milinazzo noted some cities have a police officer living on the premises. **Motion** by C. Elliott, seconded by C. Leary to refer to City Manager for report. So voted.

ANNOUNCEMENTS

9. - ANNOUNCEMENTS

In Council, C. Mercier mentioned City of Lights Parade. Manager Murphy noted City Hall hours for holiday.

ADJOURNMENT

10. - Time for meeting to stand adjourned.

Motion to Adjourn by C. Rourke, seconded by C. Samaras. So voted.

Meeting adjourned at 7:42 PM.

Michael Q. Geary, City Clerk

Lowell City Council
Regular Meeting Minutes

Date: **January 10, 2017**
Time: **6:30 PM**
Location: **City Council Chamber, 375 Merrimack Street, 2nd Floor, Lowell, MA**

1/10/2017 - Minutes

1. ROLL CALL

   Roll Call showed 9 present.

   Mayor Kennedy presiding.

2. CITY CLERK

2.1. Minutes Of City Council Meeting January 3rd; Technology & Utilities SC, For Acceptance.
In City Council, minutes read, **Motion** to accept and place on file by C. Rourke, seconded by C. Samaras. So voted.

3. UNFINISHED BUSINESS

3.1. C. Elliott - Req. City Mgr. Contact State Regarding Installation Of "Roller Barrier System" For The Intersection Of Gorham Street And The Lowell Connector.
In City Council, seconded by C. Belanger, referred to City Manager. So voted. C. Elliott noted it necessary to explore further safety precautions at the end of the Lowell Connector.

3.2. C. Elliott/C. Leahy - Req. City Council Vote To Implement Legal Measures Against National Grid For Delays Associated With Bridge Projects In The City.
In City Council, no second needed, referred to City Manager. So voted. C. Elliott noted frustration with National Grid regarding causing of delays on projects in the City. C. Leahy noted delays cause problems for the City and the residents. Request to refer to City Manager without objection.

4. COMMUNICATIONS FROM CITY MANAGER

4.1. Motion Responses

In City Council, read, **Motion** to accept and place on file by C. Rourke, seconded by C. Samaras. So voted.

C. Leary commented on motion response A regarding Crowley Park noting the timely response to repairing stone wall.

C. Elliott commented on motion response B regarding residential tax exemption noting the expense of the program and that it should be done when City can afford same. C. Mercier noted that the program was not in place at this time.

5. VOTES FROM THE CITY MANAGER

5.1. Votes

(A) Vote - License Agreement 16 Merrimack Street. In City Council, waived full reading without objection, read twice, **Motion** to adopt by C. Mercier, seconded by C. Rourke. Adopted per Roll Call Vote, 9 yeas. So voted.

(B) Vote - Apply/Accept/Expend $152,000 grant Council of Aging. In City Council, waived full reading without objection, read twice, **Motion** to adopt by C. Elliott, seconded by C. Belanger. Adopted per Roll Call Vote, 9 yeas. So voted.

(C) Vote - License Agreement 147 E. Merrrimack Street. In City Council, waived full reading without objection, read twice, **Motion** to adopt by C. Rourke, seconded by C. Milinazzo. Adopted per Roll Call Vote, 9 yeas. So voted.

6. REPORTS (SUB/COMMITTEE, IF ANY)

6.1. Economic Development SC January 10, 2017.
In City Council, C. Samaras presented the report outlining the attendance the discussion of the progress of construciton in the Hamilton Canal District noting the amount of public money involved and the time frames for completion. C. Samaras noted further discussion of aggressive marketing and completing infrastucture. C. Leahy commented on Mill #5 noting the effective use of the building and how it enhances the area. C. Mercier noted the the subcommittee outlined one of the biggest projects taken on by the City. Manager Murphy recognized the DPD effort on this

taken on by the City. Manager Murphy recognized the DPW effort on this project. **Motion** by C. Samaras, seconded by C. Rourke to accept the report as a report of progress. So voted.

7. CITY COUNCIL - MOTIONS

7.1. C. Milinazzo - Req. City Mgr. Have Traffic Engineer Review And Comment On The New Striping Along The Hunts Fall Bridge.
In City Council, seconded by C. Rourke, referred to City Manager. So voted. C. Milinazzo noted problem with marked lanes on the bridge. C. Leahy noted that neighborhoods are concerned over markings on the road.

7.2. C. Belanger - Req. City Mgr. Update City Council Regarding UTEC Mattress Recycling Facility Relocating To Lowell.
In City Council, seconded by C. Leary, referred to City Manager. So voted. C. Belanger commented on UTEC and its programs including the mattress recycling efforts. C. Belanger noted the group was in need for a new faciltiy and that they should be assisted to get it into the City.

7.3. C. Belanger - Req. City Mgr. Provide City Council With Outline Establishing A City-Wide Youth Council.
In City Council, seconded by C. Leary, referred to City Manager. So voted. C. Belanger noted the Youth Council should have a more permanent presence in the City.

7.4. C. Belanger/C. Leahy - Req. City Mgr. Have SKANSKA Provide Report Outlining The Rejection Of The South Common As A Viable Location For New High School.
In City Council, no second needed. Defeated on Roll Call Vote, 4 yeas, 5 nays (C. Elliott, C. Mercier, C. Milinazzo, C. Rourke, C. Samaras). So voted. C. Belanger commented on locations noted for new high school and further commented on the benefits of the South Common. Registered speaker, Steve Gendron addressed the Council and provided chart to the body for review. C. Leahy noted that the vote will be important for the City and more information is best. C. Mercier noted neighborhoods are concerned with big projects in their area but pros and cons must be raised. C. Milinazzo requested Roll Call Vote on matter and noted he could not support motion or South Common location indicating that it was infringing on MSBA authority. C. Rourke noted South Common location would cause significant delays on project. C. Samaras could not support motion or location as it is protected green space and State owned. C. Leary noted the motion simply asks for reason of denial so it should be supported. C. Leary further noted that alot of money is being spent on South Common in near future. Michael McGovern (Asst.

City Manager) outlined those future costs. C. Belanger noted it is merely a request for information as the upcomng vote is important and further stated that the State Delegation could speed process along. C. Elliott noted ongoing discussion and answers have already been provided and that the focus should be on getting costs established for the entire project. Manager Murphy noted that the educational plan must be approved by School Committee to move forward and that price tag is forthcoming on project. M. Kennedy supports motion noting a better explanation could be provided. M. Kennedy suggested that subcommittee should visit high school to see the need for new faciltiy. C. Rourke noted answer to motion has been provided. C. Leary noted there is no time involved in answering motion.

7.5. C. Leahy - Req. City Council Refer Snow Emergency Ordinance To Neighborhoods SC For Review.
In City Council, seconded by C. Rourke, referred to City Manager. So voted. C. Leahy noted subcommittee should discuss issues and updates may be needed for ordinance. C. Elliott noted the need to notify people with timely warning. C. Mercier noted that some people have difficulty adhering to ordinance. C. Milinazzo noted need to clear sidewalks during snow storm. Manager Murphy noted methods used to inform public.

8. ANNOUNCEMENTS
C. Milinazzo noted zoning changes will be discussed by neighborhood councils this Thursday the 12th.

9. ADJOURNMENT

Motion to adjourn by C. Rourk, seconded by C. Milinazzo. So voted.

Meeting adjourned at 7:55 PM.

_____

Michael Geary,

Lowell City Council
Regular Meeting Minutes

Date: **February 7, 2017**
Time: **6:30 PM**
Location: **City Council Chamber, 375 Merrimack Street, 2nd Floor, Lowell, MA**

2/7/2017 - Minutes

1. **ROLL CALL**

Roll Call recorded 9 present.

M. Kennedy presiding.

C. Leahy requested a moment of silence in darkened chamber for Mary Noon.

M. Kennedy requested, without objection, that Council discuss Manager's responses first.

2. **CITY CLERK**

2.1. Minutes Of Zoning SC January 31st; City Council January 31st, For Acceptance.
In City Council, minutes read, **Motion** to accept and place on file by C. Rourke, seconded by C. Milinazzo. So voted.

3. **UTILITY PUBLIC HEARING**

3.1. National Grid - Req. Permission To Install Underground Concrete PVC Conduit At 11 - 15 Carter Street.
In City Council, Given 2nd reading, hearing held, no remonstrants. Speaking in favor of petition was Ken Dobe (National Grid) and Lisa Demeo (City Engineer). **Motion** to refer to Wire Inspector for report and recommendation by C. Rourke, seconded by C. Milinazzo. So voted.

3.2. National Grid/Verizon NE - Req. Permission To Install New Riser Pole At 15 Carter Street.
In City Council, Given 2nd reading, hearing held, no remonstrants. Speaking in favor of petition was Ken Dobe (National Grid) and Lisa Demeo (City Engineer). **Motion** to refer to Wire Inspector for report and recommendation by C. Rourke, seconded by C. Milinazzo. So voted.

4. **COMMUNICATIONS FROM CITY MANAGER**

4.1. INFORMATIONAL - Lowell High School Site Selection
In City Council, Manager Murphy commented on process noting that the School Building

Committee forwarded four options for the Council who can accept, reject or add others. Manager Murphy noted one option must be a rehabilitation of the existing school. Robert Bell (Perkins Eastman) commented on time line established by Massachusetts School Building Authority (MSBA) for the project. Mr. Bell noted that there were 10 options that were looked at to get down to the 4 and that he would review each of the 10 tonight. Mr. Bell outlined all design options including the pros and cons as well as the costs of each option. C. Milinazzo commented on the options presented to the body. C. Elliott questioned next step in the process. Manager Murphy outlined the process. C. Elliott noted the project was ahead of schedule and made **Motion** to refer the matter to a Committee As A Whole for further review, seconded by C. Mercier. So voted. C. Mercier commented on taking of property. C. Samaras questioned other sites. Manager Murphy noted it was early in the process and more data needs to be analyzed. C. Leary noted the Committee as a Whole must act quickly on options before them. C. Rourke commented on educational objectives for the long, short and unknown terms. C. Leahy commented on Cawley sited and questioned Tewksbury/Lowell line. C. Leahy questioned downtown site and eminent domain proceedings. Manager Murphy spoke to eminent domain. C. Elliott noted need for more data especially traffic studies. Manager Murphy noted that the MSBA requires all of that data. Mary Ann Williams (SKANSKA) commented on modular classrooms has not being reimburseable. M. Kennedy noted costs are higher than anticipated and efforts should be made to cut them. C. Leary noted that body must be aware of non-reimbursable costs and that the longer project goes the more expensive it will be. C. Belanger was in agreement with four options and noted his concern with non-reimbursable costs and eminent domain. C. Milinazzo noted the criteria should be what is in the best interests of the students and that all costs must be understood. C. Samaras commented on square foot costs. C. Rourke noted all plans for existing school includes modular classrooms. Ms. Willams discussed modular classrooms. C. Mercier questioned costs of these classrooms. C. Leahy questioned crossing of Father Morrisette Drive at existing site.

5. **VOTES FROM THE CITY MANAGER**

5.1. VOTE- Auth.Mgr.Ex. License Agreement-122 Merrimack St. (Overhanging Sign)

In City Council, Read twice, full reading waived without objection. Adopted per Roll Call Vote, 9 yeas. So voted.

C. Leary requested, without objection to take item #7.4 out of order. So voted.

6. **REPORTS (SUB/COMMITTEE, IF ANY)**
None.

7. **PETITIONS**

7.1. Claim - (1) Personal Injury; (1) Property.
In City Council, **Motion** to refer to Law Department for report and recommendation by C. Rourke, seconded by C. Milinazzo. So voted.

7.2. Misc. - Karen McShea (VP Real Estate Development, Lupoli Companies) Request City Council Approval For Installation Of Overhanging Sign At 17 Shattuck Street For Thorndike Exchange Experience Center.
In City Council, **Motion** to refer to Law Department for report and recommendation by C. Rourke, seconded by C. Samaras. So voted.

7.3. Misc. - Vladimir Saldana Request Permission To Address Council On Behalf Of Petition To Reverse Personnel Decision On Patrolman Pender By The City Manager.
In City Council, matter discussed on Council floor. The following registered speakers addressed the body: Vladimar Saldana; Lisa Arnold; Harrison Ingraham; Danny Bravo; Aurora Enkson.

7.4. Misc. - Sue Kim Request Permission To Address The City Council Regarding Petition To Consider Adopting A Trust Ordinance In The City.
In City Council, **Motion** to refer to City Manager for report and recommendation by C. Elliott, seconded by C. Belanger. So voted. The following speakers addressed the Council: Sue Kim; Carlos Gavriel; Judith Duran; Camaran Kay (oppose); Joseph Boyle; George Koumantzelis (oppose). C. Milinazzo supported the motion and noted that the practice of the LPD is in compliance with the Trust Ordinance so he commented he would not support the ordinance as it would lead to division. C. Mercier noted non support of the Trust Ordinance. C. Samaras noted support of motion by would not support underlying issue. C. Leary requested turn around time of the report and any change should be in best interest of City. M. Kennedy noted the Council usually does not take position on a national issue.

7.5. Misc. - Maria Matos, On Behalf Of Lorda E. Vallanilla, Request (1) Handicap Parking Sign At 1374 Gorham Street.
In City Council, **Motion** to refer to Traffic Engineer for report and recommendation by C. Mercier, seconded by C. Rourke. So voted.

8. **CITY COUNCIL - MOTIONS**

8.1. C. Mercier - Req. City Mgr. Convene A Public Forum, When All The Facts Are In Concerning Lowell High School, So That The Public Can Express Their Thoughts And Concerns Before A Vote Is Taken.
In City Council, seconded by C. Leary, referred to City Manager. So voted. C. Mercier noted it was important to hear all thoughts and concerns from citizens and requested special meeting be set up as a committee of the whole.

8.2. C. Leahy/C. Milinazzo - Req. City Mgr. Have Traffic Engineer Explore Feasibility Of Placing A 4-Way Stop Sign At The Intersection Of Trull Lane And Trull Lane East And West.
In City Council, no second needed, referred to Traffic Engineer. So voted. C. Milinazzo noted the neighbors concerns.

8.3. C. Elliott - Req. City Mgr. / City Auditor Provide A Report On The Status Of “Free Cash” For FY 2017.
In City Council, seconded by C. Belanger, referred to City Manager/City Auditor. So voted. C. Elliott noted it would be a positive report showing prudent spending and savings. Manager Murphy noted the report will include uses of the money.

8.4. C. Elliott - Req. City Council Discuss Process For Permit Approvals For Road Races, Festivals, Block Parties, Etc., When Using City Streets And/Or Facilities.
In City Council, seconded by C. Belanger, referred to City Manager. So voted. C. Elliott noted information to citizens are important as there are a lot of events.

9. **ANNOUNCEMENTS**
None.

10. **ADJOURNMENT**

Motion to adjourn by C. Rourke, seconded by C. Samaras. So voted.

Meeting adjourned at 8:35 PM.

Michael Q. Geary, City Clerk

Massachusetts School Building Authority

City of Lowell
Lowell High School Kick-Off Meeting
September 15, 2016

Objective:

- Meeting to introduce the project team, discuss the project goals and schedule.

Meeting Agenda:

- Introductions and Communications
  - Please include full district name & school name in email subject line

- Project Data:
  - The existing site is 5.58 acres.
  - Existing 628,558 sf for grades 9-12. The original building opened in 1892, with an addition in 1922 and renovations in 1971 and 1997. The second building opened in 1980, and was renovated in 1997. The Freshman Academy opened in 1900, with an addition in 1938, and a renovation in 1986. There is also a steam plant whose original construction date is unknown but was renovated in 1996.
  - Includes 8 Non-Chapter voc "Pathway" programs and 1 CH74 Business Marketing
  - The 2015-2016 enrollment is 3,134.
    - Agreed upon study enrollment is 3,520 students for a 9-12 high school.
    - The RFS proposed a $114m – $152m construction budget.
  - MSBA standard for 3,520 student HS = 365,707 nsf / 548,561 gsf (@1.5) exclusive of CH74 programs
  - The RFS states that Lowell High School is listed on the National and State Registers of Historic Places through its inclusion within both the Lowell National Historical Park & Preservation District and the City Hall Historic District. The 1981 section of Lowell High School is not within either district and is not historically significant.

- Project Schedule: (per OPM schedule dated September 8, 2016 and revised MSBA board schedule)
  - Module 3 - Preferred Schematic Board Meeting *(anticipated May 10, 2017)*
    - Feasibility Study Submittals
      - Preliminary Design Program *(due January 20, 2017, 8-10 wks prior to PSR)*
      - Preferred Schematic Report *(due March 23, 2017, 8 weeks prior PSR BM)*
    - Facilities Assessment Subcommittee Presentation *(March 29, 2017 / April 12, 2017 TBD - keep both dates open)*
  - Module 4 - Project Scope & Budget Board Meeting *(anticipated December 13, 2017)*
    - Schematic Design Submittal *(due November 9, 2017, 8 weeks prior BM)*

        - Schematic Design Submittal Notification Appendix 4C *(October 26, 2017 due 2 weeks prior SD submittal)*
- MSBA Policy:
    - MSBA cost caps:
        - $312/gsf construction cost
        - 8% site costs
        - 20% soft costs
        - 10% arch / 3.5% OPM basic service fees
    - MA 963 CMR 2.10: School Building Grant Program
        - 2.16(5) lists ineligible costs
        - 2.18(2) lists additional incentive points
    - Previous MSBA funding –
        - CA19943367 – A repair project that was removed from the reimbursement stream in FY2009 for failure to provide complete documentation for final audit – appears that it might have been included in C19963459. Total payments made by MSBA were $48,375 (last payment in FY2009). 1994 repair is over 20 years old; no recovery anticipated.
        - CA19963459 – Renovation of existing building and addition. Construction began 1996 and was completed in 1998. Total grant, net of refunding savings, was $54,115,680 according to the audit. MSBA paid $28,407,855 of the grant, with final payment in FY2016. 1998 repair is 18 years old as of 2016. Presumably will be over 20 years old by occupancy; no recovery anticipated.
        - 201101600505G –Roof green repair. Total grant $733,509. Completed October 1, 2012 (Coburn Hall) and is 4 years old as of 2016. If the roof is removed, recovery will be pro-rated based on anticipated 20 year life expectancy and occupancy date.
    - Base reimbursement changes every January, fixed at SD. *2015 base rate is 78.95 %, 2017 base rate is TBD*

- Updates:
    - Module 3 & 4 – on the MSBA website
    - DESE Chapter 74 program submission. Note: The only DESE Chapter 74 approved vocational technical educational program at Lowell High School is Marketing. District to confirm this isn't changing.
    - Building code & energy code – currently 8th ed / 2012 IECC (2015 IECC takes effect Jan 2, 2017), proposed 9th ed, 2015 IECC
    - Green policy – update in March 2015; LEED-S or NE-CHPS, currently under consideration for update

- Next Steps: Prepare/Submit a Preliminary Design Program

- OPM Reports

Massachusetts School Building Authority

- Status of Contracts, Agreements, and Enrollment
- Questions, Comments, Concerns

City of Lowell - Law Department

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February 15, 2017

Kevin J. Murphy, City Manager
Office of the City Manager
City of Lowell
Lowell, MA 01852

Re: Title Search for Current Lowell High School – Summary and Assessment

Dear City Manager Murphy:

Enclosed are the results of a title search conducted by the Law Department for all properties that constitute the Lowell High School ("LHS"). LHS consists of three buildings, located at Kirk Street, Father Morrissette Boulevard, and French Street/John Street (the "Freshman Academy"). Corresponding deeds are enclosed with this memorandum along with the research methodology employed.

A. Kirk Street

The Kirk Street building of LHS is derived from a series of parcels. The earliest conveyance to the City, for "Coburn Hall," dates from 1893 and has a deed restriction requiring the property be used for the "public education for youth." **See Exhibit A1**.

Historical records show that by 1922, the City expanded Coburn Hall into the LHS structure present today. The 1906 Lowell Atlas shows several lots in the area upon which this expansion was constructed on in 1922. These lots were bordered by Anne Street, French Street, and Kirk Street. **See Exhibit A2**. Based on these records, it is reasonable to infer that the land upon which the expansion was constructed had to be acquired by the City between 1906 and 1922. A search by the Engineering Department produced property cards for any property acquired by the City along Kirk and Anne Streets in that time frame. Based on this research, the following documents were produced:

- Book 545, Page 185 – Taking for LHS 1922 expansion: "...the City of Lowell takes the following described land for the purpose of erecting thereon a building to be used as a public school..." **See Exhibit A3**.
- City Engineer Land Cards and Related Deeds – Kirk Street Takings. **See Exhibit A4**.
- City Engineer Land Cards and Related Deeds – Anne Street Takings. **See Exhibit A5.**

B. Morrissette Blvd.

The Morrissette Blvd. property was acquired by the City through a deed between the City Development Authority and the City of Lowell, dated June 29, 1978, Book 2313, Page 190. **See Exhibit B1**. This in turn had been derived from property taken by the City Development Authority through eminent domain in two orders of taking: Order of Taking No. 10, dated September 26, 1966, Bk. 1770, Pg. 158 (**See Exhibit B2**); and Order of Taking No. 12, dated May 31, 1968, Bk. 1845, Pg. 189 (**See Exhibit B3**).

The June 29, 1978 deed was subject to a right of way granted to the Boston and Maine Corporation dated May 14, 1968, Bk. 1895, Pg. 607 (**See Exhibit B4**) and a 33 foot utility easement granted to the City of Lowell, dated August 29, 1969, Bk. 1898, Pg. 84. **See Exhibit B5**.

C. Freshman Academy – John Street/French Street

The LHS Freshman Academy consists of one building bordered by French, John, and Paige Streets. A search on the City's Geographic Information Systems (GIS) and Maps lists two parcels in this location: 55 French Street and 68 John Street. Both parcels are listed as owned by the City of Lowell:

The 68 John Street parcel was purchased by the City of Lowell from Boott Cotton Mills through quitclaim deed on December 17, 1895, Bk. 271, Pg. 578. **See Exhibit C1**. According to the 1896 Lowell Atlas, the property was used as a Manual Training School. In the 1906, 1924, and 1936 Lowell Atlases, the property was used as the LHS Annex. **See Exhibit C2**. The annex was built in 1902. **See Exhibit C3**. This conveyance was subject to an easement that a 19 foot wide passageway/backstreet be maintained between the two buildings.

The 55 French Street parcel was purchased by the City of Lowell from Merrimack River Savings Bank on December 12, 1938, Bk. 924, Pg. 374 (referenced site plan included: Plan Bk 17, Pg. 19 **See Exhibit C4**. On this property was constructed the Lowell Trade School in 1938-1940 **See Exhibit C3**.

In purchasing both parcels, the easement between the two buildings was extinguished. At least by 1977, the passage between the two buildings was no longer contiguous, as stairs had been constructed at each end of the 19 foot wide passageway. **See Exhibit C3**. The passage no longer exists with the construction of a single building on the site.

I hope assessment is of help and assistance to you. Please contact the Law Department should you have any additional questions.

Sincerely,

Elliott J. Veloso
Assistant City Solicitor

A1

Props of Locks & Canals to Inhabt of City of Lowell

Southern Registry Book 384 Page 400

Know all men by these presents that the Proprietors of the Locks and Canals on Merrimack River in consideration of the sum of four thousand nine hundred and nine 50/100 dollars to them paid by the Inhabitants of the City of Lowell, the receipt whereof they do hereby acknowledge have remised released and forever quit claimed and do for themselves their successors and assigns by these presents remise release and forever quit claim unto the said Inhabitants of the City of Lowell a certain piece of land situated in Lowell in the County of Middlesex and Commonwealth of Massachusetts between Anne Street and Kirk Street containing nineteen thousand six hundred and thirty eight square feet and thus bounded viz beginning at the northwesterly corner of a piece of land conveyed by said Proprietors to the Boott Cotton Mills by deed of Cowber the first one thousand eight hundred and thirty seven thence northerly on said Anne Street one hundred feet thence easterly at a right angle one hundred ninety six and thirty eighth hundredths feet to said Kirk Street thence southerly on said Kirk Street one hundred feet to land of said Boot cotton Mills thence westerly at a right angle on land of said Boot cotton Mills one hundred ninety six and thirty eighth hundredths feet to the point of beginning. But this conveyance is made on the express condition that no building of more than twelve feet in height shall ever be erected on the above granted premises of any other material than brick or stone with the roof covered with slate or some other equally incombustible material and also that no building shall ever be erected within eight feet of either said Anne Street or said Kirk Street and that the said eighth feet shall be forever kept open for side walks. And it is also an express condition in this conveyance that the whole lot shall be forever used for a school house with appropriate buildings for Instructors and for no

other than such purposes as are or may be connected with public education of youth. To Have and To Hold the above mentioned premises with all the privileges and appurtenances thereunto belonging to them the said Inhabitants of the City of Lowell forever so that neither the said Proprietors of the Locks and Canals their successors assigns or any other person or persons claiming from or under them or in the name right or stead of them shall or will by any way or means have claim or demand any right or title to the aforesaid premises or their appurtenances or to any part or parcel thereof forever. In Witness Whereof the said Proprietors of the Locks and Canals by John A Lowell their Treasurer have hereunto affixed their seal and the said John A Lowell Treasurer as aforesaid hath hereunto set his hand this seventh day of December in the year of our Lord one thousand eight hundred and thirty seven.

Signed Sealed & delivered in presence of
Fred G Williams
W Stanwood
Suffolk ss Dec 7 1837
Then the above named John A Lowell Treasurer personally appeared and acknowledged the above instrument to be the free act and deed of the said Proprietors of the Locks & Canals on Merrimack River before me J W Paige Justice of the Peace

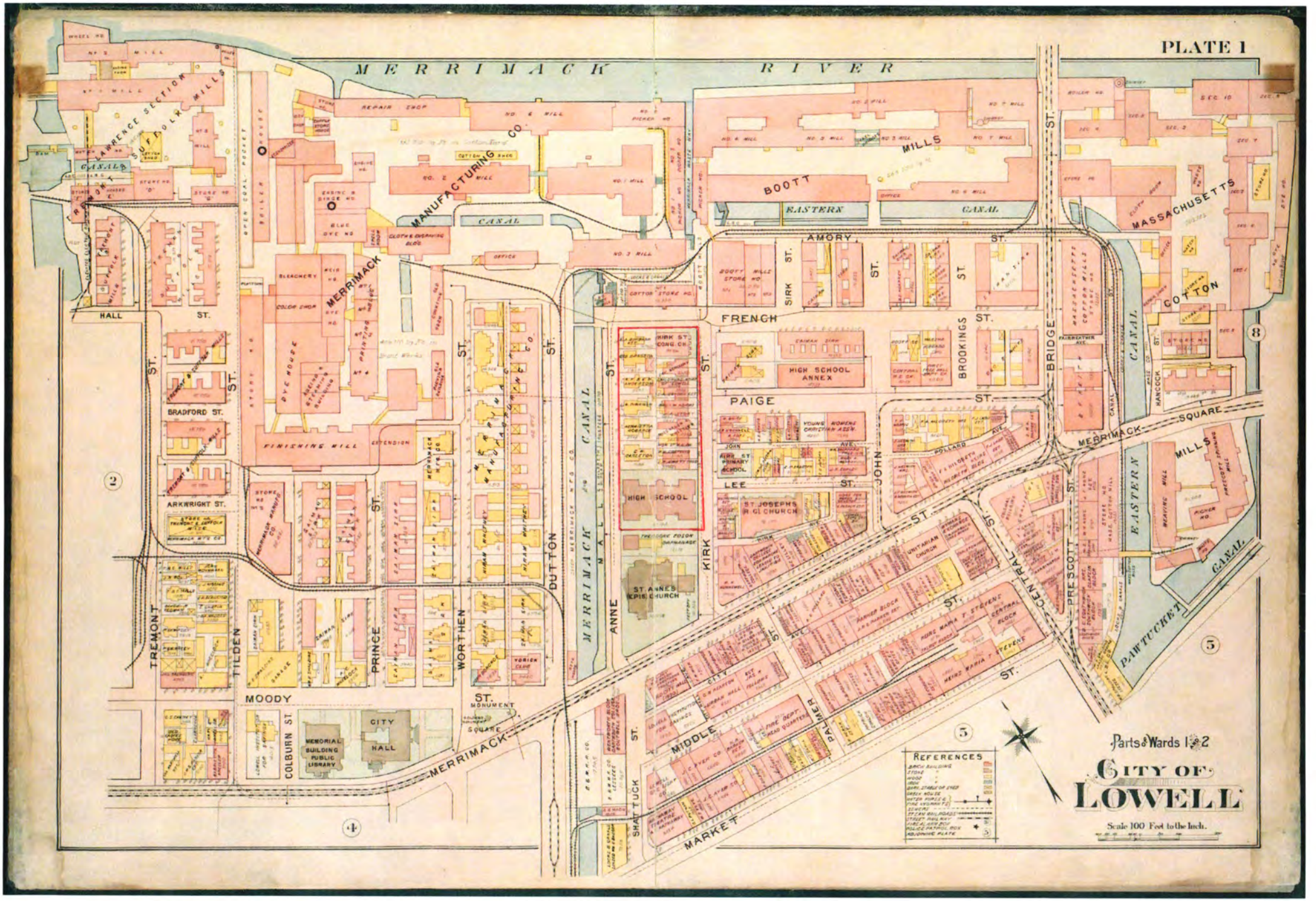
This conveyance is made by order of the directors of said Corporation as attested by the Signatures of a majority of their board
J A Lowell Treas
Props Locks & Canals on Merrimack River
Seal

Approved
Joseph Tilden
N Appleton
Geo W Lyman
F C Lowell
Directors of the Proprietors Locks & Canals

Middlesex ss May 30 1839 Rec and Recorded by Wm F Stone Reg

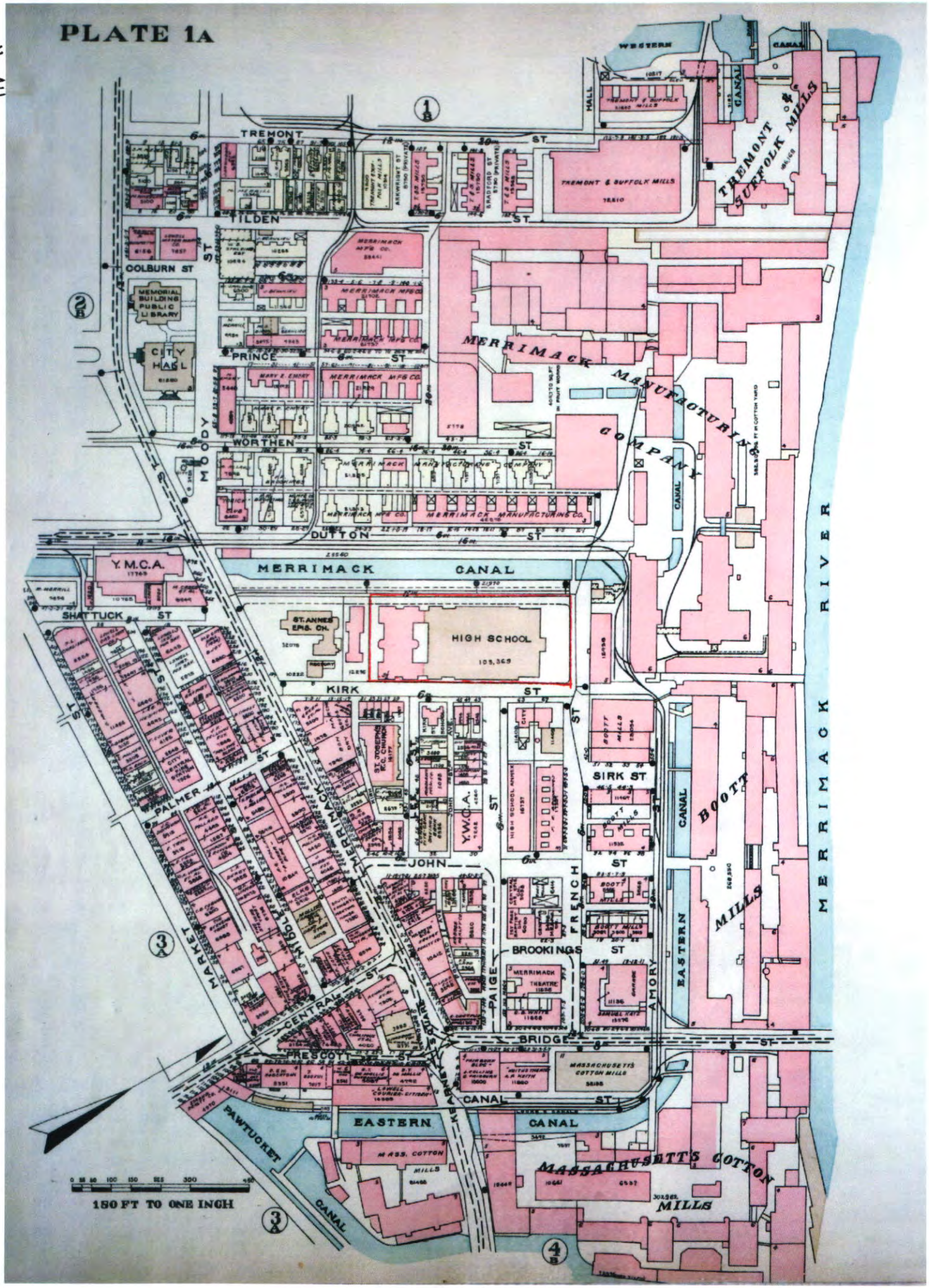
A true copy
Attest Horace K Osborn
Examiner

A2



Lowell Atlas - 1906

Lowell Atlas - 1924



A3

appropriation designated and called "An Appropriation for the purchasing and acquiring land for an Isolation Hospital pursuant to the provisions of the Revised Laws, chapter 75, and all acts in amendment thereto."

City of Lowell City Clerk's Office, October 1, 1915.

A true Copy.

Attest:

Stephen Flynn

City Clerk

Middlesex ss. N Dist. Reg. of Deeds. Recorded Oct. 30, 1915, 12:45 P.M.

1 word, 1 letter over erasures & erasure

e.m. In Municipal Council, October 19, 1915. Voted, that pursuant to section 48 of chapter 25 of the Revised Laws and all acts in amendment and in addition thereto and in accordance with the provisions of section 21 of chapter 645 of the Acts of 1911, as well as section 30 of said chapter 645, the municipal council hereby authorizes the Mayor to sign and cause to be recorded in the Registry of Deeds for the County of Middlesex a statement that the City of Lowell takes the following described land for the purpose of erecting thereon a building to be used as a public school, the said land so taken in fee is described substantially as follows:- The following is a description of said parcel so taken in fee: On the westerly side of Kirk street, Joseph D. Jewett, trustee, and Grace J. Jewett of Arlington Mass., two thousand five hundred forty-eight and eight-tenths (2548.8) square feet of land with buildings.

Estate of Melinda W. Costello of Lowell three thousand one hundred eighty-six (3186) square feet of land with buildings.

Ida C. Braum of Lowell, two thousand eight hundred sixty-seven and four tenths (2867.4) square feet of land with buildings.

John Kearney of Lowell, five thousand two hundred three and eight tenths (5203.8) square feet of land with buildings.

Elizabeth J. Shumny of Lowell, two thousand eight hundred fourteen and three tenths (2814.3) square feet of land with buildings. James Crompton of

Lowell, City of
Taking.

Chelmsford, Mass. two thousand five hundred forty-eight and eight tenths (2548.8) square feet of land with buildings.
Mary A. Pillsbury of Lowell, two thousand five hundred forty eight and eight tenths (2548.8) square feet of land with buildings.
Children's Home of Lowell, two thousand eight hundred fourteen and three tenths (2814.3) square feet of land with buildings.
Lowell Day Nursery Association, five thousand forty four and five tenths (5044.5) square feet of land with buildings.
On the easterly side of Anne street, Merrimack Mfg. Co. of Lowell, five thousand eight hundred thirty-one and three tenths (5831.3) square feet of land with buildings.
Anna F. and Elizabeth W. Anderson of Lowell, five thousand two hundred thirty-five and two tenths (5235.2) square feet of land with buildings.
Joseph and Eugenie Gagnon of Lowell, five thousand two hundred thirty-four and six tenths (5234.6) square feet of land with buildings.
Almina Chapman of Lowell, five thousand seven hundred nine and nine tenths (5709.9) square feet of land with buildings.
Genoa Club of Lowell, seven thousand one hundred thirty-seven (7137) square feet of land with buildings.
All of the above parcels enumerated, being bounded and described as follows: Beginning at a point in the easterly line of said Anne street at the intersection of the division line between land of the Genoa Club and land of the City of Lowell with the said easterly line of Anne street; thence running northeasterly by said easterly line of Anne street at an angle of ninety degrees, ten seconds (90° - 10") with said division line between land of the Genoa Club and land of the City of Lowell, now or formerly, three hundred six and twenty six hundredths (306.26) feet to a point at land, now or formerly of Inez Herman Smithson; thence running southeasterly by land of said Inez Herman Smithson at an angle of of ninety degrees, ten sec-

seconds (9.0°-10") ninety-five and nineteen hundredths (95.19) feet to a nail in the fence at land of the Proprietors of Kirk Street Church, now or formerly, thence running southwesterly by land of said Proprietors of Kirk Street Church, now or formerly at an angle of eighty-nine degrees, fifty-nine minutes, forty seconds (89°-59'-40"), twenty-seven and seventy-six hundredths (27.76) feet to a nail in the fence at land of Sowell Day Nursery Association; thence running southeasterly by land of said Proprietors of Kirk Street Church, now or formerly, at an angle of two hundred seventy degrees (270°) one hundred six and two tenths (106.2) feet to a cross cut in walk in the westerly line of said Kirk street; thence running southwesterly by the said westerly line of Kirk street, at an angle of ninety degrees (90°) two hundred seventy-eight and five-tenths (278.5) feet to a nail in the fence at land of the City of Sowell, now or formerly; thence running northwesterly by land of the said City of Sowell at an angle of ninety degrees (90°) two hundred one and thirty-six hundredths (201.36) feet to the point of beginning as shown on plan on file in the office of the City Engineer, entitled, "Plan of land to be taken by the City of Sowell for New High School, August, 1915." The said land above described having been taken in fee by right of eminent domain pursuant to an order of the Municipal Council passed and adopted October 9, 1915. Passed, every member voting "yea". Stephen Flynn, Clerk.

City of Sowell City Clerk's Office, October 19, 1915.

A true copy

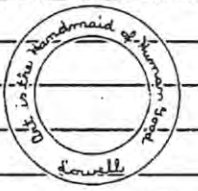
Witness the Seal of the City of Sowell

Attest:

Stephen Flynn City Clerk.

Pursuant to the provisions of law made and provided and to the vote of the municipal council hereinbefore recited and duly certified by the City Clerk of the City of Sowell and in accordance with the provisions of section 44 of chapter 25 of the Revised Laws of the Commonwealth of Massachusetts and all acts in amendment thereto, I, Dennis J. Murphy, Mayor of the City of Sowell, hereto sub-

scribe my name for and in behalf of said City of Lowell and affix the seal of said city for the purpose of recording a statement of the taking by right of eminent domain the above described land for the purpose of erecting thereon a building to be used as a public school.



Dennis J. Murphy
Mayor of the City of Lowell.

Commonwealth of Massachusetts. Middlesex ss. Lowell, Mass., October 29, 1915. Personally appeared before me: Dennis J. Murphy, Mayor of the City of Lowell, who declared on oath that the above statement is true to the best of his knowledge and belief. J. Joseph Hennessy, Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded Oct. 30, 1915. 12:45 P.M.

Middlesex Co-op Bank Lowell to Kilpatrick Par. Release

Know all Men by these Presents that the Middlesex Co-operative Bank, a banking corporation duly organized under the laws of the Commonwealth of Massachusetts, and located at Lowell, in the County of Middlesex and Commonwealth of Massachusetts, mortgagee named in a certain mortgage given by Charles T. Kilpatrick to it dated January 21, A. D. 1913, and recorded with Middlesex North District Deeds, book 500, page 320, in consideration of One Dollar to it paid by said Charles T. Kilpatrick the receipt whereof is hereby acknowledged, hereby remises, releases, and forever quitclaims unto the said Charles T. Kilpatrick all the right, title, and interest which it acquired under the aforesaid mortgage in or to that portion of the premises therein conveyed, which is described as follows: A certain lot of land with the buildings thereon situated in said Lowell and bounded and described as follows: Beginning at a stone bound on the northerly side of Pine street at land of Gertrude E. Whitely; thence northerly by said Whitely land seventy-seven and 64/100 (77.64) feet to a stone bound at other land of said Kilpatrick; thence at an angle of 89° 23' easterly by said Kilpatrick land forty-nine and 91/100 (49.91) feet to a stone bound at land

A4

K-14 | Kirk | W.S | Nos. *40

Area	Front	Date	Book	Page	Transfers
J.D.Jewett,Trustee, 2544	24.00				
City of Lowell 2544	24.00	10-30 '15 of	545	185	J. P. Jewett, Trus. Taking
City of Lowell 2544	24.00	3-19 '18 of	Grace J.Jewett,et als		
City of Lowell 2544	24.00	3-19 '18 of	Joseph D.Jewett,Trus.		
City of Lowell-trans.to 24-74 Kirk St.(103334')					2544

LIBRARY BUREAU, 96562 b

K-14	Kirk	W. S	Nos. *42		
Area	Front	Date	Book	Page	Transfers
Melinda W. Costello 3180	30.00				
City of Lowell 3180	30.00	of 10-30 '15	Melinda W. Costello 545	185	Taking
City of Lowell-trans. to 24-74 Kirk St. (103334')					3180

LIBRARY BUREAU, 96562 b

K-14	Kirk	W.S	Nos. 44 *6		
Area	Front	Date	Book	Page	Transfers
Worthen St.M.E.Church 2862	27.00				
Ida C. Braun 2862	27.00	of 8- 5 '08	Trus.Worthen St.M.E.Church 422	591	
City of Lowell 2862	27.00	of 10-30 '15	Ida C. Braun 545	185	Taking
City of Lowell 2862	27.00	of 12-16 '21	Ida C. Braun 654	424	
City of Lowell-trans.		to 24-74 Kirk St.(103334')			2862

LIBRARY BUREAU, 96562 b

by land of said Shumny and land now or formerly of Joseph P. Kearney and land of Ida C. Braun about sixty (60) feet to land of the Genoa Club; thence westerly at a right angle by land of said Genoa Club about ninety-five and sixteen hundredths (95.16) feet to the easterly line of Anne Street; thence at about a right angle northerly by said easterly line of Anne Street about sixty (60) feet to the point of beginning. Containing ~~five~~ thousand seven hundred nine and nine tenths' (5709.9) square feet, more or less, as shown on plan recorded in Middlesex Northern District Registry of Deeds, Book of Plans 33. Page 25. Being the same premises conveyed to me as Almira Chapman, by Joseph T. Roberge, by his deed dated November 25, 1912, and recorded in Middlesex North District Registry of Deeds, Book 498, Page 19. I, Robert C. Evans, husband of said grantor release to said grantee all rights of courtesy and homestead and other interests therein. Witness our hands and seals this eighteenth day of November 1921

Almira Evans (seal)
Robert C. Evans (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell Nov. 18th 1921. Then personally appeared the above named Almira Evans and acknowledged the foregoing instrument to be her free act and deed, before me John J. Harvey Justice of the Peace

Middlesex ss. N. Dist Reg of Deeds, Recorded Dec. 16, 1921, 4:15 P. M.

Braun to City of Lowell

I, Ida C. Braun of Lowell, Middlesex County, Massachusetts for consideration paid, grant to the City of Lowell, a municipal corporation, in said County and Commonwealth with quitclaim covenants the land in said Lowell, bounded and described, as follows: A certain parcel of land with buildings, located on the westerly side of Kirk Street. Beginning at the southeasterly corner of the premises at a point in the westerly line of Kirk Street at land now or formerly of the Estate of Melinda W. Costello, thence westerly at a right angle with said westerly line of Kirk Street by land of said Costello about one hundred six and two tenths (106.2) feet to land now or formerly of the Genoa Club; thence northerly, at a right angle, by land of said Genoa Club and land now or formerly of Almira Chapman about twenty-seven (27) feet to land now or formerly of Joseph P. Kearney;

thence easterly, at a right angle, by land of said Kearney about one hundred six and two tenths (106.2) to the westerly line of said Kirk Street, thence southerly, at a right angle, by said westerly line of Kirk Street about twenty-seven (27) feet to the point of beginning, Containing two thousand eight hundred sixty-seven and four tenths (2867.4) square feet, more or less, as shown on plan recorded in Middlesex Northern District Registry of Deeds, Book of Plans No. 33, Page No. 25. wife of said grantor release to said grantee all rights of dower and homestead and other interests therein. Witness my hand and seal this twenty first day of November 1921.

Ida C. Braun (seal)

Commonwealth of Massachusetts Middlesex ss. November twenty-first 1921. Then personally appeared the above named Ida C. Braun and acknowledged the foregoing instrument to be her free act and deed before me John J. Harvey Justice of the Peace. My Commission expires Sept 1, 1927.

Middlesex ss. N. Dist Reg of Deeds, Recorded Dec 16, 1921, 4:16 P.M.

Spaulding to Lowell Inst for Savings

See Discharge B. 826 P. 148.

Wm. Mills S. Spaulding, being unmarried, and Arianna T. Spaulding, wife of Bert G. Spaulding, both of Dunstable, Middlesex County, Massachusetts for consideration paid, grant to the Lowell Institution for Savings a body corporate located at Lowell Middlesex County, Massachusetts, with mortgage covenants to secure the payment of Four Thousand Dollars in one year with six per cent interest per annum payable semi-annually, and lawful interest upon any and all unpaid semi-annual instalments of interest in the nature of damages for detention from the time the same become payable, as provided in our note of even date, the land in said Dunstable with the buildings thereon containing about one hundred and ten acres and bounded and described as follows: Beginning at a stone wall on the easterly side of Forest Street, so called, leading past the house formerly occupied by Jonas Kendall, deceased, and at land formerly of Asa D. Butterfield, deceased, thence easterly and southerly by said Butterfield land to the Burying Ground thence easterly by said Burying Ground and the road leading from Dunstable to Tyngsborough known as Main Street to land now or formerly of Laurence Brooks, thence northerly by said Brooks land to land formerly of said

foregoing power, the grantor or her heirs or assigns will upon request execute, acknowledge, and deliver to the purchaser or purchasers a deed or deeds of release confirming such sale; and that, until default in the performance or observance of any of the conditions of this deed, the grantor and her heirs and assigns may hold and enjoy the granted premises and receive the rents and profits thereof. And I do hereby for myself and my heirs, executors, administrators and assigns constitute and appoint the grantee, its successors and assigns the attorney or attorneys irrevocable of the said grantor and her successors in title to the granted premises to execute and deliver to such purchaser a full transfer of all policies of insurance on the buildings upon the land covered by this mortgage at the time of such sale or to cancel the same for such price and upon such terms as it or they may deem best, and to apply any proceeds therefrom to the payment of the indebtedness secured by this mortgage. In Witness Whereof I the said Sophia A. Pierce, widow, have hereunto set my hand and seal this fifth day of August in the year one thousand nine hundred and eight. Sophia A. Pierce (seal)
Signed, sealed, and delivered in presence of Arthur C. Spalding. Commonwealth of Massachusetts. Middlesex ss. August 5, 1908. Then personally appeared the within named Sophia A. Pierce and acknowledged the foregoing instrument to be her free act and deed, before me - Arthur C. Spalding Justice of the Peace.
Middlesex ss. No. Dist. Reg. of Deeds. Recd, Aug. 5, 1908. 2:45 P.M.

Know all Men by these Presents that we, The Trustees of the Worthen street Methodist Episcopal Church at Worthen street station, Lowell, Massachusetts, a body corporate duly established under the laws of the Commonwealth of Massachusetts, in consideration of One Dollar and other valuable consideration paid by Ida C. Braun of said Lowell the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell, and convey unto the said Ida C. Braun a certain tract of land with the buildings thereon, situated in said Lowell and thus bounded and described: Beginning on the westerly side of Kirk street at the southeasterly corner of the hereon granted premises at land supposed to belong to one Costello, thence westerly at a right angle to said Kirk street ninety-eight 1/100 [98 1/100] feet;

Trs. Worthen St. M.E. Church Worthen St. Station to Braun.

thence northerly at a right angle, twenty-seven [27] feet; thence easterly at a right angle ninety-eight 98/100 [98 98/100] feet to said Kirk street; thence southerly at a right angle on said Kirk street to the point of beginning and containing twenty-six hundred and fifty-one [2651] square feet more or less. Being all and the same premises conveyed to the said Trustees by Martha Rogers, by deed dated April twenty-ninth 1873 and recorded with Middlesex North District Registry of Deeds Book 92, Page 162. and being subject to all the restrictions and conditions mentioned in said deed. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Ida C. Brown and her heirs and assigns, to their own use and behoof forever. And we do hereby for ourselves and our successors, covenant with the said grantee and her heirs and assigns that we are lawfully seized in fee-simple of the granted premises, that they are free from all incumbrances that we have good right to sell and convey the same as aforesaid; and that we will and our successors, shall Warrant and defend the same to the said grantee and her heirs and assigns forever against the lawful claims and demands of all persons. In Witness Whereof the said Trustees of the Worthen Street Methodist Episcopal Church at Worthen Street Station, Lowell, Massachusetts by Edwin L. Sherwood their Treasurer, hereto duly authorized, have caused their corporate seal to be hereto affixed and these presents to be signed, executed, acknowledged and delivered in their name and behalf this twenty-second day of April in the year one thousand nine hundred and eight. The Trustees of the Worthen Street Methodist Episcopal Church at Worthen Street Station Lowell, Mass. (seal) by Edwin L. Sherwood, Treasurer. Signed sealed and delivered in presence of E. P. Dodge. Commonwealth of Massachusetts. Middlesex ss. April 22nd 1908. Then personally appeared the above-named Edwin L. Sherwood, Treasurer and acknowledged the foregoing instrument to be the free act and deed, before me, of the Trustees of the Worthen Street Methodist Episcopal Church at Worthen Street Station, Lowell, Mass. Frank Coburn Notary Public (Notarial Seal) 1 word interlined

Vote. Lowell, Mass. June 4th, 1908, At the annual Meeting of the Trustee of the Worthen Street Methodist Episcopal

Church, Holden April 20th 1908, the following vote was passed by the said Trustees, "To authorize the Treasurer of the Trustees to sign the deed to the property on Kirk Street in behalf of the Trustees. A true copy. Attest. W. E. Dodge, Secretary of the Trustees.
Middlesex ss, No. Dist. Reg. of Deeds. Recd. Aug. 5, 1908. 3:10 P.M.

Gordon to Gordon.

Know all Men by these Presents that I, Maggie A. Gordon of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, in consideration of One Dollar to me paid by J. Eugene Gordon of Lowell in said County of Middlesex the receipt whereof is hereby acknowledged, do hereby remise, release, and forever quitclaim unto the said J. Eugene Gordon a certain lot of land with the buildings thereon situated on the easterly side of South Walker street in said Lowell, and bounded and described as follows, viz: Beginning at a point in the easterly line of said street, which point is distant ninety and 40/100 [90.40] feet southerly from the intersection of the southerly line of Mason street with said easterly line of South Walker street: thence running easterly on land of George F. Penniman ninety [90] feet to land of one Hersey; thence southerly on said Hersey's land forty-five [45] feet to other land of said Penniman: thence westerly on last named land ninety [90] feet to said South Walker street; thence northerly on said South Walker street forty-five [45] feet to the point of beginning. Containing fourthousand and fifty [4050] square feet, Being the same premises to me conveyed by Frank E. Lewis by his deed dated August 25th, A.D. 1888, and recorded with Middlesex North District Registry of Deeds in Book 199, Page 99. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said J. Eugene Gordon and his heirs and assigns, to their own use and behoof forever. And I do hereby for myself and my heirs, executors, and administrators, covenant with the said grantee and his heirs and assigns that the granted premises are free from all incumbrances made or suffered by me and that I will and my heirs, executors, and administrators shall Warrant and defend the same to the said grantee and his heirs and assigns forever against the lawful claims and demands of all persons claiming by, through, or under but against none

K-14	Kirk	W.S	Nos. *48		
Area	Front	Date	Book	Page	Transfers
Helen A. Whittier 2332	22.00				
John Kearney 2332	22.00	of 10-23 '13	Helen A. Whittier 513	61	
Joseph P. Kearney 2332	22.00	of 5-17 '15	John Kearney 537	364	
City of Lowell 2332	22.00	of 10-30 '15	John Kearney 545	185	Taking
City of Lowell 2332	22.00	of 1- 9 '17	Joseph P. Kearney 566	505	Rel.
City of Lowell-trans.to 24-[illegible]74 Kirk St.(103334')					2332

LIBRARY BUREAU, 96562 b

K-14	Kirk	W.S	Nos. *50		
Area	Front	Date	Book	Page	Transfers
Heirs Moses Whittier					
2862	27.00				
John Kearney		of			Helen A. Whittier
2862	27.00	10-23 '13	513	61	
Joseph P. Kearney		of			John Kearney
2862	27.00	5-17 '15	537	364	
City of Lowell		of			John Kearney
2862	27.00	10-30 '15	545	185	Taking
City of Lowell		of			Joseph P. Kearney
2862	27.00	1- 9 '17	566	505	Rel.
City of Lowell-trans.to 24-[redacted]74 Kirk St.(103334')					2862

LIBRARY BUREAU, 96562 b

under us but against none other. And for the consideration aforesaid we, Laura Smart wife of John N. Smart and Lauretta Smart wife of Charles N. Smart do hereby release unto the said grantees and their heirs and assigns all right of or to both **dower and homestead** in the granted premises and all rights by statute and all other rights and interests therein. **In witness whereof** we the said John N. Smart and Laura Smart, Charles N. Smart and Lauretta Smart and Susan C. Smart, being unmarried, hereunto set our hands and seals this day of May in the year one thousand nine hundred and fifteen.

Signed and sealed in presence of ~

Susan C. Smart (seal)
John N. Smart (seal)
Laura Smart (seal)
Charles N. Smart (seal)
Lauretta Smart (seal)

Commonwealth of Massachusetts. Middlesex, ss. May 12th 1915. Then personally appeared the above-named Susan C. Smart and acknowledged the foregoing instrument to be her free act and deed, before me, Chas H. McIntire Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded May 24, 1915. 9:45 A.M.

Kearney to Kearney

Five Dollars ($5.00)
U.S.R. Stamps Cancelled
J.K. May 21 1915

Know all Men by these Presents, that I, John Kearney, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, in consideration of One Dollar and other good and valuable considerations to me paid by Joseph P. Kearney, of said Lowell, the receipt whereof is hereby acknowledged, do hereby remise, release, and forever quitclaim unto the said Joseph P. Kearney two certain adjoining tracts of land situated in said Lowell and thus bounded and described: First: A certain tract of land with the buildings thereon situated on the westerly side of Kirk street in said Lowell, containing two thousand one hundred sixty and 19/100 square feet and bounded and described as follows: Beginning on the westerly side of said Kirk street at a point which is northerly of and twenty-seven feet distant from the northeasterly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to Harlin Pillsbury by deed dated April

29, 1848, thence running westerly at a right angle to Kirk street ninety-eight and 9/100 feet; thence northerly at a right angle twenty-two feet; thence easterly at a right angle ninety-eight and 9/100 feet to Kirk street; thence southerly at a right angle twenty-two feet on Kirk street to the point of beginning; together with the right as appurtenant to the premises, but in common with the owners of the adjoining and neighboring estates to use the pipe or pipes now laid down across Kirk street and to draw water by means of said pipes from the well connected therewith, and together with all the rights of drainage and all other rights, easements and privileges to said premises belonging. Said premises are conveyed subject to all building and sidewalk conditions and restrictions which may exist thereon by force of a deed of said premises from said Proprietors, dated Jan. 10, 1844, recorded with Middlesex South District Deeds, book 498, page 348, and by force of all lawful subsequent deeds of said premises from those claiming under said Proprietors.

Second: A certain piece of land in said Lowell with the buildings thereon containing two thousand six hundred fifty-one and 3/100 square feet and thus bounded:- Beginning on the westerly side of Kirk street at a point which is northerly of and forty-nine feet distant from the northeasterly corner of land conveyed by said Proprietors to Harlin Pillsbury by deed dated April 29, 1848, thence running westerly at a right angle to said Kirk street ninety-eight and 9/100 feet; thence northerly at a right angle twenty-seven feet; thence easterly at a right angle ninety-eight and 9/100 feet to said Kirk street; thence southerly at a right angle twenty-seven feet to the point of beginning; together with all rights, easements and privileges to said premises belonging and subject to all building and sidewalk conditions and restrictions which may exist thereon by force of a deed from said Proprietors dated July 12, 1844, recorded in Middlesex South District Registry, book 446, page 329. Being the same premises conveyed to me by Helen A. Whittier by deed dated October 28, 1913, and recorded with Middlesex North District Deeds, book 518, page 61. This con-

veyance is made subject to the several mortgages mentioned in said deed to me and also the taxes for the current year, all of which the grantee assumes and agrees to pay. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Joseph P. Kearney and his heirs and assigns, to their own use and behoof forever. And I do hereby for myself and my heirs, executors, and administrators, covenant with the said grantee and his heirs and assigns, that the granted premises are free from all incumbrances made or suffered by me, except as aforesaid, and that I will, and my heirs, executors, and administrators shall warrant and defend the same to the said grantee and his heirs and assigns forever against the lawful claims and demands of all persons claiming by, through, or under me, except as aforesaid, but against none other. In witness whereof I the said John Kearney being unmarried, first having affixed and cancelled the United States Internal Revenue stamps required by law, hereunto set my hand and seal this tenth day of May in the year one thousand nine hundred fifteen.

Signed and sealed in the presence of -

John Kearney (seal)

Commonwealth of Massachusetts. Middlesex, ss. Lowell, May 10, 1915. Then personally appeared the above-named John Kearney and acknowledged the foregoing instrument to be his free act and deed, before me -

John J. Derrane Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded May 17, 1915. 10:10 A.M.

Middlesex Co-op. Bank - Lowell to Wood et al. Discharge.

Know all Men by these Presents that the Middlesex Co-operative Bank, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, the mortgagee named in a certain mortgage given by Jonathan Wood and George E. Schermerhorn dated January 26, A. D. 1912, and recorded with Middlesex North District Deeds, Lib. 482, Fol. 132, hereby acknowledges that it has received full payment and satisfaction of the debt secured thereby, and of the conditions therein contained, and in consideration thereof it hereby cancels and discharges said mortgage. In witness

n for the non-payment of a tax assessed thereon to Martha A. Balch in the year 1911, which real estate is described as follows, viz., Martha A. Balch, 510 square feet of land, more or less, on the south side of Westford street, with land now or formerly of Minnie F. Bradt on the east, Amelia F. Downing on the west, Albert A. Davis on the south and Westford street on the north. And whereas Grace W. Balch of Lowell in the County of Middlesex and State of Massachusetts alleges that she is now the owner of said property and as owner thereof desires to redeem the same from the sale in pursuance of Chapter 490, Sections 59-61, Part II of the Acts of 1909. And Whereas the said Grace W. Balch has this day paid to me the following sums to redeem said property from said sale to wit:

Amount for which it was sold,	7.66
Interest at 8% from date of sale,	.03
Examination of Title,	
Deed of Release,	3.00
Recording,	.95
Additional sum as per statute,	1.00
	12.64

Therefore, I, the said Collector of Taxes, for the said City of Lowell hereby certify that I have received from the said Grace W. Balch the said sum of Twelve Dollars and sixty four cents ($12.64) for the purpose aforesaid Dated this 14th day of October A.D. 1913.

{Andrew G. Stiles Collector of
{Taxes for the City of Lowell

Middlesex ss. N. Dist. Reg. of Deeds, Recorded Oct. 23, 1913, 4:40, P.M.

2 letters over erasure

m. Know all Men by these Presents that I, Helen A. Whittier of Boston, in the County of Suffolk and Commonwealth of Massachusetts in consideration of One Dollar and other valuable considerations to me paid by John Kearney of Lowell in the County of Middlesex and said Commonwealth the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said John Kearney, two certain adjoining tracts of land situated in said Lowell and thus bounded and described: First: A certain tract of land with the buildings thereon situated on the westerly side of Kirk street in said Lowell, contain

Whittier to Kearney

ing two thousand one hundred sixty 18/100 square feet and bounded and described as follows:- Beginning on the westerly side of said Kirk street at a point which is northerly of and twenty seven feet distant from the northeasterly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to Harlin Pillsbury by deed dated April 29, 1843; thence running westerly at a right angle to Kirk street ninety-eight 19/100 feet; thence northerly at a right angle twenty-two feet; thence easterly at a right angle ninety-eight 19/100 feet to Kirk street; thence southerly at a right angle twenty-two feet on Kirk street to the point of beginning; together with the right as appurtenant to the premises, but in common with the owners of the adjoining and neighboring estates to use the pipe or pipes now laid down across Kirk street and to draw water by means of said pipes from the well connected therewith, and together with all the rights of drainage and all other rights, easements and privileges to said premises belonging. Said premises are conveyed subject to all building and sidewalk conditions and restrictions which may exist thereon by force of a deed of said premises from said Proprietors, dated Jan 10, 1844 recorded with Middlesex South District Deeds Book 438, Page 348 and by force of all lawful subsequent deeds of said premises from those claiming under said Proprietors. Being the same premises conveyed to me by Arthur G. Pollard by his deed dated Sept. 15, 1888, recorded in Middlesex North District Deeds Book 200, Page 116.

Second: A certain piece of land in said Lowell with the buildings thereon containing two thousand six hundred fifty-one 13/100 square feet and thus bounded:- Beginning on the westerly side of Kirk street at a point which is northerly of and forty-nine feet distant from the northeasterly corner of land conveyed by said Proprietors to Harlin Pillsbury by deed dated April 29, 1843; thence running westerly at a right angle to said Kirk street ninety-eight 19/100 feet, thence northerly at a right angle twenty-seven feet; thence easterly at a right angle ninety-eight 19/100 feet to said Kirk street, thence southerly at a right angle twenty-seven feet to the point of beginning; together with

all rights, easements and privileges to said premises belonging and subject to all building and sidewalk conditions and restrictions which may exist thereon by force of a deed from said Proprietors dated July 12, 1844, recorded in Middlesex South District Registry Book 446, Page 329. I derived my title to said premises last described from my father, Moses Whittier. The first described lot is subject to a mortgage of $4,500 now held by Maude A. Hosford. The second described lot is subject to two mortgages aggregating $5,300 held by the Lowell Institution for Savings. TO **have and to hold** the granted premises, with all the privileges and appurtenances thereto belonging, to the said John Kearney and his heirs and assigns, to their own use and behoof forever. And I hereby for myself and my heirs, executors, and administrators, covenant with the grantee and his heirs and assigns, that I am lawfully seized in fee-simple of the granted premises; that they are free from all incumbrances, except as aforesaid and except said mortgages and the taxes assessed by the City of Lowell for the year 1912 and the year 1913 all of which the grantee assumes and agrees to pay, that I have good right to sell and convey the same as aforesaid; and that I will and my heirs, executors and administrators shall **warrant and defend** the same to the grantee and his heirs and assigns forever against the lawful claims and demands of all persons, except as aforesaid. **In witness whereof** I the said Helen A. Whittier, being unmarried hereunto set my hand and seal this twenty-third day of October in the year one thousand nine hundred and thirteen.

Signed and sealed in presence of ~ Helen A. Whittier (seal)

Commonwealth of Massachusetts, Middlesex ss. Lowell, October 23, 1913 191 Then personally appeared the above-named Helen A. Whittier and acknowledged the foregoing instrument to be her free act and deed, before me, Fisher H. Pearson, Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds, Recorded Oct. 23, 1913, 4:55, P.M.

be their free act and deed. Martin V. Cass. Notary Public (notarial seal)
Middlesex ss. N. Dist. Reg. of Deeds Recorded Jan. 9, 1917. 10:15. A.M.

I Laura J. Chase of Lowell in the County of Middlesex and Commonwealth of Massachusetts, as I am executrix of the will of Josephine M Chase late of said Lowell, do by virtue of the power of sale to me given in said will, and every other enabling power, for consideration paid, release to the city of Lowell a municipal corporation in said County the land in said Lowell bounded and described as follows: a strip 12 feet wide extending across land belonging to estate of Josephine M Chase said strip having been taken by said city for sewer purposes by order of taking passed in municipal council June 19, 1914, and the location of said strip being shown on a plan on file in the office of the City Engineer of said city entitled Plan of Proposed Sewer between Woodward Avenue and West Meadow Road June 1914" reference to which may be had, This deed is confirmatory of said taking. Witness my hand and seal this 29th. day of Dec. 1916

Chase by Extx. to City of Lowell

Release

Laura J. Chase Executrix of will of Josephine M Chase (seal)

Commonwealth of Massachusetts Middlesex ss. Dec. 29, 1916 Then personally appeared the above named Laura J. Chase and acknowledged the foregoing instrument to be her free act and deed, before me. Harold A. Varnum Notary Public
Middlesex ss. N. Dist. Reg. of Deeds Recorded Jan. 9, 1917. 10:35 A.M.

I, Joseph P. Kearney, unmarried of Lowell, Middlesex County, Massachusetts for consideration paid, release to City of Lowell in said County the land in said City of Lowell situated on the westerly side of Kirk Street containing five thousand two hundred three and eight tenths square feet of land more or less and bounded on the east by Kirk Street forty nine feet; on the north by land of Elizabeth J. Shumny about one hundred six and nineteen one hundredths feet; on the west by land of Almira Chapman forty nine feet and on the south by land

Kearney to City of Lowell

Release

of Ida C. Braun one hundred six nineteen one hundredths feet. Witness my hand and seal this Second day of January 1917.

Joseph P. Kearney (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell Mass. January 4th 1917 Then personally appeared the above named Joseph P. Kearney and acknowledged the foregoing instrument to be his free act and deed, before me. Fisher H. Pearson Justice of the Peace Middlesex ss. N. Dist. Reg. of Deeds Recorded Jan. 9. 1917. 10:36. A.M.

(Figure over erasure)

Donohoe to Donohoe

We, Owen M. Donohoe, Joseph F. Donohoe and Charles T. Donohoe, (said Charles T. Donohoe being unmarried) all of Lowell, Middlesex County, Massachusetts, for consideration paid, grant to Peter H. Donohoe of said Lowell, with quit-claim covenants three undivided sevenths interest in a certain parcel of land with the buildings thereon, situate on Chapel Street in said Lowell, and bounded:- Beginning on the westerly side of Chapel Street at a stake and stones at the southeasterly corner thereof, thence running along said Chapel Street about 4 rods and 16 links to a stake and stones at land now or formerly of M. Parkhurst; thence westerly along said Parkhurst land about 8 rods and 19 links to a stake and stones; thence southerly about 4 rods and 15 links to a stake and stones; thence easterly about 8 rods and 10 links to said Chapel Street at the point of beginning. Our interest in said premises having been acquired as devisees under the will of our mother, Alice Donohoe, late of said Lowell, deceased, which will was allowed by the Probate Court for said County of Middlesex on the 23rd. day of December, 1913. I, Catherine J. Donohoe, wife of Owen M., and I, Teresa L. Donohoe, wife of Joseph F. Donohoe release to said grantee all rights of dower and homestead and other interests therein. Witness our hands and seals this sixth day of November 1916.

Charles T. Donohoe (seal)

Owen M. Donohoe (seal)

Joseph F. Donohoe (seal)

Catherine J. Donohoe. (seal)

Teresa L. Donohoe (seal)

K-14	Kirk	W.S	Nos. 52 *4		
Area	Front	Date	Book	Page	Transfers
John A. Storey 2862	27.00				
Augusta M. Storey 2862	27.00	of 9-17 '10	456	390	Lewis Smith
Elizabeth J. Shunny 2862	27.00	of 2- 1 '13	500	553	Augusta M. Storey
Elizabeth J. Shunny 2862	27.00	of 2- 1 '13	500	554	Agusta M.Storey,Gdn.
City of Lowell 2862	27.00	of 10-30 '15	545	185	Elizabeth J.Shunny Taking (1)

LIBRARY BUREAU, 96562 b

privileges and appurtenances thereto belonging to th
said Blanchard E. Pratt and his heirs and assig
to their own use and behoof forever. And I do h
by, for myself and my heirs, executors and adm
istrators, covenant with the said grantee and his
heirs and assigns that the granted premises are
free from all incumbrances made or suffered by m
except as aforesaid, and that I will and my heirs,
executors, and administrators shall **warrant
and defend** the same to the said grantee and
his heirs and assigns forever against the lawful
claims and demands of all persons claiming by, throu
or under me, except as aforesaid, but against none ot
er. And for the consideration aforesaid I, Ida E. Tierney, wi
of said John H. Tierney do hereby release unto the said
grantee and his heirs and assigns all right of or to bot
dower and homestead in the granted pres
ises, and all other rights and interests therein. **In
witness whereof** we the said John H. Tierney an
Ida E. Tierney hereunto set our hands and seals this
fifteenth day of September in the year one thousand nin
hundred and ten. Ida E. Tierney (seal) John H. Tierney (sea
Signed, sealed and delivered in presence of ~ Common-
wealth of Massachusetts Middlesex ss September 17, 1910. Then
personally appeared the above-named John H. Tierney an
acknowledged the foregoing instrument to be his free act an
deed, before me J. Gilbert Hill Justice of the Peace.
Middlesex ss N. Dist. Reg. of Deeds Recorded Sept. 17, 1910, 1.0.25

Smith to Storey

Know all Men by these Presents tha
I, Lewis Smith of New York in the State of New York
in consideration of One Dollar to me paid by Augus
M. Storey, of Lowell, in the County of Middlesex and Co
monwealth of Massachusetts the receipt whereof is here
by acknowledged, do hereby remise, release, and foreve
quitclaim unto the said Augusta M. Storey her heir
and assigns all my right title and interest in and
to the following described property a certain lot of
land with the buildings thereon, situated in said
Lowell, on the southerly side of Westford street co
taining twenty-six thousand five hundred eighty-on
and 93/100 square feet and being lots numbered twenty
seven (27) and twenty-nine (29) on "Plan of Tyler Park

Lands, Lowell, belonging to Wm. H. Bent Feb, 1893 Osgood & Snell" recorded with Middlesex North District Registry of Deeds and being the same premises conveyed to the late John A. Storey by deed of Wm. H. Bent dated April 28, 1897 and recorded in said Registry Book 285, Page 180 and these premises are conveyed subject to the agreements therein mentioned or referred to.

Also a certain piece or parcel of land with the buildings thereon, situated in said Lowell, on the westerly side of Kirk street, containing about twenty six hundred two and 3/10 square feet and being the same premises conveyed to said John A. Storey by deed of Mary W. Nickerson, dated March 5, 1891 and recorded in said Registry Book 222, Page 118.

Also a certain lot of land with the buildings thereon situated on the northerly side of Westford street in said Lowell containing seventeen hundred and sixty square feet more or less and being the same premises conveyed to said John A. Storey by deed of Samuel Dana Kittredge, dated July 12, 1893 and recorded in said Registry, Book 246, Page 506 and these premises are conveyed subject to the rights and reservations mentioned or referred to in said deed.

Also a certain lot of land, situated in said Lowell, on the easterly side of Boylston street, containing ten thousand one hundred and sixteen square feet, more or less, and being lot numbered ninety five (95) as shown on a plan entitled "Plan of Land in Lowell Mass. belonging to Shepard Russell and Fuller, March 1891; Melvin B. Smith, C. E., and being the same premises conveyed to said John A. Storey, by deed of John A. Storey, Mortgagee dated Jan. 1, 1902 and recorded in said Registry Book 338 Page 553

Also two certain lots of land situated in said Lowell on the northerly side of Calvin street containing ten thousand seven hundred and four square feet of land, and being lots numbered ninety (90) and ninety one (91) as shown on a plan entitled "Plan of Land in Lowell and Tewksbury belonging to Shepard Russell and Fuller March 1891" and being the same premises conveyed to said John A. Storey by deed of Nettie E. Smith dated, and recorded in said Registry, Book 337, Page 471 and these premises are conveyed subject to the conditions restrictions or reservations mentioned or referred to in said deed.

Also a certain lot of land with the buildings thereon sit-

uated in said Lowell on the southerly side of Appleton street and being lot numbered thirty (30) on N. R. Harbours plan of land and Buildings in Lowell, belonging to the Hamilton Manufacturing Company dated May 14, 1863, and recorded in said Registry. A strip of land twelve feet in depth across the whole width of this lot and at the southerly end thereof is to remain open forever as a passageway as laid down on said plan to be used as heretofore. Being the same premises conveyed to said John A. Storey by deed of Alice E. Nesmith et al, by their deed dated October 15, 1896 and recorded in said Registry Book 280 Page 555 and these presents are conveied subject to the rights mentioned or referred to in said deed. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Augusta M. Storey and her heirs and assigns, to their own use and behoof forever. And I do hereby, for myself and my heirs, executors and administrators, covenant with the said grantee and her heirs and assigns that the granted premises are free from all incumbrances made or suffered by me and that I will and my heirs, executors and administrators shall warrant and defend the same to the said grantee and her heirs and assigns forever against the lawful claims and demands of all persons claiming by, through, or under me but against none other. And for the consideration aforesaid I, S. Smith, wife of the grantor do hereby release unto the grantee and her heirs and assigns all right of or to both dower and homestead in the granted premises, and all other rights and interests therein. In witness whereof we the said Lewis Smith and S. Smith hereto set our hands and seals this, day of October in the year one thousand nine hundred and seven Lewis Smith (seal) Amelia Joselyn Smith (seal) Signed and sealed in presence of Chas. A. Johnson. State of New York County of Kings ss. On this 25 day of April in the year of our Lord one thousand nine hundred and eight before me, the undersigned, personally came and appeared Lewis Smith and Amelia Joselyn Smith his wife to me personally known and known to me to be the the individuals described in and who executed the foregoing instrument and severally acknowledged to me that they executed the same. Chas. A. Johnson Notary Public Nassau Co. Cft filed in Kings Co. (seal) Middlesex ss. N. District

Reg. of Deeds Recorded Sept. 17, 1910, 11:20 A.M. LB.456

6 letters over erasure

Storey to Thompson

Know all Men by these Presents that I Augusta M. Storey of Lowell in the County of Middlesex and Commonwealth of Massachusetts in consideration of One Dollar and other good and valuable considerations to me paid by Harry A. Thompson of said Lowell the receipt whereof is hereby acknowledged, do hereby remise, release and forever quitclaim unto the said Harry A. Thompson one undivided third of a certain lot of land with the buildings thereon situated on the southerly side of Westford street in said Lowell containing twenty six thousand five hundred eighty one and 93/100 square feet, and being lots numbered twenty seven (27) and twenty nine (29) on a plan entitled "Plan of Tyler Park Lands Lowell belonging to William H. Bent, February 1893, Osgood & Snell" and recorded with Middlesex North District Registry Deeds bounded as follows: Easterly by land now or formerly of Bennett and Gibson one hundred ninety six and 42/100 feet, southerly by lots numbered twenty eight (28) and thirty (30) on said plan one hundred forty eight and 75/100 feet, westerly by lot numbered thirty one (31) on said plan one hundred sixty two and 59/100 feet, and northerly by said Westford street one hundred fifty one and 15/100 feet; being all the same premises conveyed to my husband John A. Storey (late of said Lowell deceased intestate) by William H. Bent by deed dated April 28, 1897, and recorded with said Registry Deeds Book 285, Page 180, and being the first lot described in a deed to me from Lewis Smith dated October 1907, to be recorded herewith. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Harry A. Thompson and his heirs and assigns, to their own use and behoof forever. And I do hereby, for myself and my heirs, executors, and administrators, covenant with the said grantee and his heirs and assigns that the granted premises are free from all incumbrances made or suffered by me, except certain building restrictions created in said deed to John A. Storey, and taxes for the current year 1910 which the grantee hereby assumes and agrees to pay; and that I will and my heirs execu-

mortgage, full payment and satisfaction of the same, and in consideration thereof, I do hereby cancel and discharge said mortgage, and release and quitclaim unto the said James S. Somersett and his heirs and assigns forever the premises thereby conveyed In witness whereof I have unto set my hand and seal this twenty-fifth day of March A.D. 1909.

Signed and sealed in the presence of Walter P. Wright

M. Elizabeth Whitney Executrix (seal)

Commonwealth of Massachusetts Norfolk ss. Brookline March 26th 1909. Then personally appeared the above-named M. Elizabeth Whitney Executrix and acknowledged the foregoing instrument to be her free act and deed, before me Walter P. Wright Justice of the Peace

Middlesex ss. N. Dist. Reg. of Deeds Recorded Feb. 1, 1913. 10:55 A.M.

Storey to Shunny

I, Augusta M. Storey, of Lowell, Middlesex County, Massachusetts, being unmarried, for consideration paid, grant to Elizabeth J. Shunny, of said Lowell, with quitclaim covenants and also covenanting that the premises are free from all incumbrances suffered by me, except as hereinafter mentioned, one undivided third of a lot of land, with the buildings thereon situated on the westerly side of Kirk street in said Lowell, containing about two thousand six hundred two and 03/100 square feet, and thus bounded. Beginning on the westerly side of Kirk street at a point which is northerly of and seventy-six feet distant from the northeasterly corner of land conveyed by the Proprietors of Locks and Canals on Merrimack River to Harlen Pillsbury, by deed dated April 29, 1843; thence running westerly at a right angle, ninety-eight and 19/100 feet; thence northerly at a right angle twenty-six and 50/100 feet; thence easterly at a right angle, ninety-eight and 19/100 feet to said Kirk street; thence southerly at a right angle on said Kirk street twenty-six and 50/100 feet to the point of beginning. Being the same premises conveyed by Mary W. Nickerson to John A. Storey by deed dated March 5, 1891 and recorded with Middlesex North District Deeds book 222 page 118. My title to said premises is acquired as widow of said John A. Storey; see Probate records for said County; Subject to the condition that no building more than twelve

feet in height shall ever be erected on said premises of any other material than brick or stone, with the roof covered with slate or some other equally incombustible material, and also that no building shall ever be erected on said premises within less than eight feet of said Kirk street and that said eight feet be forever kept open for a public sidewalk; so far as said condition is now in force and applicable to the granted premises Witness my hand and seal this 27th day of January 1913.

Augusta M. Storey (seal)

State of New York, County of New York ss. On the 27th. day of January 1913. Then personally appeared the above-named Augusta M. Storey and acknowledged the foregoing instrument to be her free act and deed, before me Irving M. Obright Notary Public No. 33 New York County Register's No. 4032, Commission expires March 30th. 1914 (official seal)

No. 67241 State of New York County of New York ss. I, William F. Schneider, Clerk of the County of New York, and also Clerk of the Supreme Court for the said County, the same being a Court of Record, do hereby certify that Irving M. Obright whose name is subscribed to the certificate of the proof or acknowledgment of the annexed instrument, and thereon written, was, at the time of taking such proof or acknowledgment, a Notary Public in and for the County of New York, dwelling in the said County, commissioned and sworn, and duly authorized to take the same, and further that I am well acquainted with the handwriting of such Notary, and verily believe that the signature to the said certificate of proof or acknowledgment is genuine In testimony whereof, I have hereunto set my hand and affixed the seal of the said Court and County, the 28 day of Jan. 1913 W. F. Schneider Clerk (seal)

Middlesex ss. N. Dist. Reg. of Deeds Recorded Feb. 1, 1913. 10:55, A.M.

Storey's Exr. to Shunney

I, Augusta M. Storey of Lowell, Middlesex County Massachusetts, guardian of John A. Storey and Marion A. Storey, both of said Lowell, by power conferred by the Probate Court for said Middlesex County by license granted to me January 23, 1913. and every other power for three thousand four hundred sixty-six and two-thirds Dollars paid grant to Elizabeth J. Shunney, of said Lowell, a lot of land with the buildings thereon, situated on the westerly side

of Kirk street in said Lowell, containing about two thousand six hundred two and 23/100 square feet, and being the same premises conveyed by Mary W. Nickerson to John A. Storey by deed dated March 5, 1891 and recorded with Middlesex North District Deeds book 222 page 118. Subject to the condition that no building more than twelve feet in height shall ever be erected on said premises of any other material than brick or stone, with the roof covered with slate or some other equally incombustible material, and also that no building shall ever be erected on said premises within less than eight feet of said Kirk street, and that said eight feet be forever kept open for a public sidewalk, so far as said condition is now in force and applicable to said premises. Witness my hand and seal this 27th. day of January 1913.

{ Augusta M. Storey Guardian of John A. Storey and Marion A. Storey (seal)

State of New York, County of New York ss. On this 27th. day of January 1913. Then personally appeared the above-named Augusta M. Storey and acknowledged the foregoing instrument to be her free act and deed, before me Irving M. Obright Notary Public No. 33 New York County Register's No. 4032. Commission expires March 30th. 1914 (notarial seal)

No. 6724 State of New York, County of New York ss. I, William F. Schneider, Clerk of the County of New York, and also Clerk of the Supreme Court for the said County, the same being a Court of Record, do hereby certify that Irving M. Obright whose name is subscribed to the certificate of the proof or acknowledgment of the annexed instrument, and therein written was, at the time of taking such proof or acknowledgment a Notary Public in and for the County of New York dwelling in the said County, commissioned and sworn, and duly authorized to take the same. And further that I am well acquainted with the handwriting of such Notary, and verily believe that the signature to the said certificate of proof or acknowledgment is genuine. In testimony whereof I have hereunto set my hand and affixed the seal of the said Court and County, the 28 day of Jan. 1913. W. F. Schneider Clerk (seal)

Middlesex ss. N. Dist. Reg. of Deeds Recorded Feb. 1, 1913. 10:55, A. M.

Letters are missed

K-14 | Kirk | W.S | Nos. 52 *4

Area	Front	Date	Book	Page	Transfers
City of Lowell 2862	27.00	of 8- 5 '21	Elizabeth J. Shunny 648	61	

City of Lowell-trans.to 24-74 Kirk St.(103334')

2862

(2)

80340

and described: Beginning at the Northwesterly corner of the premises at the above mentioned road at land formerly of John H. Swett; thence running Southerly by said Swett's land to a stone bound at the corner of land formerly of one Johnson and the grantor; thence Easterly by said grantor's land and in a straight line in continuance of the line forming Southerly boundary of said Swett's land to a stone bound; thence Northerly still by land of grantor to a stone bound at the road before mentioned; thence Westerly by said road to the point of beginning. Being the same premises conveyed to me by deed of Arthur M. Warren dated April 16, 1916 and recorded with Middlesex North District Registry of Deeds, Book 552, Page 558. This conveyance is made subject to a certain mortgage of six hundred dollars running to Erastus A. Bartlett dated December 26, 1907 and recorded with Middlesex North District Registry of Deeds, Book 413, Page 74. Also subject to taxes for the current taxable year. I, William C. Greenwood, husband of said grantor release to said grantee all rights of dower curtesy and homestead and other interests therein. Witness our hands and seals this fifth day of August 1921.

Sarah M. Greenwood (seal)
William C. Greenwood (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell, August 5th 1921. Then personally appeared the above named Sarah M. Greenwood and acknowledged the foregoing instrument to be her free act and deed, before me. Abel R. Campbell Notary Public My commission expires Oct. 14th 1921.

Middlesex ss. N. Dist. Reg. of Deeds Recorded Aug. 5, 1921, 3- P. M.

Shunney to City of Lowell

I, Elizabeth J. Shunney, of Lowell, Middlesex County, Massachusetts, being unmarried for consideration paid, grant to the City of Lowell, a municipal corporation in said County and Commonwealth with quitclaim covenants the land in Lowell, with buildings thereon, situated on the westerly side of Kirk Street, bounded and described, as follows: On the east by said Kirk Street twenty-six and 50/100 (26.50) feet; on the South by land now or formerly of Joseph P. Kearney one hundred six and 20/100 (106.20) feet; on the west by land now or formerly of Almira Chapman and of Joseph and Eugenie Gagnon

twenty-six and 50/100 (26.50) feet, on the north by land now or formerly of James Crompton one hundred six and 20/100 (106.20) feet, containing about two thousand eight hundred fourteen and three tenths (2814.3) square feet of land more or less. Being the same premises conveyed to me by Augusta M. Storey, Guardian, by her deed dated January 27, 1913 and recorded in the Middlesex North District Registry of Deeds, Book 500, Page 554. Witness my hand and seal this second day of August, 1921.

Elizabeth J. Shumny (seal)

Commonwealth of Massachusetts Middlesex, ss. August second 1921. Then personally appeared the above named Elizabeth J. Shumny and acknowledged the foregoing instrument to be her free act and deed, before me. Fisher H. Pearson Justice of the Peace. My Commission Expires Sept. 26, 1924.

Middlesex ss. N. Dist. Reg. of Deeds Recorded Aug. 5, 1921, 3:50 P.M.

Jackson to Provident Co-op Bank Chelsea

See Discharge B. 736 P. 521

I, Catherine M. Jackson, of Wilmington, Middlesex County, Massachusetts for consideration paid, grant to The Provident Co-operative Bank, situated in Chelsea, Suffolk County, Massachusetts, with mortgage covenants, to secure the payment of Thirty-five Hundred dollars, and interest and fines as provided in my note of even date, the land in the Northerly part of said Wilmington, bounded: Beginning at the Southwesterly corner thereof on Andover Street (formerly Woburn Street) thence running Northerly by said Street, six hundred eighty-one (681) feet to stake and stones at land now or late of Coffin; thence Easterly by said Coffin's land, eleven hundred forty-three (1143) feet to a stake and stones in the brook, thence Northerly by said brook and by said Coffin's land to land of Cummings, thence Easterly by said Cumming's land to a stake and stones, thence Southerly by land late of Ford to a stake and stones, thence Westerly by land late of Harnden to point of beginning. Containing thirty acres, be said measurements and contents more or less. Being the premises conveyed by deed of John A. Jackson, recorded with Middlesex North District Deeds, book 564, page 549. I hereby transfer and pledge to the said mortgagee 18 shares in the 72 d series of its capital stock as collateral security for the performance of the condi-

K-14	Kirk	W.S	Nos. *56		
Area	Front	Date	Book	Page	Transfers
Ida Adams 2544	24.00				
James Crompton 2544	24.00	of 10-29 '09	John J.Harvey,Exr. 458	538	
City of Lowell 2544	24.00	of 10-30 '15	James Crompton 545	185	Taking
City of Lowell 2544	24.00	of 6- 6 '22	James Crompton 655	513	
City of Lowell-trans.to 24-74 Kirk St.(103334')					2544

LIBRARY BUREAU, 96562 b

deed, I and my heirs and assigns may hold and enjoy the granted premises and receive the rents and profits thereof. And for the consideration aforesaid I, Sarah J. Stewart, wife of said Thomas H. Stewart, do hereby release unto the said grantee and his heirs and assigns all right of or to both **dower and homestead** in the granted premises and all rights by statute and all other rights and interests therein **In witness whereof** we, the said Thomas H. Stewart and Sarah J. Stewart hereunto set our hands and seals this twenty-eighth day of October in the year one thousand nine hundred and ten.

Signed and sealed in presence of Chas. H. McIntire — Thomas H. Stewart (seal) — Sarah J. Stewart (seal)

Commonwealth of Massachusetts Middlesex ss Oct. 29th 1910 Then personally appeared the above-named Thomas H. Stewart and acknowledged the foregoing instrument to be his free act and deed before me Chas. H. McIntire Justice of the Peace.

Middlesex ss. N. Dist Reg. of Deeds Recorded Oct. 29, 1910, 11:45 A.M.

Adams' Exor. to Crompton

Know all Men by these Presents that whereas I, John J. Harvey, of Lowell in the County of Middlesex and Commonwealth of Massachusetts, as Executor of the will of Charles E. Adams, late of Lowell in said County deceased, by virtue of a license granted to me on the thirteenth day of September, 1910, by the Probate Court for the County of Middlesex in said Commonwealth, sold the real estate of the said deceased, hereinafter described, at public auction, on the fifteenth day of October 1910, to James Crompton of said Lowell for the sum of Forty One Hundred Fifty Dollars, which amount was bid by the said James Crompton, and was the highest bid made therefor at said auction. **Now therefore** in consideration of the said sum of Forty One Hundred Fifty Dollars to me paid by the said James Crompton the receipt whereof is hereby acknowledged, I do, as Executor as aforesaid, and by virtue of the aforesaid license, hereby grant, bargain, sell, and convey unto the said James Crompton a certain parcel of land with the buildings thereon, situated on the westerly side of Kirk street in said Lowell, and bounded and describ-

ed as follows: Beginning on the westerly side of said Kirk street at a point distant one hundred two and one-half feet northerly from the northeasterly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to Harlin Pillsbury by deed dated April 29, 1843; thence running westerly at a right angle to said Kirk street ninety-eight and 19/100 feet; thence northerly at a right angle twenty-four feet; thence easterly at a right angle ninety eight and 19/100 feet to said Kirk street; thence southerly at a right angle along said Kirk street twenty four feet to the point of beginning. Containing two thousand three hundred fifty-six and 56/100 square feet more or less and being the same premises conveyed to Mary B. Barrett by Caroline R. D. Blanchard and others by deed dated November 1, 1878 and recorded in the Registry of Deeds for the Northern District of said County of Middlesex, Book 131, Page 357. The deceased, said Charles E. Adams, derived title to said premises as devisee under the will of his deceased wife, Idam M. Adams, late of said Lowell, said Idam M. Adams having acquired title to the premises as sole heir-at-law of her mother, said Mary Barrett, late of said Lowell, deceased, intestate. This conveyance is made subject to the taxes for the year 1910 which the grantee hereby assumes and agrees to pay. **To have and to hold** the granted premises, with all the privileges and appurtenances thereto belonging, to the said James Crompton and his heirs and assigns to their own use and behoof forever. And I hereby covenant with the grantee and his heirs and assigns that notice of the time and place of said sale was given according to the order of the said Probate Court, and that said premises were sold accordingly at public auction as above set forth. **In witness whereof** I hereunto set my hand and seal this twenty ninth day of October in the year one thousand nine hundred and ten.

{ John J. Harvey Executor of the will of Charles E. Adams (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell, October 29, 1910. Then personally appeared the above named John J. Harvey and acknowledged the foregoing instrument to be his free act and deed, before me, Grace

L. Peirce Special Commissioner.
Middlesex ss N. Dist. Reg. of Deeds Recorded Oct. 29, 1910, 11:52 A.M.

Crompton to Middlesex Co-op. Bank.

See Discharge B. 654 P. 500

Know all Men by these Presents that I, James Crompton of Chelmsford in the County of Middlesex and Commonwealth of Massachusetts in consideration of Two Thousand Dollars paid by The Middlesex Co-operative Bank, a Corporation duly established by law in Lowell in the County of Middlesex, and Commonwealth of Massachusetts, the receipt where of is hereby acknowledged do hereby give, grant, bargain, sell and convey unto the said Corporation, its successors and assigns, a certain lot of land, with the buildings thereon, situated in said Lowell on the westerly side of Kirk street and bounded and described as follows:- Beginning on the westerly side of Kirk street at a point which is northerly of and one hundred two and 5/100 feet distant from the northeasterly corner of land conveyed to one Pillsbury; thence westerly at a right angle to said Kirk street ninety-eight and 19/100 feet; thence northerly at a right angle twenty-four feet; thence easterly at a right angle ninety-eight and 19/100 feet to said Kirk street; thence southerly at a right angle on said Kirk street twenty-four feet to the point of beginning. Subject to the restriction that no building shall ever be erected within eight feet of said Kirk street and no building more than one story in height, of any material other than brick, stone or other incombustible material shall be erected on the premises. Said eight feet to be forever kept open for a sidewalk. Being the same premises to me conveyed by John J. Harvey, Executor under the will of Charles E. Adams, duly recorded herewith. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Corporation, and its successors and assigns, to their own use and behoof forever. And I hereby, for myself and my heirs, executors, and administrators, covenant with the said grantee and its successors and assigns, that I am lawfully seized in fee-simple of the granted premises; that they are free from all incumbrances, except as aforesaid; that I have good right to sell and convey the same as aforesaid; and that I will and my heirs, executors

even date herewith to be recorded in Middx No. Dist. Reg of Deeds. Witness my hand and seal this 12th day of December 1921.

P. Harold Ready (seal)

Commonwealth of Massachusetts Middlesex ss. December 12, 1921. Then personally appeared the above named P. Harold Ready and acknowledged the foregoing instrument to be his free act and deed before me. John P. Farley. Justice of the Peace. My commission expires May 1, 1925.

Middlesex ss. N. Dist. Reg of Deeds. Recorded Jan. 6, 1922. 3:28 P.M.

Middlesex Co-op Bank Lowell to S Hanley. Discharge.

Know all Men by these Presents That the Middlesex Co-operative Bank of Lowell in the County of Middlesex and Commonwealth of Massachusetts the mortgagee named in a certain mortgage given by Michael H. S. Hanley dated April 24 A.D. 1914 and recorded with Middlesex North District Deeds Lib. 523 Fol. 83 hereby acknowledges that it has received full payment and satisfaction of the debt secured thereby and of the conditions therein contained and in consideration thereof it hereby cancels and discharges said mortgage. In witness whereof the said Middlesex Co-operative Bank has caused its corporate seal to be hereunto affixed and these presents to be signed acknowledged and delivered in its name and behalf by William D. Brown its Treasurer hereto duly authorized this sixth day of January 1922.

Middlesex Co-operative Bank
[corporate seal]
by William D. Brown
Treasurer

Commonwealth of Massachusetts Middlesex ss. Lowell January 6, 1922. Then personally appeared the above named William D. Brown Treasurer and acknowledged the foregoing instrument to be the free act and deed of Middlesex Co-operative Bank before me. Russell Fox Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded Jan. 6, 1922. 3:45 P.M.

Crompton to City of Lowell

one dollar ($1.00) U.S.R. Stamp cancelled J.C. Dec 22 1921

I James Crompton of Chelmsford Middlesex County Massachusetts for consideration paid grant to City of Lowell a municipal corporation duly established by law with quitclaim covenants all my right title and interest in and to a certain parcel of land with buildings situated on the west-

erly side of Kirk Street in said Lowell bounded and described as follows: Beginning at the southeasterly corner of the premises at a point in the westerly line of Kirk Street at land now or formerly of Elizabeth J. Shimmy; thence westerly at a right angle with said westerly line of Kirk Street by land of said Shimmy about one hundred six and 2/10 (106.2) feet to land now or formerly of Joseph and Eugenie Gagnon; thence northerly at a right angle by land of said Gagnon about twenty-four (24) feet to land now or formerly of Mary A. Pillsbury; thence easterly at a right angle by land of said Pillsbury about one hundred six and 2/10 (106.2) feet to the westerly line of Kirk Street; thence southerly at a right angle by said westerly line of Kirk Street about twenty-four (24) feet to the point of beginning. Containing two thousand five hundred forty-eight and 8/10 (2548.8) square feet, more or less. Being the parcel of land marked "James Crompton" on a plan entitled "Plan of land taken by City of Lowell Mass. for New High School Oct. 9, 1915. Scale 20 ft. to an inch" which plan is recorded in Middlesex North District Registry of Deeds, Book of Plans 33, Plan 25. I, Flora Crompton, wife of said grantor release to said grantee all rights of dower and homestead and other interests therein. Witness our hands and seals this twenty-ninth day of December, 1921.

James Crompton (seal)
Flora A. Crompton (seal)

Commonwealth of Massachusetts, Middlesex, ss. Lowell, December 29, 1921. Then personally appeared the above named James Crompton and acknowledged the foregoing instrument to be his free act and deed. Before me, Francis Monarief, Jus. Justice of the Peace. My commission expires Feb. 12, 1926.

Middlesex, ss. N. Dist. Reg. of Deeds, Recorded Jan. 6, 1922, 4 P.M.

Brenner et al to S. Kaff

two hundred fifty-one words

Three dollars & fifty cents ($3.50) U.S.R. stamps cancelled 1-3-22 DB J.P.

We, David L. Brenner of Revere, Suffolk County, Massachusetts and Joseph Rick of Lowell, Middlesex County, Massachusetts, for consideration paid, grant to George S. Kaff and Michael S. Kaff, as tenants in common, both of said Lowell, with quitclaim covenants the land in said Lowell with the buildings thereon bounded and described as follows: Beginning at the southwesterly corner of the premises on Fletcher Street at land of J. B. Richardson; thence northerly on said Fletcher Street one hundred twenty feet

K-14	Kirk	W.S	Nos. *58		
Area	Front	Date	Book	Page	Transfers
Heirs S.A. Boyden 2544	24.00				
City of Lowell 2544	24.00	of 10-30 '15	Mary A. Pillsbury 545	185	Taking
City of Lowell-trans. to 24-74 Kirk St. (103334')					2544

LIBRARY BUREAU, 96562 b

K-14	Kirk	W.S	Nos. *80

Area	Front	Date	Book	Page	Transfers
Children's Home of Lowell			of	Edward W. Trull	
2809	26.50	10-12 '05	381	186	
City of Lowell		of Children's Home of Lowell			
2809	26.50	10-30 '15	545	185	Taking
City of Lowell		of Children's Home, Lowell			
2809	26.50	12-21 '17	582	227	
City of Lowell		to		Duplicate Entry	
					2809
					(2)

LIBRARY BUREAU, 96562 b

to both Dower and Homestead in the granted premises In witness whereof we the said Edward W. Trull and Ellen D. Trull have hereunto set our hands and seals this ninth day of October in the year nineteen hundred and five. Edward W. Trull (seal) Ellen D. Trull (seal) Commonwealth of Massachusetts. Middlesex ss. October 9th, 1905. Then personally appeared the within-named Edward W. Trull and acknowledged the foregoing instrument to be his free act and deed, before me. Wm. Trull Sheppard Justice of the Peace. Middlesex ss. No. Dist. Reg. of Deeds. Rec'd Oct. 10, 1905. 8:45 a. m.

Trull to Children's Home

Know all Men by these Presents that I Edward W. Trull of Tewksbury in the County of Middlesex and Commonwealth of Massachusetts in consideration of One Dollar and other good and valuable considerations to me paid by the Children's Home of Lowell, a Corporation duly established under the laws of said Commonwealth and located in said Lowell in said County, the receipt whereof is hereby acknowledged, do hereby remise, release, and forever quitclaim unto the said Children's Home its successors and assigns a certain house and land in said Lowell, said land containing two thousand six hundred two and 3/100 square feet, more or less, and bounded as follows: viz Beginning on the westerly side of Kirk Street at a point which is northerly of and 150 50/100 feet distant from the north east corner of land conveyed by the Proprietors of the Locks and Canals on the Merrimac River to Harlan Pillsbury by deed dated April twenty nine, 1843, thence running at a right angle to said Kirk Street, westerly 98 19/100 feet: thence at a right angle northerly 26 50/100 feet: thence at a right angle easterly 98 19/100 ft. to said Kirk Street: thence southerly at a right angle 26 50/100 feet, on said Kirk Street to the point of beginning. Being the same premises conveyed to me by Hattie M. Campbell by her deed dated October ninth, 1905 and recorded with Middlesex North District Registry of Deeds, Book 381 Page 182. To Have and To Hold the granted premises, with all the privileges and appurtenances thereto belonging to the said Childrens Home and its successors and assigns to their own use and behoof forever. And I do hereby for myself and my heirs, executors and administrators, covenant with the said grantee and its successors and assigns that the granted premises are free from all incumbrances made or suffered by me, except the municipal taxes for the current year which the grantee assumes and agrees to pay, al-

so a mortgage of twenty-five hundred dollars due the Central Savings Bank on note dated Oct. 9, 1905, which the grantee also assumes and agrees to pay, and that I will and my heirs, executors, and administrators shall warrant and defend the same to the said grantee and its successors and assigns forever against the lawful claims and demands of all persons claiming by, through, or under me, except as aforesaid but against none other. And for the consideration aforesaid I, Ellen D. Trull, wife of said Edward W. Trull do hereby release unto the said grantee and its successors and assigns all right of or to both Dower and Homestead in the granted premises, and all other rights and interests therein. In witness whereof we the said Edward W. Trull and Ellen D. Trull hereunto set our hands and seals this ninth day of October in the year one thousand nine hundred and five. Edward W. Trull (seal) Ellen D. Trull (seal) Signed, sealed and delivered in presence of, Commonwealth of Massachusetts. Middlesex ss. Lowell, October 11th, 1905. Then personally appeared the above-named Edward W. Trull and acknowledged the foregoing instrument to be his free act and deed, before me. James F. Savage Justice of the Peace.

Middlesex ss. No. Dist. Reg. of Deeds, Rec'd Oct. 12, 1905, 4:55 P.M.

Attest Joseph P. Thompson Register

Collector's Office, August 8th, 1905. I, Andrew G. Stiles, Collector of Taxes for the City of Lowell, hereby certify that the Assessors of Taxes of said City of Lowell, in the list of assessments for taxes which they committed to me to collect for the year one thousand nine hundred and three, duly assessed Edward H. Morse the sum of ninety dollars and fifty seven cents (including two dollars and eighty five cents for street watering) as owner of the real estate situated and described as follows, viz: Ward 7. Pct. 2. Edward H. Morse, 5279 square feet of land, more or less, with buildings thereon, situate # 785 Broadway Street. And I further certify that proceedings have been commenced by me for the sale of said real estate for said tax, and that Warren P. Smith who claimed to be the holder of a mortgage thereon, has paid to me the sum of one hundred two dollars and fifty cents, being the amount of said tax, with interest, costs and charges, the receipt of which I hereby acknowledge, said receipt having been demanded by said mortgagee. Andrew G. Stiles Collector of Taxes for the City of Lowell. S. Middlesex, ss. Lowell, Mass. August 8th 1905.

Lowell Coll. of. to Smith.

Morse Est.

Tax Receipt.

set our hands and seals this twenty first day of December in the year one thousand nine hundred and seventeen.

Signed and sealed in presence of Chas. H. Mc Intire — Fred Lavigne (seal) — Ellen Lavigne (seal)

Commonwealth of Massachusetts Middlesex ss. Dec. 21st 1917. Then personally appeared the above-named Fred Lavigne and acknowledged the foregoing instrument to be his free act and deed, before me, Chas H. Mc Intire Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds Recorded Dec. 21, 1917. 10:37 A.M.

5 letters over erasures

m One dollar ($1.00) U.S.R.Stamp cancelled 2-15-17 F.R. City of Lowell

Know all Men by these Presents, that The Children's Home a corporation established under the laws of the Commonwealth of Massachusetts, and having its principal place of business in Lowell, in the County of Middlesex in said Commonwealth, in consideration of One Thousand Dollars ($1000) paid by the City of Lowell, a municipal corporation in said County, and Commonwealth, the receipt whereof is hereby acknowledged, does hereby remise, release, and forever quitclaim unto the said City of Lowell, its successors and assigns forever, a certain parcel of land with buildings thereon, situated on the westerly side of Kirk Street, in said City of Lowell, bounded and described as follows:- Beginning at the southeasterly corner of the premises at a point in the westerly line of Kirk Street at land now or formerly of Mary A. Pillsbury; thence westerly at a right angle with said westerly line of Kirk Street by land of said Pillsbury about one hundred six and two tenths (106.2) feet to land now or formerly of Anna F. and Elizabeth W. Anderson, thence northerly at a right angle by land of said Anderson about twenty-six and five tenths (26.5) feet to land now or formerly of the Lowell Day Nursery Association, thence easterly

Children's Home Lowell to City of Lowell

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at a right angle by land of said Lowell Day Nursery Association about one hundred six and two tenths (106.2) feet to the westerly line of Kirk Street; thence southerly at a right angle by said westerly line of Kirk Street about twenty-six and five tenths (26.5) feet to the point of beginning. Containing two thousand eight hundred fourteen and three tenths (2814.3) square feet, more or less, as shown on plan recorded in Middlesex Northern District Registry of Deeds, Book of Plans 33, Page 25 To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said City of Lowell and its successors and assigns, to their own use and behoof forever. In witness whereof the said The Children's Home has caused its corporate seal to be hereto affixed, and these presents to be signed in its name and behalf by Edward W. Trull, its treasurer, this fifteenth day of December, 1917.

The Children's Home
[corporate seal]
by Edward W Trull
Treasurer.

Commonwealth of Massachusetts Middlesex ss. Lowell, December 19 1917. Then personally appeared the above named Edward W. Trull and acknowledged the foregoing instrument to be the free act and deed of The Children's Hoone, before me William J. Carroll Justice of the Peace.

Vote

At a meeting of the directors of the Children's Home, duly called and with a quorum present, held at Lowell, in the County of Middlesex, and Commonwealth of Massachusetts, on the ninth day of January, A.D. 1917, it was unanimously voted that the Treasurer, Edward W. Trull, be and hereby is authorized for and on behalf of and in the name of the Children's Home, of said Lowell, to execute, acknowledge and deliver to the City of Lowell, a Municipal Corporation in said County for consideration paid, a deed of release of

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any and all interest it may have in and to certain premises situate on Kirk Street, in said Lowell, and known as number sixty on said street, being the same premises conveyed to said Children's Home on the ninth day of October, A.D. 1905, and recorded in Middlesex North District Deeds, book 381, page 186, and being the same premises taken by said City of Lowell by right of eminent domain by order of taking, passed by the Municipal Council, of said Lowell, October 9, 1915, and that the above vote is a true, correct and full copy of the records of said corporation, as far as it relates to the subject matter therein referred to. Warren L. Floyd Clerk of the Corporation.

A true copy. Attest:-

Witness
Ellen M. Holden

Warren L. Floyd
Clerk of the Corporation

Middlesex ss. N.Dist. Reg. of Deeds Recorded Dec. 21, 1917. 11:49 A.M.

Letter over erasure

m

One dollar ($1.00)
U.S.R. Stamps cancelled
T.J.R. 12-21-17

Know all Men by these Presents that I, Edwin A. Lynde of Lowell in the County of Middlesex and Commonwealth of Massachusetts, in consideration of One Dollar and other valuable considerations to me paid by Domingos E. Veiga of said Lowell and Rita D. Veiga wife of said Domingos E. Veiga the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said Domingos E. Veiga and Rita D Veiga: that parcel of land with the buildings thereon situated on the Northerly side of B. Street in said Lowell, and thus bounded and described: Beginning at the Southwesterly corner of the premises on said B. Street and at the Southeasterly corner of land of Charles P. Lynde, at a point which is distant thirty-eight (38) feet Easterly from the intersection of the Northerly line of said B. Street with the Easterly line of Warwick Street; thence Easterly along said B. Street thirty-nine (39) feet to a stone bound at

Lynde to Veiga

K-14	Kirk	W.S	Nos. *60

Area	Front	Date	Book	Page	Transfers
City of Lowell 2809	26.50	from			Original Entry
City of Lowell--trans. to 24-74 Kirk St. (103334')					2809

LIBRARY BUREAU, 98562 b

K-14	Kirk	W.S	Nos. 62 *4		
Area	Front	Date	Book	Page	Transfers
Lowell Day Nursery 2650	25.00				
City of Lowell 2650	of 25.00	Lowell Day Nursery 10-30 '15	545	185	Taking
City of Lowell-trans.to 24-74 Kirk St.(10333⅓') 2650					

LIBRARY BUREAU, 96562 b

A5

K-14 | Anne | E.S | Nos. 137 9 141
3 5 7

Area	Front	Date	Book	Page	Transfers
Est.Peder Anderson 5238					
Edward B. Field 5239		of Anna F.Anderson,et als 5- 1 '05			
Anna F.& Elizabeth W.Anderson 5239		of Edward B.Field 5- 1 '05			
City of Lowell 5239		of Anna F.& Eliz.W.Anderson 11-10 '15	548	63	
City of Lowell 5239		of Anna F.& Eliz.W.Anderson 10-30 '15	545	185	Taking
City of Lowell-trans.to 24-		74 Kirk St.(10334') 5239			

LIBRARY BUREAU, 98562 b

said, hereunto set our hands and seals this sixth day of December, 1915.
Signed and sealed in presence of Margaret E. Harrington
Horace P. Beals Trustee (seal)
David W. Dewar Trustee (seal)
Commonwealth of Massachusetts Middlesex ss. Lowell December 6, 1915. Then personally appeared the above named David W. Dewar and acknowledged the foregoing instrument to be his free act and deed before me, J. Joseph Hennessy Justice of the Peace.
Middlesex ss. N. Dist. Reg. of Deeds Recorded Dec. 10, 1915. 11:45 A. M.

3 letters over erasures

m. Nine Dollars ($9.00) U.S.R.Stamps cancelled A.F.A. Dec 9-1915

Anderson to City of Lowell

Know all Men by these Presents that we, Anna F. Anderson and Elizabeth W. Anderson, both of Lowell in the County of Middlesex and Commonwealth of Massachusetts, in consideration of Eight Thousand Seven Hundred and Fifty Dollars to us paid by the City of Lowell, a municipal corporation established under the laws of said Commonwealth and located in said County, the receipt whereof is hereby acknowledged, do hereby remise, release and forever quitclaim unto the said City of Lowell, a certain piece or parcel of land containing five thousand six hundred seventy-five and 15/100 (5675.15) square feet, with the buildings thereon situated in said Lowell on the easterly side of Anne street, and thus bounded and described: Beginning at the southwesterly corner of the premises on the easterly side of said Anne street at the northwesterly corner of land formerly of Stephen Cushing, now of Joseph Gagnon and Eugenie Gagnon, and at a point which is fifty-five (55) feet distant northerly by the course of said street from the northwesterly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to John O. Green, by deed dated May 25, 1844, now owned by Almira Chapman; thence running easterly at a right angle with said street and by the northerly side of said Gagnon land one hundred three and 19/100 (103.19) feet; thence northerly at a right angle fifty-five (55) feet to land of the Merrimack Manufacturing Company; thence westerly at a right angle

and by the southerly side of said Company's land one hundred three and 19/100 (103.19) feet to said Anne street; thence southerly at a right angle by said Anne street fifty-five (55) feet to the point of beginning Being the same premises to us conveyed by Edward B. Field by deed dated April 27, 1905 and recorded in the Registry of Deeds for the Northern District of said County, book 376, page 199. TO have and to hold the granted premises with all the privileges and appurtenances thereto belonging to the said City of Lowell and its successors and assigns to its and their own use and behoof forever. And we do hereby for ourselves and our heirs, executors and administrators covenant with the said grantee and its successors and assigns that the granted premises are free from all incumbrances made or suffered by us, and that we will, and our heirs executors and administrators shall, warrant and defend the same to the said grantee and its successors and assigns forever against the lawful claims and demands of all persons claiming by, through or under us, but against none other. In witness whereof we, the said Anna F. Anderson and Elizabeth W. Anderson, both being unmarried, hereunto set our hands and seals this ninth day of December in the year one thousand nine hundred and fifteen.

Witness
J. Joseph Hennessy

Anna F. Anderson (seal)
Elizabeth W. Anderson (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell, December 9th 1915. Then personally appeared the above named Anna F. Anderson and Elizabeth W. Anderson and acknowledged the foregoing instrument to be their free act and deed, before me. J. Joseph Hennessy Justice of the Peace.

Middlesex ss. N. Dist. Reg of Deeds Recorded Dec. 10, 1915. 11:46 A. M.

Ziskind et al. to Keables

Ten dollars & fifty cents ($0.50) U.S.R. Stamps cancelled DZ. 12-10-15

We, David Ziskind and Samuel Cohen, both of Lowell, Middlesex County, Massachusetts for consideration paid, grant to Nelson D. Keables of said Lowell with warranty covenants the land in said Lowell, with the buildings thereon, sit

2.m

K-14 | Anne | E.S | Nos. 149 151 3

5 7 9

Area	Front	Date	Book	Page	Transfers
Merrimack Mfg. Co. 5835					
City of Lowell 5835		of 10-30 '15	Merrimack Mfg. Co. 545	185	Taking
City of Lowell 5835		of 9-39 '24	Mer'k Mfg. Co. 713	1	
City of Lowell-trans.to 24-74 Kirk St.(103334')					5835

LIBRARY BUREAU, 96562 b

1

I, MARY A. LeCLAIR, of Lowell, Middlesex County, Massachusetts, for consideration paid, grant to the City of Lowell, a municipal corporation, in said County of Middlesex and Commonwealth of Massachusetts with QUITCLAIM COVENANTS the land in said Lowell being Lot No. 12, in the Fair Grounds Terrace Tract, shown on a Map or Plan of said Tract on file with the Middlesex North District Registry of Deeds. Said Lot 12 being more particularly described as fronting forty (40) feet on Gorham Street, and running back from said Gorham Street eighty (80) feet on the northerly line, eighty feet on the southerly line, and being 40 feet on rear line. Said lot containing 3200 square feet of land, and being the same premises conveyed to me by Charles F. Lancaster and Aldon A. Mills by their deed dated January 12, 1910, and recorded with the Middlesex North District Registry of Deeds, Book 461, Page 543. I, George A. LeClair, husband of said grantor release to said grantee all rights of COURTESY and other interests therein. WITNESS our hands and seals this 9th day of September 1924.

1096
LeClair
to
City of Lowell

Marietta L. McGrath — Mary A. LeClair (seal)

E. Helena Rivet — George A. LeClair (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell, September 9, 1924. Then personally appeared the above-named Mary A. LeClair and acknowledged the foregoing instrument to be her free act and deed, before me E. Helena Rivet Justice of the Peace. My commission expires October 18, 1929.

Middlesex ss. N. Dist. Registry of Deeds Recorded September 29, 1924.10:04 A. M.

KNOW ALL MEN BY THESE PRESENTS, That the Merrimack Manufacturing Company, a corporation organized under the laws of the Commonwealth of Massachusetts, in consideration of one dollar and other valuable considerations to it paid by the City of Lowell, a municipal corporation in the County of Middlesex and said Commonwealth, the receipt whereof is hereby acknowledged, does hereby remise, release and forever quitclaim unto the said City of Lowell a certain parcel of land with the buildings thereon situated on the easterly side of Anne Street in said Lowell, and bounded and described as follows: Beginning at the southwesterly corner of the premises on the easterly side of said Anne Street, and thence running easterly at a right angle to said Street by land formerly of Wright and Cushing, one hundred three and 19/100 (103.19) feet; thence northerly at a right angle sixty-one and 26/100 (61.25) feet; thence westerly at a right angle by land formerly of Samuel Burbank one hundred three and 19/100 (103.19) feet to said Anne Street; thence southerly on said Anne Street sixty-one and 26/100 (61.26) feet to the point of beginning. Being the same premises conveyed to the grantor by George A. Bragdon by deed dated March 24, 1894, and recorded in the Registry of Deeds for the Northern District of said County of Middlesex, Book 253, Page 24, and said premises are hereby conveyed subject to all conditions or restrictions referred to in said deed, so far as the same may be now in force and effect. This conveyance is also

1097
Merrimack Mfg. Co. Lowell
to
City of Lowell

made subject to all unpaid taxes and municipal assessments. TO HAVE AND TO HOLD the granted premises with all the privileges and appurtenances thereto belonging to the said City of Lowell and its successors and assigns, to their own use and behoof forever IN WITNESS WHEREOF, the said Merrimack Manufacturing Company has caused its corporate seal to be hereto affixed and these presents to be signed in its name and behalf by Herbert Lyman, its Treasurer, hereunto duly authorized, this second day of June, A. D. 1916.

Merrimack Manufacturing Company,

(corporate seal)

by Herbert Lyman

Treasurer.

Commonwealth of Massachusetts. Suffolk ss. June 2, 1916. Personally appeared the above named Herbert Lyman, Treasurer, and acknowledged the foregoing instrument to be the free act and deed of the Merrimack Manufacturing Company, Before me, Frederick W. Notman Justice of the Peace.

The foregoing deed is made, executed, acknowledged and delivered with the approval and by order of the Directors of the Merrimack Manufacturing Company, the real estate therein described not being needed, in their judgment, by said Company for manufacturing purposes, and the sale of the same being therefore authori.ed by them as is attested by the signatures of a majority of their Board.

Arthur Lyman

Henry S. Howe

George Wigglesworth

Herbert Lyman

Charles F. Ayer

Vote

At the annual meeting of the stockholders of the Merrimack Manufacturing Company, held February 21, 1916, it was VOTED: That the Directors be, and are hereby, authorized to sell or to lease for more than one year any of the real estate which in their opinion may not be needed for the operations of the Company, and that the Treasurer, under their direction, be authorized to make the necessary conveyances.

Attest:

William J. Edwards Clerk.

Middlesex ss. N. Dist. Registry of Deeds Recorded September 29, 1924. 10:05 A. M.

4 letters over erasure.

1098

Goodwin

to

Morse

WE, WILLIAM C. GOODWIN AND EVA B. GOODWIN, husband and wife, as tenants by the entirety, of Lowell, Middlesex County, Massachusetts, for consideration paid, grant to Anna W. Morse of Lowell, in said County with MORTGAGE COVENANTS, to secure the payment of One Thousand and Eighty Dollars in one year with seven per cent interest per annum, payable semi-annually as provided in our note of even date, The land with the build-

K-14 | Anne | E.S | Nos. 127 9 131

3 5

Area	Front	Date	Book	Page	Transfers
City of Lowell 5239		of 10-30 '15	Joseph Gagnon,et al 545	185	Taking
City of Lowell 5239		of 4-15 '21	Joseph Gagnon,et al. 642	145	
City of Lowell-trans.to 24-74 Kirk St.(103334')					5239
					(2)

LIBRARY BUREAU, 96562 b

and located at Lowell, Middlesex County, Massachusetts with mortgage covenants, to secure the payment of Twenty-Five Hundred Dollars in one year with seven per centum interest per annum, payable semi-annually at the Banking House of the grantee, as provided in a note of even date, the land in said Lowell with the buildings thereon, situated on the easterly side of Fort Hill Avenue, formerly Clay Street, and thus bounded and described:- Beginning at the northwesterly corner of the premises on the easterly side of said Fort Hill Avenue, at the southwesterly corner of lot No. 147 on plan hereinafter named; thence easterly along lot No. 147, seventy-three and 15/100 feet to the northwesterly corner of lot No. 157 on said plan; thence southerly along said lot No. 157, fifty feet; thence at a right angle westerly seventy-three and 15/100 feet to said Avenue; thence northerly along said Avenue, fifty feet to the point of beginning. Being the northerly half of lot numbered one hundred and forty eighty (148) on a "Plan of Land in Lowell, Mass., belonging to Ethan A. Smith, Eli W. Hoyt, Freeman B. Shedd and Thomas R. Garity, surveyed by Osgood & Snell, Lowell, 1883" and recorded with Middlesex North District Registry of Deeds, July 5, 1883 book of plans No. 4 plan No. 30. Being the same premises conveyed to me by deed of Alfred D. Ware, Excr., dated June 21, 1919, and recorded in said Registry book 607 page 242. This mortgage is upon the statutory condition, for any breach of which the mortgagee shall have the statutory power of sale. I, James Liston husband, of said mortgagor release to the mortgagee all rights of tenancy by the curtesy and homestead and all other interests in the mortgaged premises. Witness our hands and seals this thirteenth day of April A.D., 1921.

Signed and sealed in presence of a } Nellie T. Liston (seal)
James Liston (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell, April 13th, A.D., 1921. Then personally appeared the above named Nellie T. Liston and acknowledged the foregoing instrument to be her free act and deed, before me. Alice T. Hogan Notary Public

Middlesex ss. N. Dist. Reg. of Deeds Recorded Apr. 15, 1921, 3:05 P.M.

See Discharge B. 1484 P. 437

Joseph Gagnon and Eugenie Gagnon, husband and wife, of Lowell, Middlesex County, Massachusetts, for con-

Gagnon to City of Lowell

sideration paid, grant to the City of Lowell, a municipal Corporation in said County with Quitclaim Covenants the land in said Lowell, situated on the easterly side of Anne Street and bounded and described as follows: Beginning at the northwesterly corner of the premises at a point in the easterly line of Anne Street at land now or formerly of Anna F and Elizabeth W. Anderson, thence easterly at about a right angle with said easterly line of Anne Street by land of said Anderson about ninety-five and eighteen hundredths (95.18) feet to land now or formerly of Mary A. Pillsbury; thence southerly at a right angle by land of said Pillsbury and land now or formerly of James Crompton and land of Elizabeth J. Shumway about fifty-five (55.) feet to land now or formerly of Almina Chapman; thence westerly at a right angle by land of said Chapman about ninety-five and seventeen hundredths (95.17) feet to the easterly line of Anne Street; thence northerly at about a right angle; by said easterly line of Anne Street about fifty-five (55.) feet to the point of beginning. Containing five thousand two hundred thirty-five and six tenths (5235.6) square feet, more or less, as shown on plan recorded in Middlesex Northern District Registry of Deeds, Book of Plans 33, Page 25. Joseph Gagnon and Eugenie Gagnon, husband and wife, respectively, of said grantors release to said grantee all rights of dower curtesy and homestead and other interests therein. Witness our hands and seals this fifteenth day of April 1921.

Joseph Gagnon (Seal)
Eugenie Gagnon (Seal)

Commonwealth of Massachusetts Middlesex, ss. Lowell, April 15th 1921. Then personally appeared the above named Joseph Gagnon and acknowledged the foregoing instrument to be his free act and deed, before me Frederick N. Weir Justice of the Peace My Commission expires, September 15, 1927

Middlesex ss. N. Dist. Reg. of Deeds: Recorded Apr. 15, 1921, 3:50 P.M.

Haines to Smith

Fifty cents (.50) U.S.R. Stamps cancelled March 19 1920 F.A.H

Know all Men by these Presents, That We, Frank A. Haines, of Lowell, Middlesex County, Massachusetts, being unmarried and Fred E. Haines of said Lowell for consideration paid, grant to Margaret Smith of said Lowell with Quitclaim

K-14 | Anne | E.S | Nos. 101 3 5 7

9 111 3

Area	Front	Date	Book	Page	Transfers
George W. Carleton 7144					
Elliot F. Wood 7144		of 8- 1 '12	Brenda T. Warner, et al 490	582	L. 25
Genoa Club 7144		of 8- 1 '12	490	Elliot F. Wood 589	
City of Lowell 7144		of 10-30 '15	545	Genoa Club 185	Taking
City of Lowell-trans. to 24-74 Kirk St. (103334')					7144

LIBRARY BUREAU, 99562 b

To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging to the said Mary B. Wheeler and her heirs and assigns to their own use and behoof forever. And I do hereby, for myself and my heirs, executors and administrators covenant with the said grantee and her heirs and assigns that I am lawfully seized in fee simple of the granted premises, that they are free from all incumbrances except the following restrictions - No building shall be erected or placed on said land costing less than $300.00, nor within fifteen feet of any street line, that I have good right to sell and convey the same as aforesaid; and that I will and my heirs executors, and administrators shall warrant and defend the same to the said grantee and her heirs and assigns forever against the lawful claims and demands of all persons, except as aforesaid. And for the consideration aforesaid I, Rose Adelman wife of said Aaron Adelman do hereby release unto the said grantee and her heirs and assigns all right of or to both dower and homestead in the granted premises, and all rights by statutes and all other rights therein. In witness whereof we the said Aaron Adelman and Rose Adelman hereunto set our hands and seals this fifth day of August in the year one thousand nine hundred and twelve.

Signed, sealed and delivered in presence of — Aaron Adelman (seal)
Rose Adelman (seal)

Commonwealth of Massachusetts. Suffolk ss. August 5th, 1912. Then personally appeared the above-named Aaron Adelman and acknowledged the foregoing instrument to be his free act and deed, before me, Benjamin P. Sands, Notary Public.

Middlesex ss. N Dist. Reg. of Deeds. Recorded Aug. 7, 1912. 2:15 P. M.

Warner et al to Wood

Know all Men by these Presents that we, Brenda T. Warner, of Waterbury, in the State of Connecticut, formerly Brenda Tweed, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, and Gordon Tweed, of Phoenix, in the

State of Arizona, in consideration of the sum of One Dollar and other good and valuable considerations to us paid by Elliot F. Wood, of said Lowell, the receipt whereof is hereby acknowledged, do hereby remise, release and forever quitclaim unto the said Elliot F. Wood a certain lot of land, with the buildings thereon, containing about seven thousand one hundred forty-four square feet, situated on the easterly side of Anne street in said Lowell, the buildings on said premises being numbered 25 on said Anne street, and thus bounded: Beginning at a point in the easterly line of said Anne street and at the southwesterly corner of the granted premises and at the northwesterly corner of land of the City of Lowell, whereon stands the High School, so called; thence easterly at about a right angle on said City of Lowell land ninety-five and 25/100 feet, more or less, to land supposed to belong to the Harriet B. Jewett heirs; thence northerly at about a right angle on said last mentioned land, on land supposed to belong to Melinda W. Costello and on land supposed to belong to Ida C. Braun, seventy-five feet, more or less, to land supposed to belong to Joseph F. Robarge; thence westerly at about a right angle on said Robarge land ninety-five and 25/100 feet, more or less, to said Anne street; thence southerly at about a right angle along said Anne street seventy-five feet, more or less, to the point of beginning. Together with any and all rights that said grantors may have in said Anne street, and in and to the land included within the limits of said Anne street. Being the same premises, so far as we have title thereto, conveyed to George H. Carleton by the Proprietors of the Locks and Canals on Merrimack River by deed dated June 15, 1844, and recorded with Middlesex South District Deeds, book 444, page 444. Subject to the conditions set forth in said deed so far as the same are now in force and applicable to the granted premises. Our title to said premises is derived as heirs at law of Mary H. Tweed, who was the heir at law

of George W. Carleton, said Mary H. Tweed and said George W. Carleton being the heirs at law of George H. Carleton; see Middlesex Probate Records. Subject to taxes and assessments for the year 1912. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging to the said Elliot F. Wood and his heirs and assigns, to their own use and behoof forever. And we do hereby, for ourselves and our heirs, executors and administrators, covenant with the said grantee and his heirs and assigns, that the granted premises are free from all incumbrances made or suffered by us, except as aforesaid, and that we will and our heirs, executors and administrators shall warrant and defend the same to the said grantee and his heirs and assigns forever against the lawful claims and demands of all persons claiming by, through or under us, except as aforesaid, but against, none other. And for the consideration aforesaid, we, Percy de F. Warner, husband of the said Brenda T. Warner, and Bertha H. Tweed, wife of the said Gordon Tweed, do hereby respectively release unto the said grantee and his heirs and assigns, all estate by the curtesy or otherwise, and all right of or to both dower and homestead in the granted premises, and all rights by statutes and all other rights and interests therein. In witness whereof, we, the said Brenda T. Warner, Percy de F. Warner, Gordon Tweed and Bertha H. Tweed have hereunto set our hands and seals this thirty first day of July 1912.

Brenda T. Warner (seal)
Percy de F. Warner (seal)
Gordon Tweed (seal)
Bertha Howe Tweed (seal)

Commonwealth of Massachusetts. Middlesex, ss. August 1, 1912. Then personally appeared the above named Gordon Tweed and acknowledged the foregoing instrument to be his free act and deed before me, J. Gilbert Hill, Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds Recorded Aug. 1, 1912. 2:25 P. M.

2 words over erasure also 1 letter.

ty-first day of July in the year nineteen hundred and twelve.

Signed, sealed and delivered in presence of James C. Warner. } Elliot F. Wood (seal)

Commonwealth of Massachusetts. Middlesex ss. August 1, 1912. Then personally appeared the within named Elliot F. Wood and acknowledged the foregoing instrument to be his free act and deed, before me, James C. Warner, Notary Public (notarial seal)

Middlesex ss. N. Dist. Reg. of Deeds. Recorded. Aug. 1, 1912. 2:25 P.M

4 letters over erasures.

Wood to Genoa Club. Lowell.

Know all Men by these Presents that I, Elliot F. Wood, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, in consideration of One Dollar and other valuable considerations to me paid by the Genoa Club, a corporation organized under the laws of said Commonwealth and located at said Lowell, the receipt whereof is hereby acknowledged, do hereby remise, release, and forever quitclaim, unto the said Genoa Club, that parcel of land with the buildings thereon containing about seven thousand one hundred and forty-four (7144) square feet, situated on the southeasterly side of Anne street in said Lowell, the buildings on said premises being numbered 25 on said Anne street, and thus bounded: Beginning at a point in the southeasterly line of said Anne street and at the westerly corner of the granted premises, and at the northerly corner of land of the City of Lowell whereon stands the High school so called; thence southeasterly at about a right angle on said City of Lowell land ninety-five and 25/100 (95.25) feet, more or less, to land supposed to belong go the heirs of Harriet B. Jewett; thence northeasterly at about a right angle on said last mentioned land; on land supposed to belong to Melinda W. Costello and on land supposed to belong to Ida C. Braun seventy-five (75) feet, more or less, to land supposed to belong to Joseph T. Robarge; thence northwesterly at about a right angle on said Robarge land ninety-five

and 2‰ (95.26) feet, more or less, to said Anne street; thence southwesterly at about a right angle along said Anne street seventy-five (75) feet, more or less, to the point of beginning. Together with any and all rights which the grantor may have in said Anne street and in and to the land included within the limits of said Anne street. Being the same premises to me conveyed by Gordon Tweed et al by deed of even date and to be recorded in the Registry of Deeds for the Northern District of said County herewith. Subject to the restrictions referred to in said deed so far as the same are now in force and applicable to the granted premises. The above described premises are conveyed subject to a mortgage given by me to The Central Savings Bank of even date and to be recorded in said Registry herewith for the sum of $15000. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Genoa Club and its successors and assigns, to its and their own use and behoof forever. And I do hereby for myself and my heirs, executors, and administrators, covenant with the said grantee and its successors and assigns, that the granted premises are free from all incumbrances made or suffered by me, except as aforesaid, and except all taxes and other municipal assessments for the current year 1912 which the grantee assumes and agrees to pay; and that I will and my heirs, executors, and administrators shall, warrant and defend the same to the said grantee and its successors and assigns forever against the lawful claims and demands of all persons claiming by, through, or under, except as aforesaid, but against none other. In witness whereof I the said Elliot F. Wood, being unmarried, hereunto set my hand and seal this thirty-first day of July in the year one thousand nine hundred twelve.

Signed and sealed
in the presence of
James C. Warner.

Elliot F. Wood (seal)

Commonwealth of Massachusetts Middlesex, ss. August 1, 1912. Then personally appeared the above-named Elliot F. Wood and acknowledged the foregoing instrument to be his free act and deed, before me, James C. Warner, Notary Public (notarial seal)

Middlesex ss. N. Dist. Reg. of Deeds Recorded Aug. 1, 1912. 2:25 P.M.

Know all Men by these Presents that Whereas, I, Edward W. Clark a Deputy Sheriff for the County of Middlesex in the Commonwealth of Massachusetts, having on the 17th. day of June in the year one thousand nine hundred and twelve by virtue of a writ of execution, which was issued on a judgement recovered at the Superior Court holden within and for the County of Middlesex on the third day of June in the year one thousand nine hundred and twelve, by Sowell Trust Company against the Chelmsford Foundry Company seized and taken all the right, title, and interest which the said Chelmsford Foundry Company had on the 7th day of June in the year one thousand nine hundred and seven being the time when the same was attached on mesne process, in and to the lands hereinafter described, and having given the notices of the time and place of sale, and caused to be published the advertisements thereof which are required by law, did on the twenty-fifth day of July in the year one thousand nine hundred and twelve make sale of the aforesaid right, title and interest, at public auction, to Silesia Worsted Mills, Inc. for the sum of Seventeen Thousand Dollars which amount was bid by the said Silesia Worsted Mills, Inc. and was the highest bid made therefor at said auction. Now, therefore, in consideration of said sum of Seventeen Thousand Dollars to me paid by the said Silesia Worsted Mills, Inc. the receipt of which sum I hereby acknowledge, I do hereby grant, bargain, sell and convey to the said Silesia Worsted Mills, Inc. all the right, title, and

Chelmsford Foundry Co. to Silesia Worsted Mills Inc.

Sheriff's Sale.

K-14 | Anne | E.S | Nos. 69 71 3 5

7 9 81 3 5 7 9 91 3 5 7 8

Area	Front	Date	Book	Page	Transfers
City of Lowell (High Sch)					
31194	155.00				
City of Lowell-trans.to 24-74 Kirk St.(103334')					
					31194

LIBRARY BUREAU, 96562 b

K-14 | Anne | E.S | Nos. 115 7 9

121 3. 5 (#27)

Area	Front	Date	Book	Page	Transfers
Joseph F. Robarge 5715		of 9-24 '10	Warren F. Robarge 456	543	
Almira Chapman 5715		of 11-26 '12	Joseph F. Robarge 498	19	
City of Lowell 5715		of 10-30 '15	Almira Chapman 545	185	Taking
City of Lowell 5715		of 12-16 '21	Almira Evans 654	423	
City of Lowell-trans. to 24-74 Kirk St. (103334')					5715 (2)

LIBRARY BUREAU, 96662 b

these presents to be signed, executed, acknowledged, and delivered in its name and behalf, by its Treasurer Franklin E. Johnson hereunto duly authorized, this twenty fourth day of September in the year of our Lord one thousand nine hundred and ten. Merrimack River Savings Bank Corporate seal by Franklin E. Johnson Treasurer Commonwealth of Massachusetts Middlesex ss Sept. 24, 1910 Then personally appeared the above-named Franklin E. Johnson, Treas. and acknowledged the foregoing instrument to be the free act and deed of the Merrimack River Savings Bank of Lowell, before me, Thomas H. Varnum Justice of the Peace

Middlesex ss. N.D.ist. Reg. of Deeds, Recorded Sept. 24, 1910, 11:25 A.m.

LIB 455

Know all Men by these Presents that I, Warren F. Robarge of Lowell, in the County of Middlesex and Commonwealth of Massachusetts in consideration of One Dollar and other valuable considerations to me paid by Joseph F. Robarge of said Lowell the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said Joseph F. Robarge, a certain parcel of land with the buildings thereon situated in said Lowell, containing six thousand one hundred ninety-one and 40/100 (6191.40) square feet, and thus bounded: Beginning on the easterly side of Anne Street at the northwesterly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to George H. Carleton by deed dated January 13, 1844; thence running easterly at a right angle to said Anne street one hundred three and 19/100 (103.19) feet on said Carleton land; thence northerly at a right angle sixty (60) feet; thence westerly at a right angle one hundred three and 19/100 (103.19) feet to said Anne street; thence southerly at a right angle sixty (60) feet on said Anne street to the point of beginning. Being the same premises conveyed by the Lowell Machine Shop to Henrietta Robarge by deed dated January 8, 1896, and recorded in the Registry of Deeds for the Northern District of said County, Book 386, Page 534, and this conveyance is made with the benefit of and subject to all the rights, restrictions, conditions, provisions, stipulations, covenants

Robarge to Robarge

and agreements relating to the above described premises. My title to said premises is derived as heir-at-law of my mother, Henriette Robarge, late of said Lowell, who deceased, intestate, April 24, 1908 and whose estate has been duly probated in the Probate Court for said County. To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said Joseph F. Robarge and his heirs and assigns, to their own use and behoof forever. And I hereby for myself and my heirs, executors, and administrators, covenant with the grantee and his heirs and assigns that I am lawfully seized in fee simple of the granted premises; that they are free from all incumbrances; except as aforesaid, that I have good right to sell and convey the same as aforesaid; and that I will and my heirs, executors, and administrators shall warrant and defend the same to the grantee and his heirs and assigns forever against the lawful claims and demands of all persons, except as aforesaid. In witness whereof I, the said Warren F. Robarge, being unmarried, hereunto set my hand and seal this twenty-fourth day of September in the year one thousand nine hundred and ten. Warren F. Robarge (seal) Commonwealth of Massachusetts Middlesex, ss. September 24th, 1910. Then personally appeared the above-named Warren F. Robarge and acknowledged the foregoing instrument to be his free act and deed, before me John J. Harney Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds, Recorded Sept. 24, 1910, 11:25 a.m.

Robarge to Cross.

See Discharge B. 508 P. 395

Know all Men by these Presents that I, Joseph F. Robarge of Lowell in the County of Middlesex and Commonwealth of Massachusetts in consideration of Four Thousand Dollars paid by Helen S. Cross, wife of Charles F. Cross, of said Lowell, the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said Helen S. Cross, a certain parcel of land with the buildings thereon situated on the southeasterly side of Anne street, in said Lowell, containing six thousand one hundred ninety-one and 40/100 (6191.40) square feet, more or less, and thus bounded and described: Beginning on the

of the debt thereby secured and of the conditions therein contained, and in consideration thereof I do hereby cancel and discharge said mortgage. In witness whereof I hereunto set my hand and seal this twenty-sixth day of November A.D. 1912.

William T. Stheppard (seal)

Commonwealth of Massachusetts. Middlesex, ss. November 26, 1912. Then personally appeared the above named William T. Stheppard and acknowledged the foregoing instrument to be his free act and deed. Before me, James C. Warner, Notary Public.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded Nov. 26, 1912. 10:27 A.M.

Edgerly to Robarge Discharge.

Know all Men by these Presents that I, Lillian E. Edgerly, of Cambridge, in the County of Middlesex and Commonwealth of Massachusetts, the mortgagee named in a certain mortgage given by Joseph F. Robarge, to me, said Lillian E. Edgerly dated October 25, A.D. 1911, and recorded with the Registry of Deeds for the Northern District of said County, book 477, page 319, do hereby acknowledge that I have received full payment and satisfaction of the debt thereby secured and of the conditions therein contained, and in consideration thereof I do hereby cancel and discharge said mortgage. In witness whereof I hereunto set my hand and seal this twenty-fifth day of November A.D. 1912.

Signed and sealed in the presence of William T Stheppard.

Lillian E. Edgerly (seal)

Commonwealth of Massachusetts. Middlesex ss. November 25th, 1912. Then personally appeared the above-named Lillian E. Edgerly and acknowledged the foregoing instrument to be her free act and deed, before me, William T. Stheppard, Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded Nov. 26, 1912. 10:30 A.M.

Robarge to Chapman.

Know all Men by these Presents, that I, Joseph F. Robarge, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, in consideration of One Dollar and other valuable considerations to me paid by Almira Chapman, wife of For-

rust H. Chapman, of Manchester in the County of Hillsborough and State of New Hampshire, the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell and convey unto the said Almira Chapman, a certain parcel of land with the buildings thereon situated on the southeasterly side of Anne street in said Lowell, containing six thousand one hundred ninety-one and 40/100 (6191.40) square feet, more or less, and thus bounded and described: Beginning on the southeasterly side of said Anne street at the northerly corner of land conveyed by the Proprietors of the Locks and Canals on Merrimack River to George H. Carleton by deed dated January 13, 1844, and recorded in the Registry of Deeds, for said County of Middlesex (now Southern District) book 438, page 284; thence southeasterly at a right angle to said Anne street one hundred three and 19/100 (103.19) feet on said Carleton land; thence northeasterly at a right angle sixty (60) feet; thence northwesterly at a right angle one hundred three and 19/100 (103.19) feet to said Annestreet; thence southwesterly at a right angle sixty (60) feet on said Anne street at the point of beginning. Being the same premises conveyed by the Lowell Machine shop to Henrietta Robarge by deed dated January 8, 1906, and recorded in the Registry of Deeds for the Northern District of said County of Middlesex, book 386, page 534. This conveyance is made with the benefit of and subject to all rights, restrictions, conditions, provisions, stipulations, covenants and agreements relating to the above described premises as set forth, contained or referred to in said last mentioned deed. The title of said Joseph F. Robarge to said premises is derived under a deed given by Warren F. Robarge dated September 24, 1910, and recorded in said last mentioned Registry, book 456, page 543, and also as one of the heirs-at-law of his late wife, Henrietta Robarge, who deceased, intestate, April 24, 1908, and whose estate has been duly probated in the Probate Court for said County of Middlesex. The above described premises are conveyed subject to the taxes and other municipal assessments for the years 1911 and 1912. To have and to hold the granted premises, with all the privileges and appurtenances

thereto belonging, to the said Almira Chapman and her heirs and assigns, to their own use and behoof forever. And I hereby for myself and my heirs, executors, and administrators, covenant with the grantee and her heirs and assigns that I am lawfully seized in fee-simple of the granted premises; that they are free from all encumbrances; except as aforesaid; that I have good right to sell and convey the same as aforesaid; and that I will and my heirs, executors, and administrators shall warrant and defend the same to the grantee and her heirs and assigns forever against the lawful claims and demands of all persons, except as aforesaid. In witness whereof I the said Joseph F. Robarge, being unmarried, hereunto set my hand and seal this twenty-fifth day of November in the year one thousand nine hundred and twelve.

Signed and sealed in presence of the words "of Middlesex" interlined before signing William T. Sheppard.

Joseph F. Robarge (seal)

Commonwealth of Massachusetts. Middlesex ss. November 25th. 1912. Then personally appeared the above-named Joseph F. Robarge and acknowledged the foregoing instrument to be his free act and deed, before me, William T. Sheppard, Justice of the Peace.

Middlesex ss. N. Dist. Reg. of Deeds. Recorded Nov. 26, 1912. 10:30 A.M.

ATTEST:

Know all Men by these Presents that I, Alfred Therriault, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, in consideration of Three Hundred Dollars, paid by The Central Savings Bank, a Corporation established under the laws of the Commonwealth of Massachusetts, and located at Lowell, in the County of Middlesex and said Commonwealth, the receipt whereof is hereby acknowledged, do hereby give, grant, bargain, sell, and convey unto the said The Central Savings Bank, that parcel of land with the buildings thereon, situated on the northerly side of Circuit avenue and on the westerly side of Melton street in said Lowell, shown as lots 367, 368, 369, 370 and 371 on a plan entitled, "Building lots at Riverside Park Annex

Therriault to Central Savings Bank - Lowell

See Discharge B 603 P. 394

in and to a certain parcel of land with the buildings thereon, being lot numbered three hundred and sixty and a part of lot numbered three hundred and fifty nine on plan drawn by S. H. Fuller in 1831, situated on the southerly side of Durant Street in said Lowell and thus bounded: Beginning at a stake at the northwesterly corner of said premises and running on said street, southeasterly seventy-five feet to land now or formerly of Daniel Jacobs; thence southwesterly by land of said Jacobs one hundred nine and 15/100 feet more or less to land now or formerly of Thomas F. Fay; thence northwesterly along said last named land, seventy-five feet to land now or formerly of one A M. Bartlett; thence northeasterly by land of said Bartlett, one hundred eight and 15/100 feet to the point of beginning. Being the same premises conveyed to me by deed of said Denis A. O'Brien et. al., dated April 17, 1920, and recorded with Middlesex North District Registry of Deeds, book 626, page 14. These premises are conveyed subject to a mortgage of Three Thousand Dollars to the Washington Savings Institution Witness my hand and seal this twelfth day of December A. D. 1921.

William A. Hogan } Mary J. O'Brien (seal)

Commonwealth of Massachusetts Middlesex ss Lowell, December 12, A. D. 1921. Then personally appeared the above named Mary J. O'Brien and acknowledged the foregoing instrument to be her free act and deed before me William A. Hogan Notary Public My commission expires July 6, 1922.

Middlesex ss N. Dist Reg of Deeds Recorded Dec. 16, 1921, 1:50 P. M

Evans to City of Lowell

I, Almira Evans, formerly Almira Chapman, sometimes called Almira W. Chapman of Lowell, Middlesex County, Massachusetts for consideration paid, grant to the City of Lowell, a municipal corporation in said County and Commonwealth, with quitclaim covenants the land in said Lowell with buildings thereon, situated on the easterly side of Anne Street, bounded and described as follows:- Beginning at the northwesterly corner of the premises at a point in the easterly line of Anne Street at land now or formerly of Joseph and Eugenia Gagnon; thence easterly at about a right angle with said easterly line of Anne Street by land of said Gagnon about ninety-five and seventeen hundredths (95.17) feet to land now or formerly of Elizabeth J. Shumny; thence southerly at a right angle

by land of said Shumny and land now or formerly of Joseph P. Kearney and land of Ida C. Braun about sixty (60) feet to land of the Genoa Club; thence westerly at a right angle by land of said Genoa Club about ninety-five and sixteen hundredths (95.16) feet to the easterly line of Anne Street; thence at about a right angle northerly by said easterly line of Anne Street about sixty (60) feet to the point of beginning. Containing five thousand seven hundred nine and nine tenths (5709.9) square feet, more or less, as shown on plan recorded in Middlesex Northern District Registry of Deeds, Book of Plans 33. Page 25. Being the same premises conveyed to me as Almira Chapman, by Joseph F. Roberge, by his deed dated November 25, 1913, and recorded in Middlesex North District Registry of Deeds, Book 498, Page 19. I, Robert C. Evans, husband of said grantor release to said grantee all rights of courtesy and homestead and other interests therein. Witness our hands and seals this eighteenth day of November 1921

Almira Evans (seal)
Robert C. Evans (seal)

Commonwealth of Massachusetts Middlesex ss. Lowell Nov. 18th 1921. Then personally appeared the above named Almira Evans and acknowledged the foregoing instrument to be her free act and deed, before me John J. Harvey Justice of the Peace

Middlesex ss. N. Dist Reg of Deeds, Recorded Dec. 16, 1921, 4:15 P. M.

Braun to City of Lowell

I, Ida C. Braun of Lowell, Middlesex County, Massachusetts for consideration paid, grant to the City of Lowell, a municipal corporation, in said County and Commonwealth with quitclaim covenants the land in said Lowell, bounded and described, as follows: A certain parcel of land with buildings, located on the westerly side of Kirk Street. Beginning at the southeasterly corner of the premises at a point in the westerly line of Kirk Street at land now or formerly of the Estate of Melinda W. Costello, thence westerly at a right angle with said westerly line of Kirk Street by land of said Costello about one hundred six and two tenths (106.2) feet to land now or formerly of the Genoa Club; thence northerly, at a right angle, by land of said Genoa Club and land now or formerly of Almira Chapman about twenty-seven (27) feet to land now or formerly of Joseph P. Kearney;

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DEED

City Development Authority, a public body, politic and corporate, duly organized and existing pursuant to Massachusetts General Laws, Chapter 610 of the Acts of 1967, having an usual place of business in Lowell, Middlesex County, Massachusetts (the Grantor) in consideration of One Dollar ($1.00) paid grant unto the CITY OF LOWELL, a municipal corporation duly established by law and having its usual place of business at City Hall in Lowell, Middlesex County, Massachusetts (the Grantee) with QUITCLAIM COVENANTS, the following parcel of land:

A certain parcel of land situated in Lowell, Easterly side of Arcand Drive and the Southerly side of a new street containing 143,129 square feet, more or less, and being shown as Lot 7C on a plan entitled "Compiled Disposition Map of Lot 7C in Lowell, Massachusetts, Northern Canal Renewal Area, Project No. Mass. R-16, Scale 1"=100', dated November 29, 1968, Dana F. Perkins & Sons, Inc. Civil Engineers & Surveyors Lowell and Reading, Massachusetts", which plan is to be recorded herewith and thus bounded and described:

Beginning at a point at Arcand Drive and Lot 7A as shown on said plan

Thence N 17° 07' 25" E 129.03 to a point

Thence along a curved line at a radius of 44.00 feet and a length of 69.12 feet to a point on French Street Extension

Thence S 72° 52' 35" E 313.32 feet to a point

Thence along a curved line with a radius of 1260.00 feet and a length of 194.85 to land of the City of Lowell as shown on said plan

Thence S 64° 00' 58" E 27.47 feet to a point

Thence S 48° 24' 12" W 431.20 feet to a point

Thence N 41° 40' 42" W 414.61 feet to Arcand Drive the point of beginning

Subject to a right of way granted to the Boston and Maine Corporation dated May 14, 1968, recorded in Middlesex North District Registry of Deeds, Book 1895, Page 607.

Subject also to a 33.00 foot Utility Easement granted by the City Development Authority to the City of Lowell, dated August 29, 1969, recorded in said Registry of Deeds, Book 1898, Page 84.

Being a portion of the premises taken by eminent domain by the City Development Authority, by Order of Taking, No. 12, dated May 31, 1968 and recorded with said Registry of Deeds Book 1845, Page 189 and Order of Taking No. 10, dated September 26, 1966 recorded in said Registry of Deeds, Book 1770, Page 158.

See Pl. Bk 126-142

The above described parcel is conveyed subject to the following:

A. Easements specified and shown as continuing or to be created or reserved in the Urban Renewal Plan for the Northern Canal Renewal Area, Project No. Mass. R-16 (hereinafter called the "Redevelopment Plan"), a copy of which is on file in the office of the City Clerk of the City of Lowell.

B. All restrictions, rights, easements and reservations which are excluded and excepted and specifically set forth in said abovementioned Order of Taking.

The grantee covenants and agrees for himself, his heirs and assigns, that the grantee and his heirs and assigns shall

(i) devote the granted premises to, and only to and in accordance with the uses specified in the Redevelopment Plan, as hereafter amended and extended from time to time; and

(ii) not discriminate upon the basis of race, color, religion, sex and national origin in the sale, lease, or rental or in the use or occupancy of the granted premises or any improvements erected or to be created thereon, or any part thereof.

The agreements and covenants provided in the preceding paragraph shall be covenants running with the land and they shall, in any event, and without regard to technical classification or designation, legal or otherwise, and except only as otherwise specifically provided herein, be, to the fullest extent permitted by law and equity, binding for the benefit and in favor of, and enforceable by, the grantor, its successors and assigns, the City of Lowell, and any successor in interest to the grantee of the granted premises or any part thereof, and the United States of America (in the case of the agreement and covenant provided in clause (ii) of the preceding paragraph) against the grantee, his heirs and assigns, to or of the granted premises or any part thereof or any interest therein, and any party in possession or occupancy of the granted premises or any part thereof, provided however, that the agreement and covenant provided in clause (i) of said preceding paragraph shall remain in effect until August 28, 1992 (at which time such agreement and covenant shall terminate) and those provided in clause (ii) shall remain in effect without limitations as to time; and provided, further, however, that such agreements and covenants shall be binding on the grantee, his heirs and assigns, and each party in possession or occupancy, respectively only for such period as they shall have title to or an interest in or possession or occupancy of the granted premises or part thereof. In amplification and not in restriction, of

the foregoing provisions, it is intended and agreed that the grantor, its successors and assigns, and the City of Lowell, shall each be deemed a beneficiary of the agreement and covenant provided in the preceeding paragraph, and the United States of America shall be deemed a beneficiary of the agreement and covenant provided in clause (ii), both for and in their or its own right and also for the purposes of protecting the interests of the community and other parties, public or private, in whose favor or for whose benefit such agreements and covenants have been provided. Such agreements and covenants shall run in favor of the grantor, its successors and assigns, the City of Lowell, and the United States of America, for the entire period during which such agreements and covenants shall be in force and effect without regard to whether the grantor, its successors and assigns, or the City of Lowell or the United States of America has at any time been, remains, or is an owner of any land or interest therein, to, or in favor of, which such agreements and covenants relate. The grantor, its successors and assigns (or, in the case of its failure, refusal or dissolution, then the City of Lowell), shall have the right, in the event of any breach of any such agreement or convenant, and the United States of America shall have the right in the event of any breach of the agreement or covenant provided in clause (ii) of the preceeding paragraph, to exercise all the rights and remedies, and to maintain any actions at law or suits in equity or other proper proceedings to enforce the curing of such breach of agreement or covenant, to which it or any other beneficiaries of such agreement or convenant may be entitled.

This conveyance is to effect the purposes and intents of Chapter 353 of Act of 1976, of the General Laws of the Commonwealth of Massachusetts.

IN WITNESS WHEREOF, on the 29th day of JUNE, 1978 at Lowell, Massachusetts, the parties hereto have cuased this instrument to be signed, sealed, and delivered by its duly authorized officers or representatives respectively.

CITY DEVELOPMENT AUTHORITY

Arthur Pelchowski
Chairman

[illegible]

James R. Loovey

[illegible]

George C. Eliades, Jr.

(SEAL)

ATTEST:

By [illegible] Gilmore
Executive Administrator

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss Lowell, June 29, 1978

Then personally appeared before me the abovementioned named, Members of Authority, who executed the foregoing instrument on behalf of the City Development Authority and acknowledged the same to be the free act and deed of said Authority.

Donna R. Pappacostantinou
Notary Public

My commission expires: June 29, 1984

Rec July 10 1978 12:47PM #12345

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COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. September 26, 1966

LOWELL REDEVELOPMENT AUTHORITY

Northern Canal Renewal Area, Project No. Mass. R - 16

ORDER OF TAKING # 10

WHEREAS, Lowell Redevelopment Authority (hereinafter called the Authority), is a public body, politic and corporate, duly organized and existing pursuant to the Housing Authority Law of the Commonwealth of Massachusetts (appearing in Massachusetts General Laws (Ter. Ed.) Chapter 121, as amended) and has its principal place of business in the City of Lowell, County of Middlesex; and

WHEREAS, Lowell Housing Authority, also a public body, politic and corporate, and duly organized and existing pursuant to the Housing Authority Law of the Commonwealth of Massachusetts (appearing in Massachusetts General Laws (Ter. Ed.) Chapter 121, as amended) and having its principal place of business in the City of Lowell, County of Middlesex, has previously exercised jurisdiction over urban renewal projects in the City of Lowell and in pursuance of its powers as set out in said Housing Authority Law, and every other power thereunder enabling, did determine that an area in said City and within its jurisdiction known as Northern Canal Renewal Area, which includes the area hereinafter described, did constitute a sub-standard and decadent area as defined in Section 26 J of said Law; and further determined in accordance with said Law that an urban renewal project for said Urban Renewal Area ought to be undertaken in said City; and

WHEREAS, on July 9, 1962, the Planning Board of the City of Lowell found the Urban Renewal Plan for the Northern Canal Project Area, dated July, 1962, to be based upon a local survey and to conform to a comprehensive plan of the locality as a whole and the Division of Urban and Industrial Renewal of the State Housing Board of the Commonwealth of Massachusetts has concurred in such findings; and

WHEREAS, following due notice, the City Council of the City of Lowell held a public hearing on August 7, 1962, the plan entitled, "Urban Renewal Plan, Northern Canal Renewal Area" dated July, 1962, was approved by the City Manager of the City of Lowell on August 29, 1962, with the approval of the City Council of said City, which approval was given and certain findings of fact in connection therewith were made, on August 28, 1962; and

WHEREAS, on August 13, 1962, Lowell Housing Authority approved an Urban Renewal Plan, as defined in Section 26 ZZ of said Law for said area, including the area hereinafter described, said plan being entitled, "Urban Renewal Plan, Northern Canal Renewal Area" dated July, 1962; and

WHEREAS, the Division of Urban and Industrial Renewal of the State Housing Board of the Commonwealth of Massachusetts, after making certain findings as required under Section 26 ZZ of said Law, approved said Urban Renewal Plan and on November 8, 1962 gave written notice to the Lowell Housing Authority of said approval; and

WHEREAS, on July 5, 1963, the Lowell Housing Authority entered into a Loan and Grant Contract with the United States of America under Title I of the Housing Act of 1949, as amended, in connection with the carrying out of the urban renewal project in accordance with the said Urban Renewal Plan; and

WHEREAS, there was executed an agreement entitled, "Agreement Effecting Transfer Of Urban Renewal Project From Lowell Housing Authority To Lowell Redevelopment Authority," dated July 26, 1963, under the terms of which all undertakings, obligations, duties, rights, powers, plans and activities respecting the Project described in said Urban Renewal Plan were transferred from the Lowell Housing Authority to the Lowell Redevelopment Authority; and

WHEREAS, on November 21, 1963, Lowell Redevelopment Authority approved a certain amendment to said Urban Renewal Plan, confirmed and applied all findings, determinations and statements of Lowell Housing Authority made under date of August 13, 1962 to said Urban Renewal Plan as so amended; and

WHEREAS, on December 6, 1963, the Planning Board of the City of Lowell, found said Urban Renewal Plan, as amended, to be based upon a local survey and to conform to a comprehensive plan for the locality as a whole and the Division of Urban and Industrial Renewal of the State Housing Board of the Commonwealth of Massachusetts concurred in such findings; and

WHEREAS, following due notice, the City Council of the City of Lowell held a public hearing on December 17, 1963, said Urban Renewal Plan, as amended, was approved by the City Manager of the City of Lowell on December 18, 1963, with the approval of the City Council of said City, which approval was given on December 17, 1963; and

WHEREAS, the Division of Urban and Industrial Renewal of the State Housing Board of the Commonwealth of Massachusetts, after making certain findings as required under Section 26 ZZ of said Law, approved said Urban Renewal Plan, as amended, and on January 6, 1964 gave written notice to the Lowell Redevelopment Authority of such approval; and

WHEREAS, the Lowell Redevelopment Authority has determined that the taking in fee simple by eminent domain of the hereinafter described area is necessary and reasonably required to carry out the purposes of the Housing Authority Law and said Urban Renewal Plan, as amended; and

WHEREAS, the Lowell Redevelopment Authority, in accordance with the provisions of Section 26 P, sub-paragraph (b) of said Housing Authority Law, has deposited with the City Manager of the City of Lowell security to his satisfaction for the payment of such damages as may be awarded in accordance with law to the owner or owners of the hereinafter described area as required by General Laws (Ter. Ed.) Chapter 79, Section 40;

NOW, THEREFORE, ORDERED: That Lowell Redevelopment Authority, acting under the provisions of said Housing Authority Law and, without limiting the generality of the foregoing, of Sections 26 AAA and 26 P, sub-paragraph (b), of Massachusetts General Laws (Ter. Ed.) Chapter 121, and all other authority thereunto enabling, and pursuant to the applicable provisions of General Laws, Chapter 79, and of any and every other power to it granted or implied, hereby takes for itself in fee simple, by eminent domain for the purposes hereinbefore set forth, the area located in the City of Lowell as hereinafter described, together with any and all easements and rights appurtenant thereto, including the trees, buildings and other structures standing upon or affixed thereto, and including the fee to the center of any and all streets, highways and public ways, contiguous or adjacent to said area, but excluding any and all easements of public highways and public easements of travel in and to any and all said streets, highways and public ways and excepting such easements and other rights as are expressly excluded, which said area and the exceptions therefrom being bounded and described in Annex "A"

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attached hereto and made a part hereof as though incorporated herein in full, and being shown on plan entitled, "Property Line Map of a Portion of Northern Canal Renewal Area, Project No. Mass. R - 16, Lowell, Mass., Scale 1" = 100' January 4, 1966, Dana F. Perkins & Sons, Inc., Civil Engineers & Surveyors, Lowell, Mass.," deposited in and on file at the office of the Lowell Redevelopment Authority in the City of Lowell, a copy of which plan is recorded in Middlesex North District Registry of Deeds as Plan M-646.

AND FURTHER ORDERED, that in accordance with the provisions of General Laws, Chapter 79, Section 6, as amended, award is made by the Lowell Redevelopment Authority for damages sustained by the owner or owners and all other persons, including all mortgagees of record having any and all interest in the area described in Annex "A" and entitled to any damages by reason of the taking hereby made. The Lowell Redevelopment Authority reserves the right to amend the award at any time prior to the payment thereof by reason of a change in ownership or value of said property before the right to damages therefor has become vested or for other good cause shown. The award hereby made is set forth in Annex "B" which Annex "B" is not to be recorded in the Registry of Deeds with this Order of Taking.

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AND FURTHER ORDERED, that the Executive Director and Secretary of the Lowell Redevelopment Authority cause to be recorded this instrument of Taking in the office of the Registry of Deeds for the Northern District of Middlesex County.

IN WITNESS WHEREOF, we, the following members of the Lowell Redevelopment Authority hereby have causedthe corporate seal of the Authority to be hereto affixed and these presents to be signed in the name and behalf of the Lowell Redevelopment Authority this twenty-sixth day of September , 1966.

Lowell Redevelopment Authority

By _____ Chairman

ATTEST:

_____
Executive Director and Secretary

_____

_____

_____

CERTIFICATE, Lowell, September 26, 1966. In accordance with the provisions of Chapter 79, Section 3 of the General Laws of Massachusetts, I, William A. Kealy, Executive Director and Secretary of Lowell Redevelopment Authority, hereby certify that the above is a true copy of an Order of Taking by eminent domain adopted at a meeting of the Lowell Redevelopment Authority held in Lowell, Massachusetts, on September 26 , 1966, together with the signatures thereon, and I further certify that this certificate is given in accordance with the provisions of Chapter 79 of said General Laws and also in accordance with the vote of the Authority that a copy of said order, certified by its Executive Director and Secretary, be filed in the Registry of Deeds for the Northern District of Middlesex County.

_____
Executive Director and Secretary
Lowell Redevelopment Authority

LOWELL REDEVELOPMENT AUTHORITY SEAL 1961

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COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. May 31, 1968

CITY DEVELOPMENT AUTHORITY

Northern Canal Renewal Area, Project No. Mass. R - 16

ORDER OF TAKING # 12

WHEREAS, City Development Authority (hereinafter called the Authority) is a body politic and corporate duly organized and existing pursuant to Chapter 610 of the Acts of 1967 of The Commonwealth of Massachusetts and has its principal place of business in the City of Lowell, County of Middlesex; and

WHEREAS, Lowell Housing Authority, a public body, politic and corporate, duly organized and existing pursuant to the Housing Authority Law of The Commonwealth of Massachusetts (appearing in Massachusetts General Laws (Ter. Ed.) Chapter 121, as amended) and havings its principal place of business in the City of Lowell, County of Middlesex, has previously exercised jurisdiction over urban renewal projects in the City of Lowell and in pursuance of its powers as set out in said Housing Authority Law, and every other power thereunder enabling, did determine that an area in said City and within its jurisdiction known as Northern Canal Renewal Area, which includes the area or areas hereinafter described, did constitute a sub-standard and decadent area as defined in Section 26 J of said Law; and further determined in accordance with said Law that an urban renewal project for said Urban Renewal Area ought to be undertaken in said City; and

WHEREAS, on July 9, 1962, the Planning Board of the City of Lowell found the Urban Renewal Plan for the Northern Canal Project Area, dated July, 1962, to be based upon a local survey and to conform to a comprehensive plan of the locality as a whole and the Division of Urban and Industrial Renewal of the State Housing Board of The Commonwealth of Massachusetts concurred in such findings; and

WHEREAS, following due notice, the City Council of the City of Lowell held a public hearing on August 7, 1962, the plan entitled, "Urban Renewal Plan, Northern Canal Renewal Area" dated July, 1962, was approved by the City Manager of the City of Lowell on August 29, 1962, with the approval of the City Council of said City, which approval was given and certain findings of fact in connection therewith were made, on August 28, 1962; and

WHEREAS, on August 13, 1962, Lowell Housing Authority approved an Urban Renewal Plan, as defined in Section 26 ZZ of said Law for said area, including the areas hereinafter described, said plan being entitled, "Urban Renewal Plan, Northern Canal Renewal Area" dated July, 1962; and

WHEREAS, the Division of Urban and Industrial Renewal of the State Housing Board of The Commonwealth of Massachusetts, after making certain findings as required under Section 26 ZZ of said Law, approved said Urban Renewal Plan and on November 8, 1962 gave written notice to the Lowell Housing Authority of said approval; and

WHEREAS, on July 5, 1963, the Lowell Housing Authority entered into a Loan and Grant Contract with the United States of America under Title I of the Housing Act of 1949, as amended, in connection with the carrying out of the urban renewal project in accordance with the said Urban Renewal Plan; and

WHEREAS, there was executed an agreement entitled, "Agreement Effecting Transfer Of Urban Renewal Project From Lowell Housing Authority To Lowell Redevelopment Authority," dated July 26, 1963, under the terms of which all undertakings, obligations, duties, rights, powers, plans and activities respecting the Project described in said Urban Renewal Plan were transferred from the Lowell Housing Authority to the Lowell Redevelopment Authority, a public body, politic and corporate, duly organized pursuant to the Housing Authority Law of The Commonwealth of Massachusetts (appearing in Massachusetts General Laws (Ter. Ed.) Chapter 121, as amended) which had its principal place of business in the City of Lowell, prior to its dissolution on March 11, 1968, pursuant to the provisions of Section 26 K of Chapter 121;

WHEREAS, on November 21, 1963, Lowell Redevelopment Authority approved a certain amendment to said Urban Renewal Plan, and confirmed and applied all findings, determinations and statements of Lowell Housing Authority made under date of August 13, 1962 to said Urban Renewal Plan as so amended; and

WHEREAS, on December 6, 1963, the Planning Board of the City of Lowell found said Urban Renewal Plan, as amended, to be based upon a local survey and to conform to a comprehensive plan for the locality as a whole and the Division of Urban and Industrial Renewal of the State Housing Board of The Commonwealth of Massachusetts concurred in such findings; and

WHEREAS, following due notice, the City Council of the City of Lowell held a public hearing on December 17, 1963, said Urban Renewal Plan, as amended, was approved by the City Manager of the City of Lowell on December 18, 1963, with the approval of the City Council of said City, which approval was given on December 17, 1963; and

WHEREAS, the Division of Urban and Industrial Renewal of the State Housing Board of The Commonwealth of Massachusetts, after making certain findings as required under Section 26 ZZ of said Law, approved said Urban Renewal Plan, as amended, and on January 6, 1964 gave written notice to the Lowell Redevelopment Authority of such approval; and

WHEREAS, there was executed an agreement entitled, "Agreement Effecting Transfer of Urban Renewal Projects From Lowell Redevelopment Authority to City Development Authority," dated March 11, 1968, under the terms of which all undertakings, obligations, duties, rights, powers, plans and activities respecting among other things, the project described in said Urban Renewal Plan were transferred from the Lowell Redevelopment Authority to the City Development Authority; and

WHEREAS, the City Development Authority has determined that the taking in fee simple by eminent domain of the hereinafter described area or areas is necessary and reasonably required to carry out the purposes of the Housing Authority Law, the said Chapter 610 of the Acts of 1967, and said Urban Renewal Plan, as amended;

WHEREAS, the City Development Authority, in accordance with the provisions of Section 26 P, sub-paragraph (b) of said Housing Authority Law, has deposited with the City Manager of the City of Lowell security to his satisfaction for the payment of such damages as may be awarded in accordance with law to the owner or owners of the hereinafter described areas as required by General Laws (Ter. Ed.) Chapter 79, Section 40;

NOW, THEREFORE, ORDERED: That City Development Authority, acting under the provisions of said Chapter 610 of the Acts of 1967 and the said Housing Authority Law, and without limiting the generality of the foregoing, of Section 3 sub-paragraph (b) of Chapter 610 of the Acts of 1967 of The Commonwealth of Massachusetts, Section 26 AAA and 26 P, sub-paragraph (b) of Massachusetts General Laws (Ter. Ed.) Chapter 121, and all other authority thereunto enabling, and pursuant to the applicable provisions of General Laws, Chapter 79, and of any and every other power granted or implied, hereby takes for itself in fee simple, by eminent domain for the purposes hereinbefore set forth, the area or areas located in the City of Lowell as hereinafter described, including all parcels of land therein, together with any and all easements and rights appurtenant thereto, including the trees, buildings and other structures standing upon or affixed thereto, and including the fee to the center of any and all streets, highways and public ways, contiguous or adjacent to said area or areas, but excluding any and all easements of public highways and public easements of travel in and to any and all said streets, highways and public ways, included within and/or contiguous or adjacent to said area or areas and excepting such easements, other rights and exclusions as are expressly excluded, which said area or areas and the exceptions therefrom are bounded and described in Annex "A" attached hereto and made a part hereof as though incorporated herein in full, and being shown on a plan (on one sheet) entitled, "Property Line Map of a Portion of Northern Canal Renewal Area, Project No. Mass. R - 16, Lowell, Mass. Scale 1" = 100' Jan. 4, 1966, Revised May 23, 1968, Dana F. Perkins & Sons Inc., Civil Engineers & Surveyors, Lowell, Mass." deposited in and on file at the office of the City Development Authority in the City of Lowell, a copy of which plan is to be recorded with this Order of Taking in the Registry of Deeds for the Northern District of Middlesex County at Lowell.

AND FURTHER ORDERED, that in accordance with the provisions of General Laws, Chapter 79, Section 6, as amended, awards are made by the City Development Authority for damages sustained by the owner or owners and all other persons, including all mortgagees of record having any and all interest in the areas described in Annex "A" and entitled to any damages by reason of the taking hereby made. The City Development Authority reserves the right to amend the awards at any time prior to the payment thereof by reason of a change in ownership or value of said property before the right to damages therefor has become vested or for other good cause shown. The awards hereby made are set forth in Annex "B" which Annex "B" is not to be recorded in the Registry of Deeds with this Order of Taking.

AND FURTHER ORDERED, that the Executive Administrator and Secretary of the City Development Authority cause to be recorded this instrument of Taking in the office of the Registry of Deeds for the Northern District of Middlesex County.

IN WITNESS WHEREOF, we, the following members of the City Development Authority hereby have caused the corporate seal of the Authority to be hereto affixed and these presents to be signed in the name and behalf of the City Development Authority this 31st day of May, 1968.

CITY DEVELOPMENT AUTHORITY

By Edward F. Kane
Chairman

ATTEST: James E. Minnoch
Executive Administrator and Secretary

Warren D. Griffin

James K. Lanney

Robert B. Kennedy

George J. Sherban

CITY DEVELOPMENT AUTHORITY LOWELL MASSACHUSETTS 1968

CERTIFICATE, Lowell, May 31, 1968. In accordance with the provisions of Chapter 79, Section 3 of the General Laws of Massachusetts, I, James E. Minnoch, Executive Administrator and Secretary of City Development Authority, hereby certify that the above is a true copy of an Order of Taking by eminent domain adopted at a meeting of the City Development Authority held in Lowell, Massachusetts, on May 31, 1968, together with the signatures thereon, and I further certify that this

certificate is given in accordance with the provisions of Chapter 79 of said General Laws and also in accordance with the vote of the Authority that a copy of said order, certified by its Executive Administrator and Secretary, be filed in the Registry of Deeds for the Northern District of Middlesex County.

James E. Mummel

Executive Administrator and Secretary
City Development Authority

ANNEX "A"

CITY DEVELOPMENT AUTHORITY

Northern Canal Renewal Area, Project No. Mass. R - 16

ORDER OF TAKING # 12

Dated May 31, 1968

The boundary lines of the following areas are substantially as follows:

First: The parcel of land situated in Lowell, Massachusetts, containing 12, 790 square feet, more or less, and being shown as Street Parcel, Suffolk St. (Moody St. to Northern Canal) on a plan entitled, "Property Line Map of a Portion of Northern Canal Renewal Area, Project No. Mass. R - 16, Lowell, Mass. Scale 1" = 100' Jan. 4, 1966, Revised May 23, 1968, Dana F. Perkins & Sons, Inc., Civil Engineers & Surveyors, Lowell, Mass." which plan is to be recorded in Middlesex North District Registry of Deeds and bounded and described as follows:

Beginning at a point on the Northeasterly side of Moody Street, the Southeasterly side of Suffolk Street, and the Southwesterly corner of the Western Canal as shown on said plan;

thence N 41° 42' 23" W, 40.00 feet by said Moody Street to a point on the Northwesterly side of Suffolk Street;
thence N 48° 19' 07" E, 319.59 feet to a point at the Northeasterly corner of Ford Street;
thence S 42° 12' 09" E, 40.00 feet to a point on the Southeasterly side of Suffolk Street and the Northwesterly side of the Western Canal, as shown on said plan;
thence S 48° 19' 07" W, 319.94 feet along said Western Canal to the point of beginning.

Excluding therefrom any walls of said Western Canal and subject to easements, covenants, rights and limitations granted by City Development Authority to Proprietors of Locks and Canals on the Merrimack River by deed dated May 27, 1968, recorded with said Registry of Deeds as document numbered 7602 along the northwesterly side of said Western Canal in the area taken hereby.

Second: The parcel of land situated in Lowell, Massachusetts, containing 9, 380 square feet, more or less, and being shown as Street Parcel, Ford St. (Suffolk St. to Cabot St.) on a plan entitled,

"Property Line Map of a Portion of Northern Canal Renewal Area, Project No. Mass. R - 16, Lowell, Mass. Scale 1" = 100' Jan. 4, 1966, Revised May 23, 1968, Dana F. Perkins & Sons Inc., Civil Engineers & Surveyors, Lowell, Mass." which plan is to be recorded in Middlesex North District Registry of Deeds and bounded and described as follows:

Beginning at a point on the Southeasterly side of Cabot Street, the Northeasterly side of Ford Street and the southerly face of the southerly wall of the Northern Canal as shown on said plan;

thence S 41° 46' 47" E, 469.00 feet along the southerly face of the southerly wall of the Northern Canal to a point at the Northwesterly corner of Suffolk Street;

thence S 48° 19' 07" W, 19.98 feet along said Suffolk Street to a point on the Southwesterly side of Ford Street;

thence N 41° 42' 23" W, 469.00 feet to a point on the Southeasterly side of Cabot Street;

thence N 48° 19' 07" E, 19.38 feet along said Cabot Street to the point of beginning.

Excluding therefrom any walls of said Northern Canal and subject to easements, covenants and rights granted by the City Development Authority to Proprietors of Locks and Canals on the Merrimack River by deed dated May 27, 1968, recorded with said Registry of Deeds as document numbered 7602 along the southerly side of Northern Canal in the area taken hereby.

Third: A certain parcel of land situated in Lowell, Massachusetts, and shown on a plan entitled, "Property Line Map of a Portion of Northern Canal Renewal Area, Project No. Mass. R -16, Lowell, Mass. Scale 1" = 100' Jan. 4, 1966, Revised May 23, 1968, Dana F. Perkins & Sons Inc., Civil Engineers & Surveyors, Lowell, Mass." which plan is to be recorded in Middlesex North District Registry of Deeds and bounded and described as follows:

Beginning at a point at the intersection of the Southeasterly side of Dutton Street and the Northeasterly side of Moody Street;

thence N 41° 40' 42" W along said Moody Street, 43 feet to a point at the southerly corner of Parcel 6, Block 24, on said plan;

thence N 48° 24' 12" E along Dutton Street, 189.50 feet to a point at the southerly corner of Parcel 1 and the easterly corner of Parcel 2, Block 24, on said plan;

thence Northerly along said Parcel 2 in a curved line the radius of which is 156.00 feet, 99.85 feet to a point;

thence N 41° 40' 42" W still along said Parcel 2, 97.07 feet to Worthen Street;

thence S 48° 24' 12" W along said Worthen Street, 149.24 feet to a point at the northerly corner of Parcel 3 and the westerly corner of Parcel 2, Block 24;

thence S 41° 40' 42" E along said Parcel 2, 87.76 feet to a point at the northerly corner of Parcel 6, Block 24;

thence S 48° 24' 12" W along said Parcel 6, 90 feet to Moody Street;

thence N 41° 40' 42" W along said Moody Street, 702.06 feet to a point at the northwesterly side of Tilden Street;

thence N 48° 19' 12" E along said Tilden Street, 7.35 feet to a point at the southerly corner of Parcel 8, Block 27 and on the northeasterly side of Moody Street;

thence N 41° 42' 23" W along said Moody Street, 456.00 feet to a point at the intersection of the northwesterly side of Hanover Street and northeasterly side of Moody Street and at the Western Canal, as shown on said plan;

thence N 48° 19' 12" E along said Western Canal, as shown on said plan, 320.50 feet to a point at the westerly corner of Parcel 1B, Block 20;

thence S 41° 42' 23" E along said Parcel 1B, Block 20, 228.46 feet to a point;

thence Easterly and Northeasterly along said Parcel 1B, Block 20 and Parcel 1B, Block 19, by a curved line at a radius of 720.00 feet, 185.80 feet to a point;

thence S 72° 52' 35" E along said Parcel 1B, Block 19, 83.19 feet to a point at Parcel 2, Block 18;

thence N 48° 19' 12" E along said Parcel 1B, Block 19, 87.73 feet to a point at the southwesterly corner of Parcel 1B, Block 15;

thence S 41° 35' 48" E along said Parcel 1B, Block 15, 36.95 feet to a point on the northwesterly side of Bradford Street, as shown on said plan;

thence N 48° 20' 05" E along said Bradford Street and said Parcel 1B, Block 15, 21.75 feet to a point;

thence S 41° 35' 48" E along said Bradford Street and said Parcel 1B, Block 15, 100.07 feet to a point;

thence Easterly and Southeasterly along said Parcel 1B, Block 15, by a curved line at a radius of 177.78 feet, 89.61 feet to a point;

thence S 72° 52' 35" E along said Parcel 1B, Block 15, 391.92 feet to a point on the northwesterly side of Worthen Street, as shown on said plan;

thence N 48° 24' 12" E along said Parcel 1B, Block 15, and said Worthen Street, 77.07 feet to a point at the easterly corner of said Parcel 1B, Block 15;

thence S 41° 35' 48" E along Worthen Street, 17.33 feet to a point;

thence S 48° 24' 12" W still along said Worthen Street, 2.00 feet to a point;

thence S 41° 35' 48" E still along said Worthen Street, 27.64 feet to a point;

thence S 48° 24' 12" W still along said Worthen Street, 43.00 feet to a point at the northerly corner of Parcel 2, Block 16;

thence S 41° 35' 48" E along said Parcel 2 and Parcel 19, Block 16, 98.26 feet to a point;

thence N 48° 24' 12" E along said Parcel 19, Parcel 20, and Parcel 21, Block 16, 135.00 feet to a point;

thence S 41° 35' 48" E along said Parcel 21 and Dutton Street, as shown on said plan, 126.50 feet to a point on the southeasterly side of said Dutton Street;

thence S 48° 24' 12" W along said Dutton Street, 949.77 feet to Moody Street and the point of beginning.

SUBJECT TO AND EXCLUDING THEREFROM the following:

1. Any and all property, real and personal, of the Proprietors of the Locks and Canals on Merrimack River, including but not limited to walls of the Western Canal, underground canals, flumes, the so-called Moody Street Feeder Canal, water systems, and any appurtenances thereto whether located in public ways or other areas, and the easements, covenants and rights granted by City Development Authority to the said Proprietors of the Locks and Canals on Merrimack River by deed dated May 27, 1968 recorded with said Registry of Deeds as document numbered 7602.

2. The right-of-way to construct, maintain, and operate a railroad granted by City Development Authority to the Boston and Maine Corporation by instrument dated May 14, 1968, to be recorded.

3. The utility easements granted by City Development Authority to the City of Lowell by deed of easement dated May 23, 1968, recorded in said Registry of Deeds, Book 1844, Page 458.

4. Any and all property, real or personal, of the Lowell Gas Company, including but not limited to pipes, valves, vents, and any appurtenance thereto, whether located in public ways or other areas.

5. Any and all privately owned underground storm and/or sanitary sewer systems and any appurtenance thereto, and including any easements or reservations for such, whether located in public ways or other areas.

ALSO EXCLUDED from this Order of Taking is any right reserved to or saved by the Proprietors of the Locks and Canals on Merrimack River in its deed to City Development Authority, dated May 27, 1968, and recorded in said Registry of Deeds as document numbered 7601.

SUPPOSED OWNERS

The supposed owners of the areas hereby taken are unknown.

Rec May 31 1968 2:25PM #7781

B4

CITY DEVELOPMENT AUTHORITY, a public body, politic and corporate, duly organized and existing pursuant to Massachusetts General Laws, Chapter 610 of the Acts of 1967, having an usual place of business in Lowell, Middlesex County, Massachusetts, for consideration paid, grants to BOSTON AND MAINE CORPORATION, a Delaware corporation having an usual place of business in Boston, Suffolk County, Massachusetts, hereinafter called the Railroad, with QUITCLAIM COVENANTS, a Right-of-Way to construct, maintain and operate within the following described area, shown on a plan entitled, "Disposition Map of Lots 8, 8A, 8B, 19, 10 Northern Canal Renewal Area, Project No. Mass. R - 16, Mar. 17, 1967, Dana F. Perkins & Sons, Inc., Civil Engineer & Surveyors, Lowell, Mass." which plan is to be recorded in Middlesex North District Registry of Deeds:

Beginning at a point 62.45 feet Northeasterly of the Northerly line of Moody Street;

thence N 41° 18' 06" E, 43.66 feet to a point;

thence Northerly and Westerly on a curved line at a radius of 156.00 feet, 192.96 feet to a point;

thence N 41° 40' 42" W, 96.54 feet to a point;

thence Westerly and Northerly on a curved line at a radius of 165.50 feet, 169.85 feet to a point at a new street;

thence N 17° 07' 25" E along said new street 9.56 feet to a point;

thence S 72° 52' 35" E, 2.50 feet to a point;

thence N 17° 07' 25" E, 181.98 feet to a point;

thence N 72° 52' 35" W, 2.50 feet to a point at a new street;

thence Northerly and Westerly on a curved line at a radius of 155.28 feet, 243.91 feet across a new street to a point;

Rec'd B. 1895 P. 604

thence N 17° 07' 25" E, 2.50 feet to a point;

thence N 72° 52' 35" W, 116.86 feet to a point;

thence S 17° 07' 25" W, 2.50 feet to a point at a new street;

thence Westerly and Northerly on a curved line at a radius of 177.28 feet, 304.10 feet to a point;

thence N 48° 19' 12" E, 13.53 feet to a point;

thence S 41° 42' 23" E, 13.80 feet to a point;

thence Southerly and Easterly on a curved line at a radius of 154.78 feet, 270.66 feet to a point;

thence S 72° 52' 35" E, 116.86 feet to a point;

thence Easterly and Southerly on a curved line at a radius of 177.78 feet, 279.26 feet across a new street to a point;

thence S 17° 07' 25" W, 191.54 feet to a point;

thence Southerly and Easterly on a curved line at a radius of 143.00 feet, 146.76 feet to a point;

thence S 41° 40' 42" E, 98.85 feet to a point;

thence Easterly and Southerly on a curved line at a radius of 178.50 feet, 163.82 feet to a point;

thence S 48° 24' 12" W, 102.76 feet to a point of beginning.

The Grantor, its successors and assigns, reserves the right to pass and repass over said Right-of-Way at points agreeable to the Railroad, such crossings to be described in separate agreements between the Railroad and the Grantor, its successors or assigns.

The Railroad agrees not to unreasonably impede or obstruct any private way unless such impeding or obstructing is of a temporary nature while conducting the business of the Railroad.

The Railroad shall be responsible for the maintenance of the trackage and other appurtenances, including the cost thereof, within the

Right-of-Way granted hereunder. All costs of construction and maintenance of the crossings over said Right-of-Way shall be borne by the Grantor, its successors or assigns.

This conveyance is made subject to all instruments of record.

WITNESS the execution hereof this fourteenth day of May

(SEAL)
ATTEST:

CITY DEVELOPMENT AUTHORITY
By Edward F. Keon
Edward F. Keon, Chairman

(SEAL)
ATTEST:

BOSTON AND MAINE CORPORATION
By W. A. Kirk
VICE PRESIDENT-REAL ESTATE & INDUSTRIAL DEVELOPMENT

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. Lowell, May 14, 1968

Then personally appeared the above-named Edward F. Keon, Chairman as aforesaid, and acknowledged the foregoing instrument to be the free act and deed of the City Development Authority, before me

Richard R. Flood,
Notary Public

My Commission expires: March 22, 1969

COMMONWEALTH OF MASSACHUSETTS

Suffolk, ss Boston, May 14, 1968

Then personally appeared the above-named W. A. Kirk, Vice President, Real Estate & Industrial Development and acknowledged the foregoing instrument to be the free act and deed of the Boston and Maine Corporation, before me

Eleanor M. Jay
Notary Public

My Commission expires December 30, 1970.

Rec Aug 12 1969 1:07PM #11746

B5

BK 1898 PG 84

CERTIFICATE OF VOTE

At a regular meeting of the City Development Authority, which meeting was held in the offices of said Authority, City Hall, Lowell, at 8:00 P.M. on August 7, 1969, a quorum being present and voting, it was unanimously

VOTED: That Edward J. Keon, Chairman, be and hereby is, authorized to execute, acknowledge, affix the corporate seal of the City Development Authority to, and deliver, for and on behalf of the City Development Authority a Deed of Easement to Lowell Masonic Association, Inc., authorizing said Lowell Masonic Association, Inc. to lay, construct, maintain, operate, alter, repair, remove, change the size of and replace underground pipe lines for the transmission of sewage, drainage, water, and gas on a parcel of the said City Development Authority shown as a 10-foot sewer easement within LOT 7 A on a plan entitled, "Disposition Map of LOTS 7 A & 7 B, Northern Canal Renewal Area, Project No. Mass. R - 16, Mar. 31, 1967, Dana F. Perkins & Sons Inc., Civil Engineers & Surveyors, Lowell, Mass."

I, James F. Silk, Acting Executive Administrator and Secretary of the City Development Authority, certify that the above vote is a true extract from the minutes of the City Development Authority, and that said vote has not been rescinded or modified, and is in full force and effect as of the date of this instrument.

James F. Silk
Acting Executive Administrator and Secretary

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. Lowell, August 29, 1969

Signed and sworn to before me by James F. Silk, personally known by me to be the duly elected Acting Executive Administrator and Secretary of the City Development Authority.

Richard R. Flood
Richard R. Flood, Notary Public

My Commission expires: March 19, 1976

DEED OF EASEMENT

KNOW ALL MEN BY THESE PRESENTS: That the CITY DEVELOPMENT AUTHORITY, a body corporate and politic, having an usual place of business in Lowell, County of Middlesex, Commonwealth of Massachusetts, for consideration paid, does hereby give, grant, bargain and sell unto LOWELL MASONIC ASSOCIATION, INC. the right, privilege and authority to lay, construct, maintain, operate, alter, repair, remove, change the size of and replace underground pipe lines for the transmission of sewage, drainage, or water, on a parcel of land of the said CITY DEVELOPMENT AUTHORITY shown as a 10 foot sewer easement within LOT 7 A on a plan entitled, "Disposition Map of LOTS 7 A & 7 B, Northern Canal Renewal Area, Project No. Mass. R - 16, Mar. 31, 1967, Dana F. Perkins & Sons Inc., Civil Engineers & Surveyors, Lowell, Mass." which plan is to be recorded, and bounded and described as follows:

Beginning at a point on the southeasterly side of "New Street" and the southwesterly corner of LOT 7 A on said plan:

Thence N 17° 07' 25" E along said New Street, 11.69 feet to a point.

Thence S 41° 40' 42" E, 195.86 feet to a point.

Thence S 48° 19' 18" W, 10.00 feet to a point at land of Lowell Masonic Assoc.

Thence N 41° 40' 42" W, 189.80 feet along said land of Lowell Masonic Assoc. and land of Lowell Redevelopment Authority to the point of beginning.

This conveyance is subject to a Right-of-Way granted by City Development Authority to the Boston and Maine Corporation dated May 14, 1968, recorded on August 12, 1969, in Middlesex North District Registry of Deeds, Book 1895, Page 607.

This conveyance is also subject to all rights, easements and reservations which were excluded and excepted from the premises taken by eminent domain by the City Development Authority by Order of Taking #12 dated May 31, 1968, and recorded May 31, 1968, with said Registry of Deeds in Book 1845, Page 189.

The consideration for this conveyance is less than $100.

IN WITNESS WHEREOF, the CITY DEVELOPMENT AUTHORITY has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by Edward J. Keon, its Chairman, hereunto duly authorized this twenty-ninth day of August, 1969.

CITY DEVELOPMENT AUTHORITY

By Edward J. Keon
Its Chairman

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss. Lowell, August 29, 1969

Then personally appeared the above-named Edward J. Keon, Chairman, and acknowledged the foregoing instrument to be the free act and deed of the CITY DEVELOPMENT AUTHORITY, before me

Richard R. Flood, Notary Public

My Commission expires: March 19, 1976

Rec Sept 2 1969 3:16PM #12894

C1

under me but against none other, do hereby release unto the grantee and heirs and assigns all right of or to both Lower and Homestead in the granted premises. In Witness Whereof I, the said Henry J. Ryerson, unmarried, hereunto set my hand and seal this twenty sixth day of February in the year one thousand eight hundred and ninety five. Henry J. Ryerson seal. Signed, sealed and delivered in presence of Commonwealth of Massachusetts. Middlesex ss. Lowell February 26 1895. Then personally appeared the above named Henry J. Ryerson and acknowledged the foregoing instrument to be his free act and deed before me, Dan'l R. Wallace Justice of the Peace. Middlesex ss. North District Recorded Jan. 10. 1896. 3:25 P.M. Attest Joseph P. Thompson Reg.

Deed. Know all men by these presents, that the Proprietors of the Locks and Canals on Merrimack River in consideration of one dollar and other lawful and sufficient considerations to them paid by the Lowell Machine Shop, the receipt whereof is hereby acknowledged do hereby remise, release and forever quit claim unto the said Lowell Machine Shop a parcel of land situated in the city of Lowell the county of Middlesex and Commonwealth of Massachusetts, shown upon the accompanying plan and bounded as follows: Easterly by the westerly line, and a part of the southerly line of the second parcel of land described in an indenture dated April 1, 1845 between the Proprietors of the Locks and Canals on Merrimack river and the Lowell Machine Shop, recorded in the Middlesex Registry of Deeds, at Cambridge, Book 458 Page 178; southerly by a curved line parallel with and (10) ten feet distant northerly from the top face of the wall recently built along the northerly side of the Hamilton Canal a distance of about one hundred and ninety (190) feet, westerly by a straight line about one hundred forty two and 97/100 (142.97) feet long, of which the northerly one hundred and eight (108) feet is distant ten (10) feet easterly from the top face of the easterly wall of Pawtucket Canal, and northerly by a straight line about one hundred twenty five and 5/10 (125.5) feet long which line is a prolongation of the northerly line N.M. of the aforesaid second parcel of land described in the said indenture of April 1, 1845 Together with rights of way in common with the grantors over so much of the strips of land between the above described premises and the surrounding canals as may be used without interfering with the uses which the said Proprietors may wish to make of the said strips in connection with their maintenance, repair, widening or deepening of their canals or management of their Water Power, Together

Props. Locks and Canals to Lowell Machine Shop

See Indenture B. 986 P. 312.

See B. 2560 P. 620

with the right of constructing and maintaining penstocks for conveying water through any of said surrounding strips of land and the further right of constructing a railroad or other bridge across the Hamilton Canal and across the Pawtucket Canal and across the strip of land ten (10) feet wide on the north side of the Hamilton Canal and on the east side of Pawtucket Canal, provided that such bridge be so constructed that it offers no obstruction to the flow of water in said Canal nor interferes with the free passage of the said Proprietors and their servants along the said strips ten (10) feet wide. Saving, excepting and reserving to the said Proprietors, their successors and assigns the right to maintain said Pawtucket Canal and said Hamilton Canal and to deepen, widen or otherwise improve or alter the same and to raise deepen, lower or draw off the waters of said canals to any extent and at any and all times, at their will and pleasure, without any right, claim or demand by said grantee its successors or assigns for damages occasioned thereby to the above released and described premises or to any improvements or property that may be thereon. To Have and To Hold the above released premises with all the privileges and appurtenances thereunto belonging to the said Lowell Machine Shop its successors and assigns forever. In Witness Whereof the said Proprietors of the Locks and Canals on Merrimack River have caused their corporate sale to be hereto affixed and these presents to be signed in their name and behalf by George Atkinson its Treasurer, this twenty fifth day of October in the year one thousand eight hundred and ninety five Proprietors of the Locks and Canals on Merrimack River by Geo. Atkinson, Treasurer (corp. seal) Signed and sealed in presence of John T. Morse. This conveyance is made by order of the directors of said Proprietors of the Locks and Canals on Merrimack River as attested by the signatures of a majority of their board Arthur T. Lyman, Charles L. Lovering, Eliot C. Clarke, Chas. B. Amory, Alphonso S. Covel, C. P. Baker. Commonwealth of Massachusetts Suffolk ss. Nov 18th 1895. Then personally appeared the above named George Atkinson and acknowledged the foregoing instrument to be the free act and deed of the said Proprietors of the Locks and Canals on Merrimack River before me, Charles L. Lovering Justice of the Peace, Middlesex ss. North Dist. Rec. January 10. 1896. 4 P.M. Attest Joseph S. Thompson Reg.

Boot Cotton Mills to City of Lowell.

Quitclaim. Know all men by these presents, that the Boott Cotton Mills, a body corporate under the laws of the Commonwealth of Massachusetts, doing business at Lowell in the County of Middlesex and Commonwealth aforesaid, in consideration of the sum of eighteen thous-

and dollars to it paid by the city of Lowell a municipal corporation in said county, the receipt whereof is hereby acknowledged, do hereby remise, release and forever quitclaim unto the said City of Lowell a certain piece or parcel of land situated at the Northwesterly corner of John and Paige streets in said Lowell, and thus bounded and described. Beginning at the southeasterly corner of the premises at the intersection of the northerly line of Paige street with the westerly line of John street thence northerly on said John street seventy four and sixty five hundredths (74.65) feet to the middle line of a passageway hereinafter reserved, between the granted premises and other land of this grantor, thence at an angle of ninety degrees and two minutes (90° 2') westerly on said middle line of the passage way about two hundred and twenty four (224) feet to land of the Massachusetts Cotton Mills, thence at an angle of eighty nine degrees and fifty eight minutes (89° 58') southerly on said Massachusetts Cotton Mills land about seventy four and seventy nine hundredths (74.79) feet to said Paige street, thence at a right angle easterly on said Paige street about two hundred and twenty four (224) feet to the point of beginning, containing about sixteen thousand seven hundred and thirty seven (16,737) square feet. Being a portion of the same premises conveyed to the said Boott Cotton Mills by the Proprietors of the Locks and Canals on the Merrimack River by their two deeds each dated the fifteenth day of April in the year eighteen hundred and forty five and recorded in the Registry of Deeds for the Southern District of Middlesex, one in book 462 page 153 and the other in book 462 page 155. This conveyance is made subject to the express reservation, covenant and agreement that there shall be a passage way nineteen (19) feet wide, the middle line thereof to be as aforesaid, the boundary line between the granted premises and the premises of this grantor, one half in width of the passage way to be on the granted premises and one half on the premises of this grantor, said passageway to be forever kept open for the use of this grantor and this grantee and their respective successors and assigns. TO HAVE AND TO HOLD the granted premises, with all the privileges and appurtenances thereto belonging to the said City of Lowell and its heirs, successors and assigns to their own use and behoof forever. And the said Boott Cotton Mills doth hereby, for itself and its successors, covenant with the said grantee and its heirs, successors and assigns that the granted premises are free from all incumbrances made or suffered by it, except as aforesaid, and that it will and its successors shall WARRANT and

Defend the same to the said grantee and its heirs, successors and assigns forever against the lawful claims and demands of all persons claiming by, through or under it but against none other. In Witness Whereof the Boott Cotton Mills has caused corporative seal to be hereunto affixed and these presents to be signed in its name and behalf by Augustus Lowell, its President, and by Eliot C. Clarke its Treasurer hereunto duly authorized, and by a majority of its directors on this 17th day of December in the year eighteen hundred and ninety five. Boott Cotton Mills by Augustus Lowell, President, Eliot C. Clarke (corp seal) Approved. Francis W. Lea, City Solicitor Augustus Lowell, Eliot C. Clarke, Edward J. Browne, Edward W. Hooper Augustus Flagg, Arthur T. Lyman, Directors Commonwealth of Massachusetts Suffolk ss. Boston December 17th 1895. Then personally appeared the above named Eliot C. Clarke, Treasurer and acknowledged the foregoing instrument to be the free act and deed of the Boott Cotton Mills before me Horatio R. Fletcher Justice of the Peace.

Vote. At a special meeting of the stockholders of the Boott Cotton Mills held at Boston July 2, 1895, duly notified by printed notices mailed June 22nd 1895 a quorum was present and it was Voted, That the directors be and are hereby authorized to sell at private sale at a price to be fixed by them, a certain parcel of the real estate belonging to the corporation, situated at the corner of John and Paige streets in Lowell Massachusetts and that the President and Treasurer be authorized to sign, seal, acknowledge, and deliver in the name and behalf of this corporation any deed or deeds necessary to a conveyance thereof. Attest H. B. Lincoln Clerk. Middlesex ss. North Dist. Rec. Jan. 29. 1896, 12:30 P.M. Attest Joseph P. Thompson Reg.

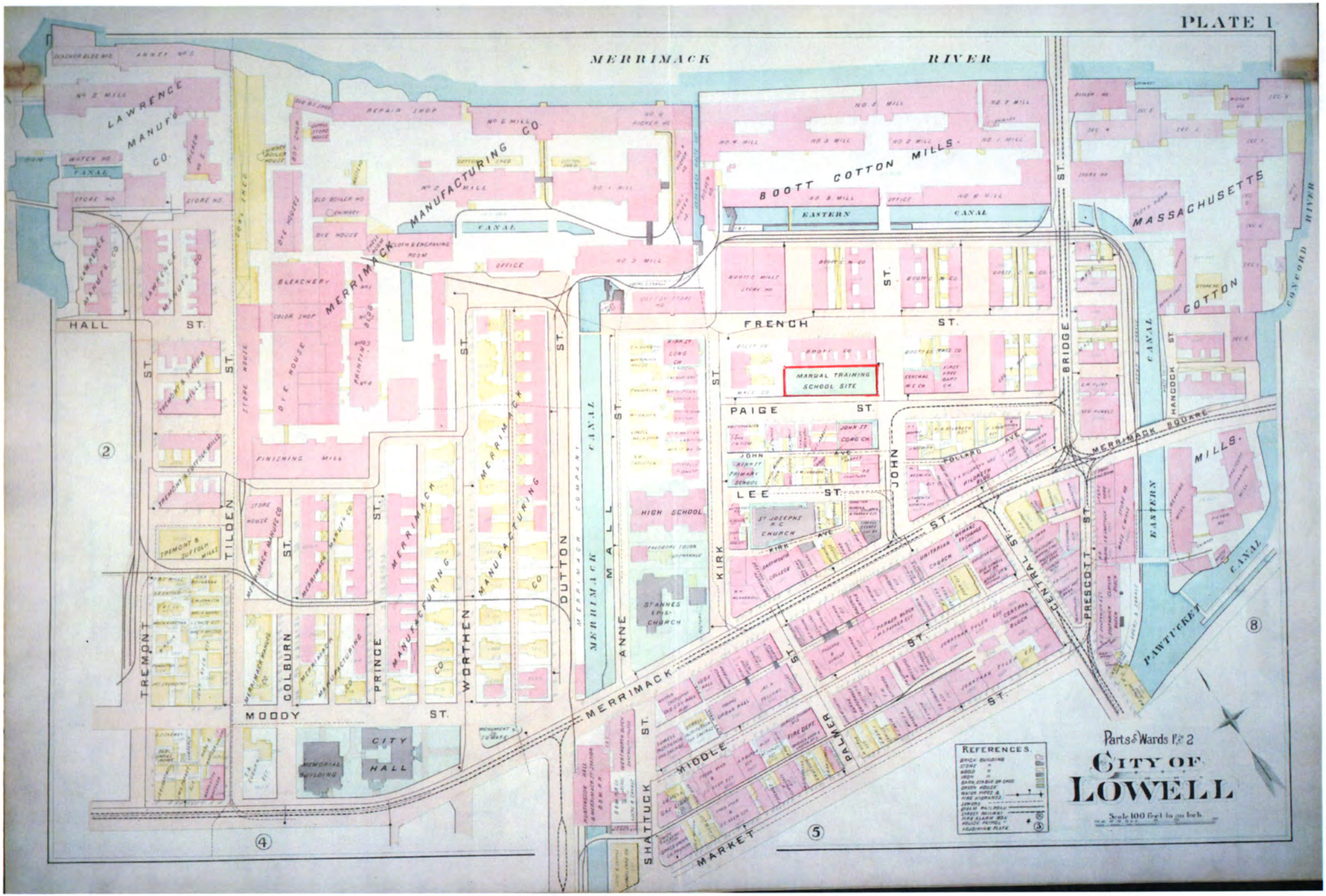
Parker to O'Brien

See Book 196 Page 357

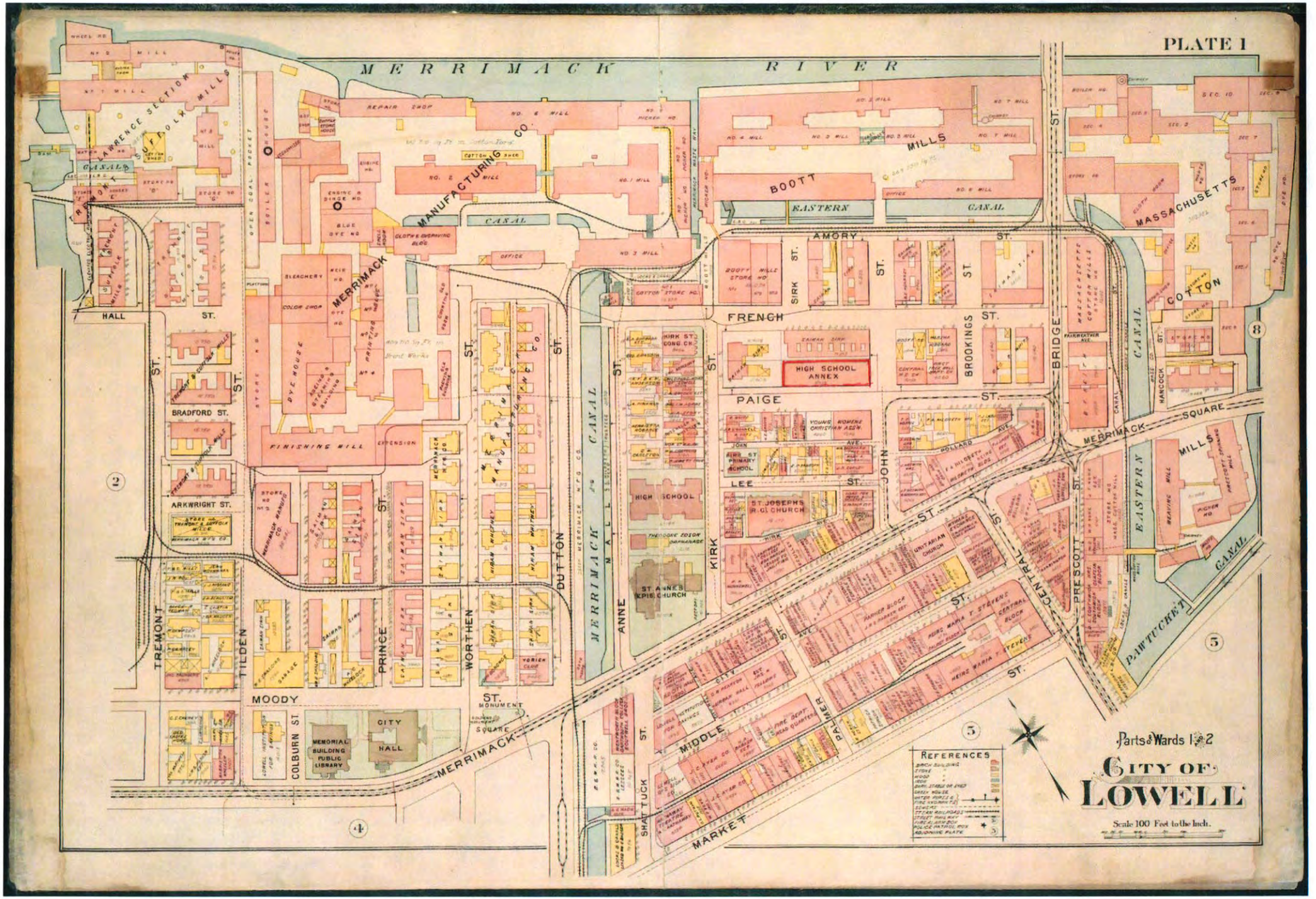
See 196 Page 405

Discharge Having been paid in full for the within described assignment of Mortgage and for the note and claim secured thereby I hereby cancel and discharge said assigned mortgage and release and quit claim the premises therein described to Patrick O'Brien his heirs and assigns witness my hand and seal this 18th day of November 1895. Wm. H. Parker (seal) Commonwealth of Massachusetts Middlesex ss. Lowell November 18th 1895. Then personally appeared the above named Wm. H. Parker and acknowledged the foregoing instrument to be his free act and deed before me Joseph Peabody Justice of the Peace. Middlesex ss. North District Recorded November 20. 1895 3:25 P.M. Attest Joseph P. Thompson Reg.

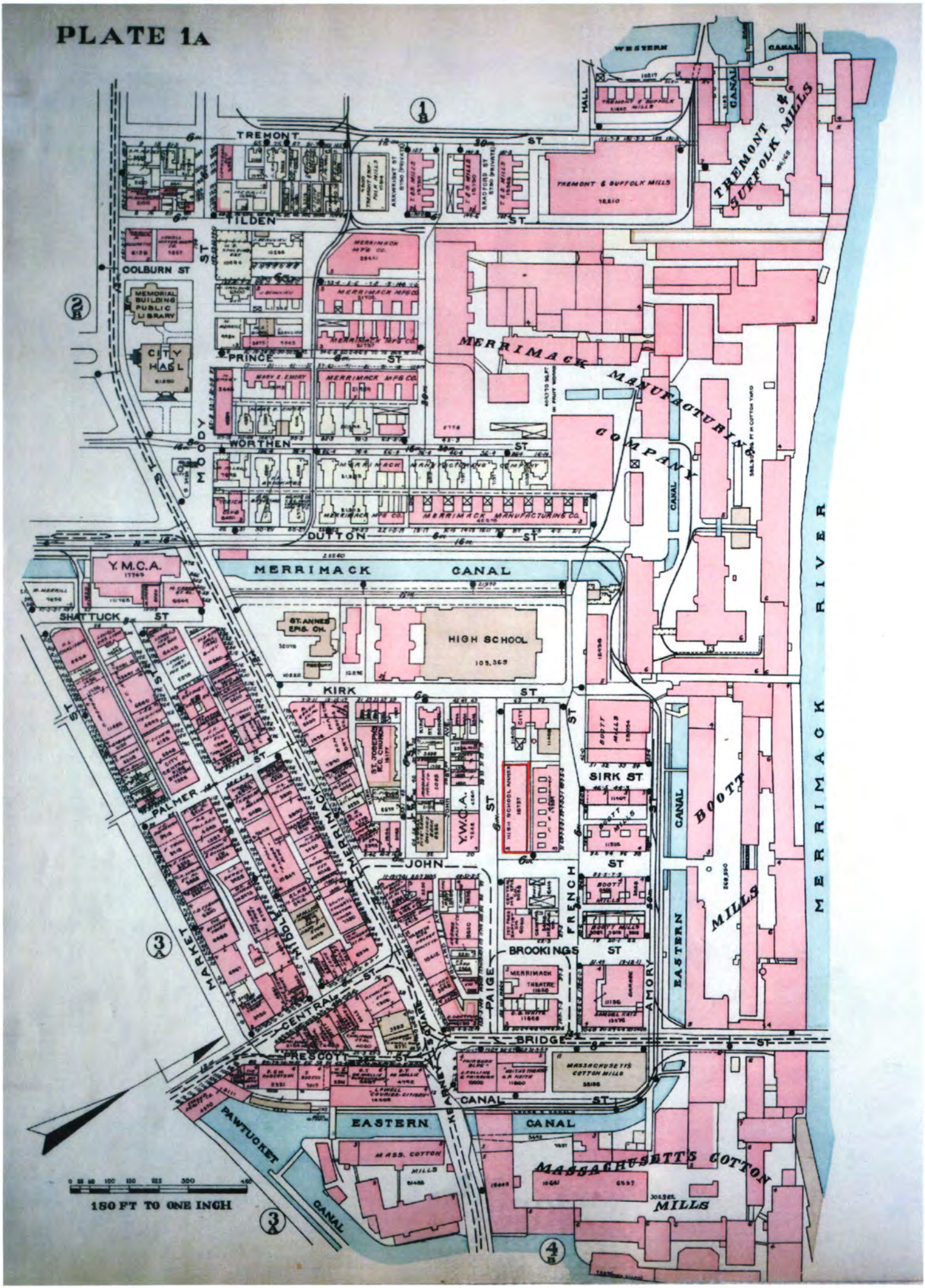
C2



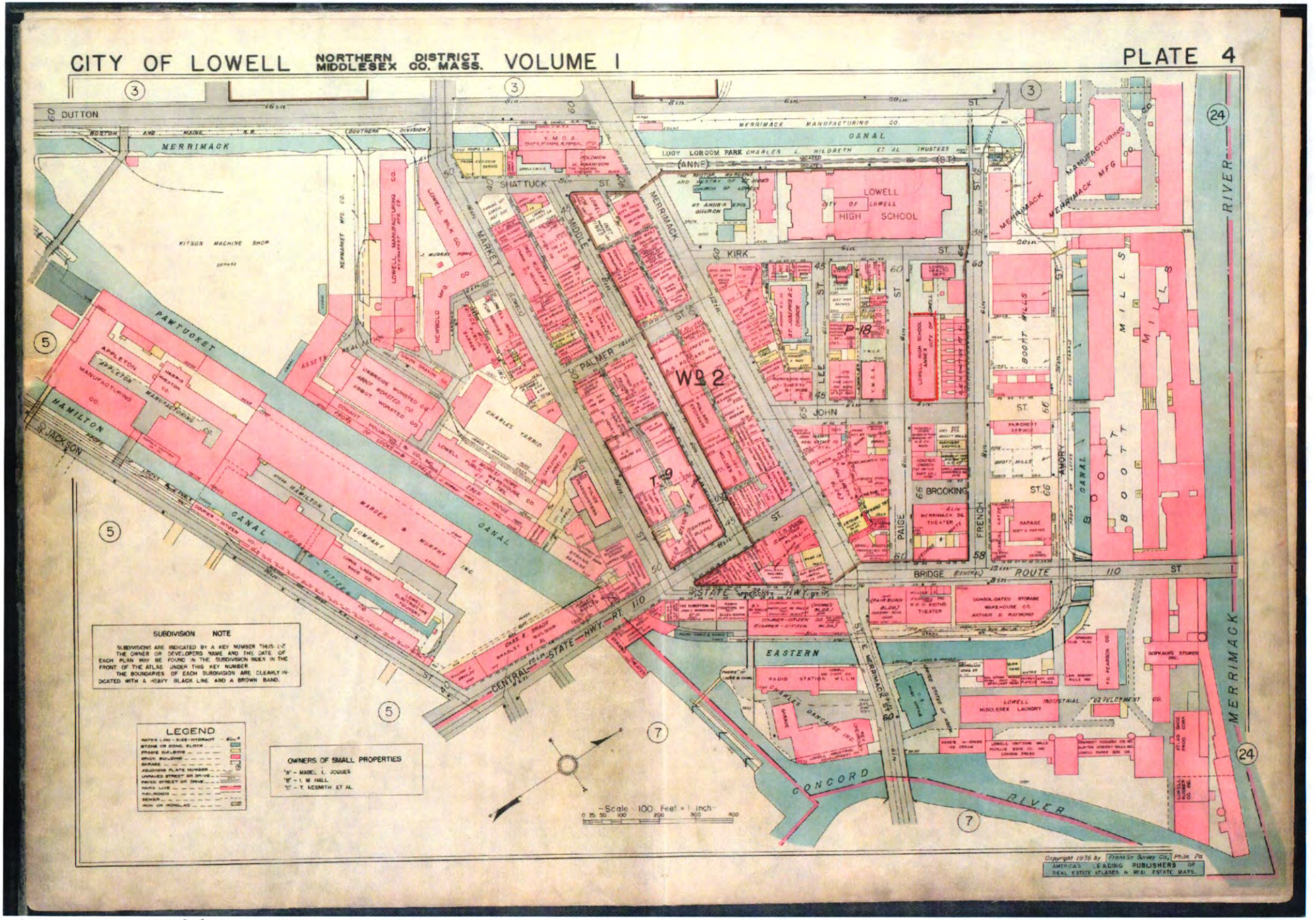
1896 Lowell Atlas



1906 Lowell Atlas

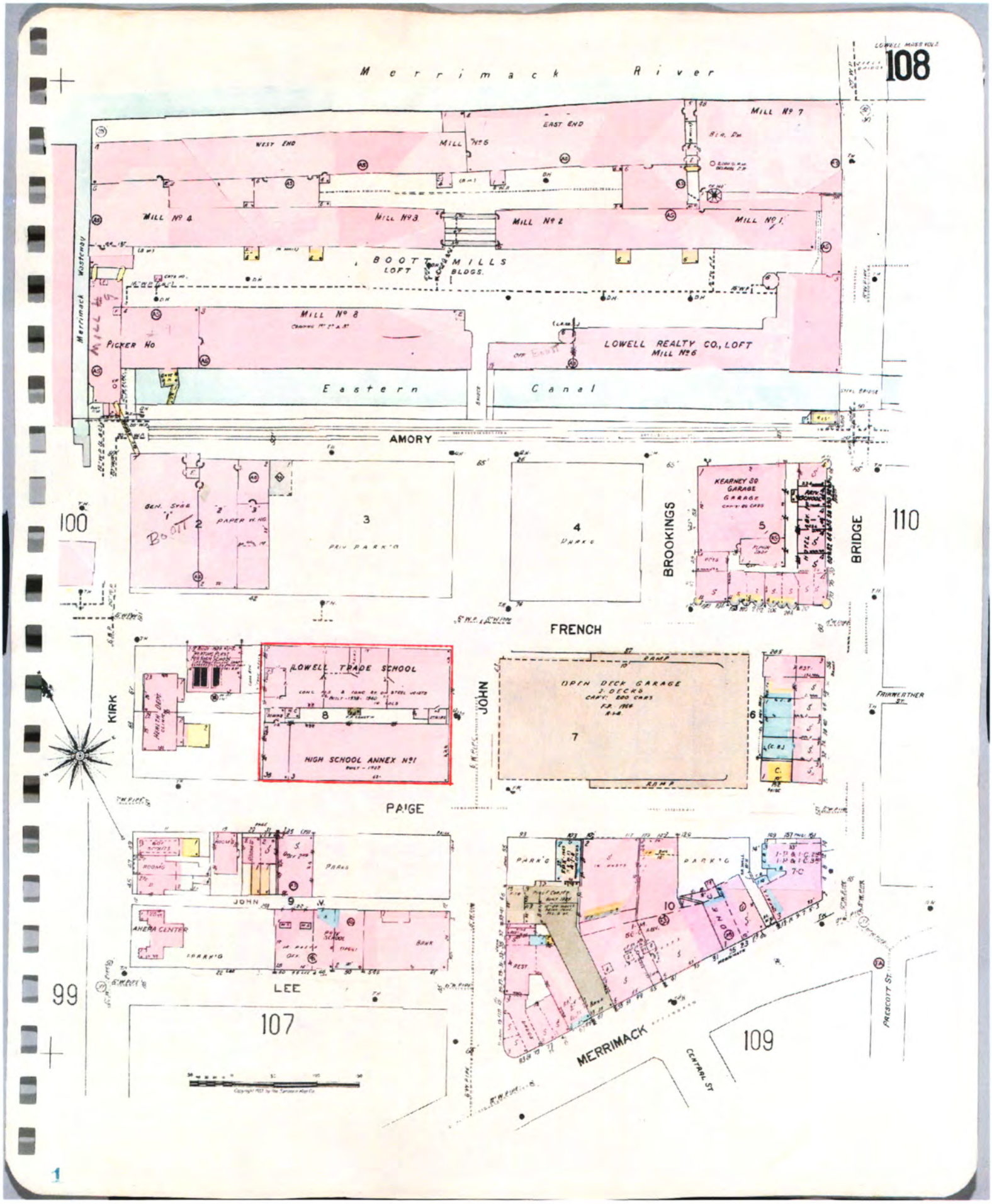


1924 Lowell Atlas



1936 Lowell Atlas

C3



1977 Lowell Atlas, Vol. 2

C4

374

County Registry of Deeds, Book 903, Page 25, for the non-payment of a tax assessed in the year 1936, to William and Aline Beaudry as owner or occupant of said land: 4181 square feet of land, more or less, with buildings thereon, situate 176 Ludlam Street, as shown on Plan N 14 in office of city engineer. AND WHEREAS, William & Aline Beaudry of the City of Lowell, in the County of Middlesex and State of Massachusetts, alleges that he is a person having an interest in said land and as such desires to redeem the same; AND WHEREAS, the said William & Aline Beaudry, pursuant to General Laws (Ter.Ed.) Chapter 60, Section 62, has this 27th day of December, 1938, redeemed the aforesaid land by paying to me as collector of taxes, one hundred fifteen dollars and forty-three cents, said amount being the sum of the following:

Original sum for which land was sold	$99.68
Intervening taxes and costs paid by purchaser	
Interest at %	9.55
Examination of title	3.00
Deed of release	
Recording	2.20
Additional sum as prescribed by law	1.00
	$ 115.43

THEREFORE, I, Albert J. Blazon, Collector of Taxes for the City of Lowell, hereby certify that I have received from the said William & Aline Beaudry the said sum of one hundred fifteen dollars and forty-three cents ($115.43) for the purpose aforesaid.

Albert J. Blazon Collector of Taxes for the City of Lowell.

The Commonwealth of Massachusetts Middlesex, ss. December 27, 1938. Then personally appeared the above named Albert J. Blazon, Collector of Taxes for the City of Lowell, and made oath that the above statement by his subscribed is true, before me, Joseph Farrell Justice of the Peace My commission expires June 27, 1941.

Middlesex ss.N.Dist.Registry of Deeds Recorded Dec. 30, 1938.5:00 P.M.

1 figure over erasure & 1 erasure

759

Merrimack River Savings Bank-Lowell

to

City of Lowell

Twenty dollars & fifty cents $20.50 * THE MERRIMACK RIVER SAVINGS BANK,
U.S.R. Stamps cancelled * a body corporate located at Lowell,
M.R.S.B. to C.of L. 12/12/38 * Middlesex County, Massachusetts,
* *
for consideration paid, grants to the City of Lowell, a municipal corporation located in said County of Middlesex, with QUITCLAIM COVENANTS the land in said Lowell with the buildings thereon bounded and described

as follows, to wit: Beginning at a point on the southwesterly side of French Street distant one hundred and fifty-six and fifteen one-hundredths (156.15) feet southeasterly from the southeasterly side of Kirk Street, and at other land of the grantee; thence running southeasterly and bounded northeasterly by said French Street two hundred and thirty-two (232) feet; thence turning at a right angle and running southwesterly and bounded southeasterly by John Street eighty-seven and thirty-five one-hundredths (87.35) feet to the middle of a private way called Back Street; thence turning at almost a right angle and running northwesterly by the middle line of said Back Street two hundred and thirty-two (232) feet; thence turning at almost a right angle and running northeasterly eighty-seven and twenty-one one hundredths (87.21) feet bounded on this last mentioned line by other land of the grantee to said French Street and the point of beginning. The premises are shown on a plan entitled, "Plan of land in Lowell, Mass., surveyed by Saiman Sirk" dated February 1901, and made by Smith and Brooks, Civil Engineers, and recorded with Middlesex North District Registry of Deeds; being lot Numbered One (1) on said plan, and containing according to said plan seventeen thousand seven hundred and fifty-nine (17,759) square feet, exclusive of the sidewalks. Being the same premises conveyed to the grantor by itself by deed under power in power of sale mortgage dated December 13, 1935 and recorded with said Registry of Deeds, Book 876, Page 440. The sidewalks of said French Street and John Street eight (8) feet wide as shown on said plan are included in said bounds, but the same are not to be built over or upon, and are forever to be kept open for public use. This conveyance is made subject to, and with the benefit of, the reservation, covenant and agreement contained in the deed of the Boott Cotton Mills to the City of Lowell of the "Lowell Manual Training School" lot shown on said plan, said deed being dated December 17th, 1895, and recorded with said Registry of Deeds, Book 271, Page 578, that the passageway nineteen (19) feet wide shown on said plan shall be forever kept open for the use of this grantee, its successors and assigns, and the City of Lowell, its successors and assigns, the owners of the said "Lowell Manual Training School" subject to which easement the grantor's title to the fee of said nineteen-foot passageway, and all interest in the same is hereby granted. This conveyance is also made subject to the perpetual restriction that no intoxicating liquors shall ever be sold on the granted premises. This conveyance is also made subject to all the conditions and restrictions set forth in a deed from the Boott Cotton

Mills to Saiman Sirk dated April 18, 1901 and recorded with said Registry of Deeds, reference to which is hereby made. WITNESS its corporate seal and the signature of Thomas H. Varnum, its Treasurer, this twelfth day of December, 1938.

Merrimack River Savings Bank
(corporate seal)
By Thomas H. Varnum
Its Treasurer.

Commonwealth of Massachusetts Middlesex, ss. Lowell, December 12, 1938. Then personally appeared the above named Thomas H. Varnum and acknowledged the foregoing instrument to be the free act and deed of said Merrimack River Savings Bank, before me Frederic S. Harvey Justice of the Peace My commission expires May 31, 1940.

Vote

AT A MEETING of the Board of Investment of the Merrimack River Savings Bank held on December 8, 1938, at which a quorum was present, the following vote was unanimously passed: "VOTED that the Bank sell and convey to the City of Lowell the land in Lowell, Middlesex County, Massachusetts, with the buildings thereon, bounded and described as follows, to wit: Beginning at a point on the southwesterly side of French Street distant one hundred and fifty-six and fifteen one hundredths (156.15) feet southeasterly from the southeasterly side of Kirk Street, and at other land of the grantee; thence running southeasterly and bounded northeasterly by said French Street two hundred and thirty-two (232) feet; thence turning at a right angle and running southwesterly and bounded southeasterly by John Street eighty-seven and thirty-five one-hundredths (87.35) feet to the middle of a private way called Back Street; thence turning at almost a right angle and running northwesterly by the middle line of said Back Street two hundred and thirty-two (232) feet; thence turning at almost a right angle and running northeasterly eighty-seven and twenty-one one-hundredths (87.21) feet bounded on this last mentioned lineby other land of the grantee to said French Street and the point of beginning. The premises are shown on a plan entitled, 'Plan of land in Lowell, Mass., surveyed by Saiman Sirk, dated February, 1901, and made by Smith and Brooks, Civil Engineer, and recorded with Middlesex North District Registry of Deeds; being lot Numbered One (1) on said plan, and containing according to said plan seventeen thousand seven hundred and fifty-nine (17,759) square feet, exclusive of the sidewalks. Being the same premises conveyed to the Bank by itself by deed under power in power of sale mortgage dated

December 13, 1935 and recorded with said Registry of Deeds, Book 876, Page 440. The sidewalks of said French Street and John Street eight (8) feet wide as shown on said plan are included in said bounds, but the same are not to be built over or upon, and are forever to be kept open for public use. Said conveyance is to be made subject to, and with the benefit, of the reservation, covenant and agreement contained in the deed of the Boott Cotton Mills to the City of Lowell of the Lowell Manual Training Schcol' lot shown on said plan, said deed being dated December 17th, 1895, and recorded with said Registry of Deeds, Bcok 271, Page 578, that the passageway nineteen (19) feet wide shown on said plan shall be forever kept open for the use of this grantee, its successors and assigns, and the City of Lowell, its successors and assigns, the owners of the said "Lowell Manual Training School" subject to which easement the Bank's title to the fee of said nineteen-foot passageway, and all interest in the same is hereby granted. Said conveyance is also made subject to the perpetual restriction that no intoxicating liquors shall ever be sold on the granted premises. Said conveyance is also made subject to all the conditions and restrictions set forth in a deed from the Boott Cotton Mills to Saiman Sirk dated April 18, 1901, and recorded with said Registry of Deeds, reference to which is hereby made;" And it was further voted, "That the Treasurer, Thomas H. Varnum, be, and he hereby is, authorized in the name of and on behalf of the Bank to sign, seal, acknowledge and deliver to the City of Lowell a deed of said premises with statutory quitclaim covenants."

A true copy from the records,

Attest: Thomas H. Varnum

Clerk.

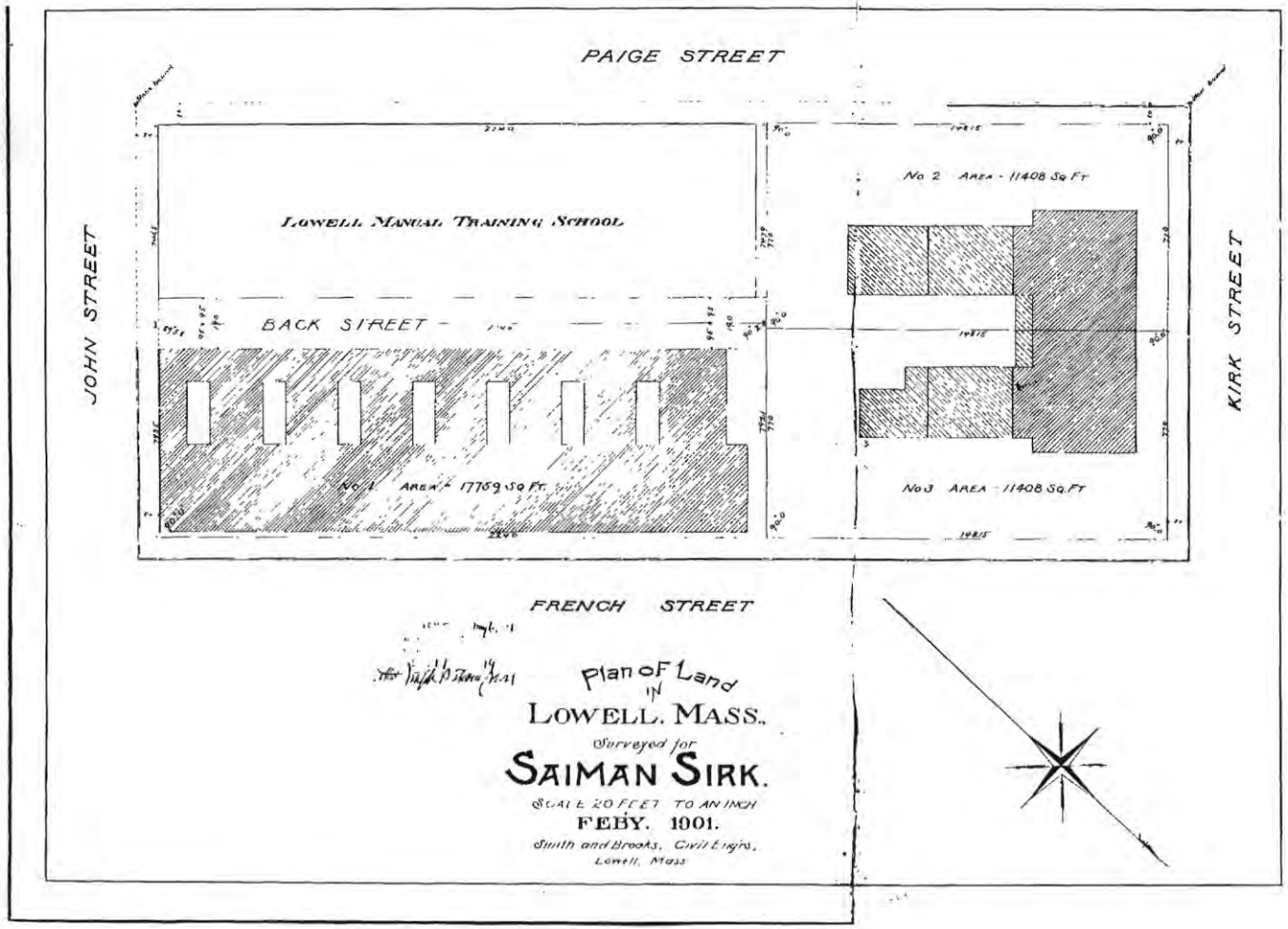
Middlesex ss.N.Dist.Registry of Deeds Recorded Dec. 31, 1938.11:20 A.M.

762

Appleton National Bank of Lowell

Vote

CERTIFICATE I, John J. Casey, Cashier of Appleton National Bank of Lowell certify that at a regular meeting of the Board of Directors duly called and held on December 6, 1938, the following Resolution was duly passed and is entered in the minute books of said Bank; "VOTED: That Thomas J. Campbell, Executive Vice-President of Appleton National Bank of Lowell, be and he is hereby authorized and empowered for and in the name of this bank and as its corporate act and deed and under its corporate seal, to execute, seal, acknowledge and deliver Quitclaim Deed of the real estate situated at 87-89 Bellevue Street, Lowell, being the third parcel described in deed from Appleton National Bank of Lowell,


PAIGE STREET
JOHN STREET
KIRK STREET
FRENCH STREET
LOWELL MANUAL TRAINING SCHOOL
BACK STREET
No 1 AREA = 17769 SQ FT
No 2 AREA - 11408 SQ FT
No 3 AREA - 11408 SQ FT
Plan of Land
in
LOWELL. MASS.
Surveyed for
SAIMAN SIRK.
SCALE 20 FEET TO AN INCH
FEBY. 1901.
Smith and Brooks, Civil Engrs.
Lowell, Mass

Cawley Site deeds

	smaller parcel			*larger parcel*
			12/22/14	Notice of satisfaction of tax lien, Book 28114, page 60
			9/29/14	Lowell High School Alumni Association to City of Lowell, Book 28537, page 243
			12/15/11	"Instrument of taking" by Tewksbury, referencing 6.5 acres, Book 25556, page 81
8/21/64	Lowell High School Alumni Association to City of Lowell "The city of Lowell shall use said land and the suitable practice field and play space for football and other athletic sports for Lowell High School students, and shall suitably maintain it for such purpose." Book 1661, p. 343.			

5/10/29	Dancause to Lowell High School Alumni Association Restrictions: "no part thereof shall be used for a cemetery or for cemetery purposes; no building shall be erected thereon within 35 feet of said Clark Road; and no house erected thereon shall cost less than Four Thousand ($4000) Dollars or contain more than two tenements or apartments."	776	282
	Dancause to Dancause, foreclosing the mortgage issued to Boyle, "All of the said parcels are subject to restriction that no part thereof shall be used for a cemetery or for cemetery purposes….The parcels having a frontage on Clark Road are subject to the restriction that no building shall be erected thereon within thirty-five feet from said Road, and that no house erected shall cost less than four thousand dollars or contain more than two tenements or apartments."	746	417
10/28/25	Boyle mortgage deed to Dancause	730	37
10/28/25	Dancause to Boyle	740	35
7/3/24	Sarah A. Hood, executrix, to Dancause 11.07 acre parcel is "part of the premises conveyed to Charles I. Hood by Robert G. Bartlett by deed dated May 29, 1894 and recorded with Middlesex North District Deeds, Book 300, Page 376." 7.846-acre parcel is "the same premises conveyed to Charles I. Hood by Robert G. Bartlett by deed dated November 20, 1894 and recorded with Middlesex North District Deeds, Book 300, Page 391." 10.75 acre parcel is "part of the premises conveyed to Charles I. Hood by Robert G. Bartlett by deed dated December 24, 1912 and recorded with Middlesex North District Deeds, Book 499 Page 256." .36 acre parcel is "the same premises conveyed to the estate of C. I. Hood by Hood Farm Incorporated by deed dated January 31, 1923 and recorded with Middlesex North District Deeds, Book 674, Page 295."	709	115

5 P. M.

I, EURETTA MARIN, holder of a mortgage from Martin D. Sullivan, to me dated April 296
1924 recorded with Middlesex North District Registry of Deeds, Book 705, Page 37, Marin
nowledge satisfaction of the same WITNESS my hand and seal this eighth day of July, to
4 Sullivan

Euretta Marin (seal)

Discharge

mmonwealth of Massachusetts Middlesex ss. Lowell, July 8th, 1924 Then personally ap-
ared the above-named Euretta Marin and acknowledged the foregoing instrument to be
free act and deed, before me Arthur L. Eno Justice of the Peace My commission ex-
res March 17,1927.

idlesex ss. N. Dist. Registry of Deeds Recorded July 9, 1924. 4:15 P. M.

---

ur Dollars $4.00* I, SARAH A. HOOD of Lowell, Middlesex County, Massachusetts, as 297
S. Rev. Stamps * Executrix of the Will of Charles I. Hood, deceased, late of Hood
A. H. 7-8-1924* said Lowell, and as an individual being unmarried, by power by Extx.
* * * * * * * * * * * * to
nferred by said will and every other power for One dollar and other valuable consider- Dancause
tions paid, grant to Charles Dancause of said Lowell with QUITCLAIM COVENANTS the land
a said Lowell, and in Tewksbury in said County, bounded and described as follows: A
ertain parcel of land situated in Lowell and Tewksbury in said County bounded and de-
cribed as follows: Beginning at a point on the Westerly side of Clark Road at land
now or formerly of Gookin, thence Northerly by Clark Road two hundred ninety-one and
0/100 (291-90/100) feet to a stake at land formerly of F. C. Holmes; thence Northerly
y land of said Holmes and land of Hood Farm Incorporated two hundred eight and 50/100
208-50/100) feet to a stone bound at other land of the grantor; thence Northwesterly
y other land of the grantor seven hundred ninety-six (796) feet to an oak tree at
and now or formerly of Field Heirs; thence Southerly by land of said Field Heirs seven
hundred sixty-eight and 30/100 (768-30/100) feet to a stake; thence still along said
Heirs land 15¼° East 34.9 feet to a stone bound at land of Gookin; thence easterly
by land of Gookin seven hundred forty-seven (747) feet to the point of beginning; or
however otherwise bounded or described. Containing eleven and 7/100 (11-7/100) acres
more or less. Being part of the premises conveyed to Charles I. Hood by Robert G.
Bartlett by deed dated May 29, 1894, and recorded with Middlesex North District Deeds,
Book 300 Page 376. Also another parcel of land situated in said Lowell and Tewksbury
bounded and described as follows: Beginning at a stone bound at the southeasterly
corner of the premises about one hundred thirty-five (135) feet from the Westerly side
of Clark Road, thence North 74-3/4° West by other land of the grantor seven hundred
ninety-six (796) feet to an oak tree at land now or formerly of Ladd; thence north
7-1/4° West by land of said Ladd two hundred thirty-seven and 50/100 (237-50/100) feet
to a stake; thence North 6° West by land of said Ladd one hundred twelve (112) feet to

a stake; thence North 15-3/4° West by land of said Ladd one hundred twenty-two and 50/100 (122-50/100) feet to a stone bound at land now or formerly of Joshua Clark; thence North 68-1/4° East by land of said Clark four hundred twenty-eight and 40/100 (428-40/100) feet to a stone bound at land now or formerly of Bartlett; thence south 14° East by land of said Bartlett and land of the grantor four hundred fifty-one (451) feet to a stone bound; thence South 49-1/4° East by land of the grantor one hundred eighty-three (183) feet to a point; thence South 53-1/2° East by land of the grantor one hundred fourteen and 50/100 (114-50/100) feet to a stake; thence South 54° East by land of the grantor ninety-eight and 13/100 (98-13/100) feet to a stone bound; thenc South 8-3/4° East by land of the grantor one hundred sixty-one (161) feet to a stone bound at the point of beginning; or however otherwise bounded or described. Containing seven and 846/1000 (7-846/1000) acres more or less, being the same premises conveyed to Charles I. Hood by Robert G. Bartlett by deed dated November 20, 1894, and recorded with Middlesex North District Deeds, Book 300, Page 391. Also another parcel of land situated in said Lowell and Tewksbury bounded and described as follows: Beginning at a drill hole in the wall on the westerly side of Clark Road at land now or formerly of Bartlett at the Northeast corner of the premises; thence Westerly by land of said Bartlett seven hundred one and 39/100 (701-39/100) feet to land of the grantor; thence southerly by land of the grantor four hundred nine and 90/100 (409-90/100) feet to a stone bound; thence Southeasterly by land of the grantor one hundred eighty-three (183) feet; thence Southeasterly by land of the grantor one hundred fourteen and 50/10 (114-50/100) feet and one hundred and 50/100 (100-50/100) feet respectively to a stone bound; thence southerly by land of the grantor one hundred sixty-one (161) feet to a stone bound; thence Easterly by land of the grantor about one hundred thirty-five (135 feet to a point on the Westerly side of Clark Road; thence Northerly by the Westerly side of Clark Road about nine hundred thirty-five (935) feet to the point of beginning; or however otherwise bounded or described. Containing ten and 75/100 (10-75/100) acres more or less. Being part of the premises conveyed to Charles I. Hood by Robert G. Bartlett by deed dated December 24, 1912 and recorded with Middlesex North District Deeds Book 499 Page 258. Also another parcel of land situated in said Tewksbury bound ed and described as follows: Beginning at a stone bound at the Northwest corner of the premises, thence Easterly by land of the grantor about one hundred thirty-five (135) feet to a point on the Westerly side of Clark Road; thence southerly by the westerly side of Clark Road as established by the County Commissioners in 1913 about two hundred twenty-five (225) feet to other land of the grantor; thence Westerly by land of the grantor about twenty (20) feet to a point; thence Northerly by land of the grantor two hundred eight and 50/100 (208-50/100) feet to the point of beginning: or however otherwise bounded or described. Containing thirty-six one-hundredths (36/100) of an acre more or less. Being the same premises conveyed to the estate of C. I.Hood

Hood Farm Incorporated by deed dated January 31, 1923, and recorded with Middlesex ·th District Deeds, Book 674, Page 295. The foregoing parcels are shown on a plan titled Plan of Land in Lowell and Tewksbury belonging to Charles I. Hood et al. Ap- l 1922 by F. W. Huntington & Co. C.E's, recorded with Middlesex North District Plans, ok 41, Plan 37. All of the parcels hereby conveyed are conveyed subject to the re- riction that no part thereof shall be used for a cemetery or for cemetery purposes. e first parcel hereby conveyed containing eleven and 7/100 acres more or less is con- yed subject to a dedication of a twenty foot strip on the southerly side thereof run- ng parallel to land of Gookin, as and for a public street as shown on a plan entitled an of Village Street situated in Lowell and Tewksbury by Henry O. Brooks, C. E. dat- l November 9, 1923 to be recorded, and also subject to the deed of dedication of which aid plan forms a part, dated June 30, 1924, signed by Sarah A. Hood, Bridget Gookin, argaret W. Merrill, and Herbert C. Merrill, to be recorded. The parcels hereby con- eyed having a frontage on Clark Road are conveyed subject to the restriction that no uilding shall be erected thereon within thirty-five feet from said Road, and that no ouse erected shall cost less than four thousand dollars or contain more than two ten- ments or apartments. WITNESS my hand and seal this third day of July 1924

Sarah A. Hood Executrix will
of Charles I. Hood (seal)
Sarah A. Hood (seal)

Commonwealth of Massachusetts Middlesex ss. July 3, 1924 Then personally appeared the above named Sarah A. Hood and acknowledged the foregoing instrument to be her free act and deed, before me. John F. Miller Justice of the Peace My Commission Expires June 8 1928.

Middlesex ss. N. Dist. Registry of Deeds Recorded July 9, 1924. 4:16 P. M.

1 word interlined

300
Maynard
to
City Inst. for Savings-Lowell

I, JOSEPH MAYNARD, of Dracut, Middlesex County, Massachusetts, for consideration paid, grant to the City Institution for Savings, a body corporate, located at Lowell, Middlesex County, Massachusetts, with MORTGAGE COVENANTS, to secure the payment of Twelve Hundred ($1200.00) Dollars in one year with six per centum interest per annum, payable December 24, 1924 and each six months thereafter, at the Banking House of the grantee, as provided in my note of even date, A certain tract of land, with the build- ings thereon, situated in the easterly part of said Dracut, being a part of the Gen. Varnum farm, so-called, containing three acres according to a survey made by O. M.Snell, C. E., Nov. 1912, bounded as follows, viz: Beginning at the corner of a wall on the line of Varnum Avenue and at land formerly of Henry Varnum and running S. 15° 30' west, eighty-eight and 45/100 (88.45) feet along the wall; thence S. 37° 15' W. Still along the wall, two hundred fifty-six and 65/100 (256.65) feet to a corner in the wall at land of John M. Varnum; thence S. 0° 30' W. Along the wall, one hundred thirty-nine and

See Discharge B.763 P.553

ents. I, Williamena F. Dancause, wife of said grantor release to said grantee all rights of DOWER AND HOMESTEAD and other interests therein. WITNESS our hands and seals this twenty-eighth day of October, 1925.

Witness to both — Charles Dancause (seal)

X. A. Delisle — Williamena F. Dancause (seal)

Commonwealth of Massachusetts Middlesex, ss. Lowell, October 28, 1925. Then personally appeared the above named Charles Dancause and acknowledged the foregoing instrument to be his free act and deed, before me Xavier A. Delisle Justice of the Peace. My commission expires Sept. 14, 1928.

Middlesex ss.N. Dist. Registry of Deeds Recorded October 28, 1925. 1:15 P. M.

1 figure & 2 letters over erasures

816
Boyle
to
Dancause

I, GERTRUDE M. BOYLE of Providence, Providence County, Rhode Island being unmarried for consideration paid, grant to Charles Dancause of Lowell, Middlesex County, Massachusetts, with MORTGAGE COVENANTS, to secure the payment of Three Thousand Dollars in one years with six per centum interest per annum, payable semi-annually, as provided in my note of even date the land in said Lowell, and in Tewksbury, in said Middlesex County, bounded and described as follows: Beginning at a point on the westerly side of Clark Road at land now or formerly of Gookin, thence northerly by Clark Road two hundred and ninety-one and 90/100 (291.90) feet to a stake at land formerly of F. C. Holmes; thence northerly by land of said Holmes and land of Hood Farm Incorporated two hundred eight and 50/100 (208.50) feet to a stone bound at other land of Charles I. Hood; thence northwesterly by other land of the said Hood seven hundred and ninety six (796) feet to an oak tree at land now or formerly of Field Heirs; thence southerly by land of said Field Heirs seven hundred and sixty-eight and 30/100 (768.30) feet to a stake; thence still along said Field Heirs land 1574 degrees east, 34.9 feet to a stone bound at land of Gookin; thence easterly by land of Gookin seven hundred and forty seven (747) feet to the point of beginning, or however otherwise bounded and described. Containing eleven and 7/100 (11.07) acres more or less.

See Possession B. 7457 P. 320
See Mtge's Sale B. 7746 P. 417

Also another parcel of land situated in said Lowell and Tewksbury bounded and described as follows: Beginning at a stone bound at the southeasterly corner of the premises about one hundred and thirty-five (135) feet from the westerly side of Clark Road, thence north 74 3/4 degrees west by land now or formerly of Charles I. Hood seven hundred and ninety-six(796) feet to an oak tree at land now or formerly of Ladd; thence north 7 1/4 degrees west by land of said Ladd two hundred and thirty-seven and 50/100 (237.50) feet to a stake; thence north 6 degrees west by land of said Ladd one hundred twelve (112) feet to a stake; thence north 15 3/4 degrees west by land of said Ladd one hundred and twenty-two and 50/100 (122.50) feet to a stone bound at land now or formerly of Joshua Clark; thence north 68 1/4 degrees east by land of said Clark four hundred twenty-eight and 40/100 (428.40) feet to a stone bound at land now or former-

ly of Bartlett; thence south 14 degrees east by land of said Bartlett and land of sai Charles I. Hood, now or formerly, four hundred fifty-one (451) feet to a stone bound; thence south 49 1/4 degrees east by land of said Hood one hundred eighty-three (183) feet to a point; thence south 53 1/2 degrees east by land of said Hood one hundred fo teen and 50/100 (114.50) feet to a stake; thence south 54 degrees east by land of sai Hood ninety-eight and 13/100 (98.13) feet to a stone bound; thence south 8 3/4 degree east by land of said Hood one hundred sixty one (161) feet to a stone bound at the point of beginning, or however otherwise bounded or described. Containing seven and 846/1000 (7,846) acres more or less.

Also another parcel of land situated in said Lowell and Tewksbury, bounded and descri ed as follows: Beginning at a drill hole in the wall on the westerly side of Clark Road at land now or formerly of Bartlett at the northeast corner of the premises; thence westerly by land of said Bartlett seven hundred one and 39/100 (701.39) feet t land of said Hood; thence southerly by land of said Hood four hundred nine and 90/100 (409.90) feet to a stone bound; thence southeasterly by land of said Hood one hundred eighty three (183) feet; thence southeasterly by land of said Hood one hundred fourte and fifty one-hundredths (114.50) feet and one hundred and 50/100 (100.50) respective- ly to a stone bound; thence southerly by land of said Hood one hundred sixty one (161) feet to a stone bound; thence easterly by land of said Hood about one hundred and thir ty (135) feet to a point on the westerly side of Clark Road; thence northerly by the westerly side of Clark Road about nine hundred thirty five (935) feet to the point of beginning; or however otherwise bounded or described. Containing 10 and 75/100 (10.75) acres more or less.

Also another parcel of land situated in said Tewksbury bounded and described as follow Beginning at a stone bound at the northwest corner of the premises, thence easterly by land of said Hood about one hundred thirty five (135) feet to a point on the westerly side of Clark Road; thence southerly by the westerly side of Clark Road as established by the County Commissioners in 1913 about two hundred twenty five (225) feet to other land of said Hood; thence westerly by land of said Hood about twenty feet to a point; thence northerly by land of said Hood two hundred eight and 50/100 feet to the point of beginning: or however otherwise bounded or described. Containing thirty-six one hundredths (36/100) of an acre more or less. The foregoing parcels are shown on a pla entitled "Plan of Land in Lowell and Tewksbury belonging to Charles I. Hood et al. Apri 1922, by F. W. Huntington & Co. E. E.'s" recorded with Middlesex North District Plans Book 41, Plan 37. All of the parcels hereby conveyed are conveyed subject to the re- striction that no part thereof shall be used for a cemetery or for cemetery purposes. The first parcel hereby conveyed containing 11.07 acres, more or less, is conveyed sub- ject to a dedication of a twenty foot strip on the southerly side thereof running par- allel to land of Gookin, as and for a public street as shown on a plan entitled Plan of

lage Street situated in Lowell and Tewksbury by Henry O. Brooks C. E., dated Nov. --
1923, duly recorded, and also subject to the deed of dedication of which said Plan
ms a part, dated June 30, 1924, signed by Sarah A. Hood, Bridget Gookin, Margaret
Merrill and Herbert C. Merrill, duly recorded. The parcels hereby conveyed having
rontage on Clark Road are conveyed subject to the restriction that no building shall
erected thereon within thirty five feet from said Road, and that no house erected
ll cost less than four thousand dollars or contain more than two tenements or apart-
ts. Being the same premises to me conveyed by Charles Dancause by deed of even
e to be recorded herewith. It is agreed between the mortgagor and mortgagee that
of the terms of this mortgage is that the mortgagee shall receive at least $300
every acre of land which he is called upon to release to the mortgagor under this
rtgage. This mortgage is upon the statutory condition, for any breach of which the
rtgagee shall have the statutory power of sale. wife of said mortgagor, release to
e mortgagee all rights of DOWER AND HOMESTEAD and other interests in the mortgaged
emises. WITNESS my hand and seal this 28th day of October, 1925.

A. Delisle — Gertrude M. Boyle (seal)

mmonwealth of Massachusetts Middlesex ss. Lowell, October 28, 1925. Then personal-
appeared the above named Gertrude M. Boyle and acknowledged the foregoing instrument
be her free act and deed, before me Xavier A. Delisle Justice of the Peace. My com-
.ssion expires Sept. 14, 1928.

iddlesex ss. N. Dist. Registry of Deeds Recorded October 28, 1925. 1:16 P. M.

---

ree Dollars & Fifty Cts. $3.50 * WE, EMIL C. PEARSON AND ABEL R. CAMPBELL, both 817
. S. Rev. Stamps * of Lowell, Middlesex County, Massachusetts, as we Highland Realty
. R. A. 10-28-25 * are Trustees of the Highland Realty Associates un- Asso. by Trs.
* to
er a declaration of trust dated March 14, 1922, recorded with Middlesex North Dis- Bennett et al.
rict Deeds, Book 658, page 22, by the power conferred by said declaration of trust
nd every other power, for consideration paid, grant to Marguerite Skillings Bennett,
ife of J. Roy Bennett, and Julia O. Skillings, both of said Lowell, as joint tenants
nd not as tenants in common, the land in said Lowell with the buildings thereon situ-
te on the southwesterly side of Luce Street, being Lot 8 on plan of "Building Lots
n Lowell, Mass., belonging to Highland Realty Associates, surveyed Nov. 1924, Henry
. Brooks, Civil Eng'r." recorded with Middlesex North District Deeds, Book of Plans
5, Plan 70, bounded and described as follows: Northeasterly by Luce Street sixty-two
62) feet; southeasterly by Lot 9 on said plan one hundred forty-eight and 69/100
148.69) feet; southwesterly by land belonging to Edward J. Noyes, now or formerly,
ixty-two and 2/100 (62.02) feet; northwesterly by Lot 7 on said plan one hundred fif-
y and 41/100 (150.41) feet. Containing according to said plan ninety-two hundred
eventy-two (9272) square feet. Being a portion of the premises to us conveyed by

tober 28, 1925. 11:40 A. M.

words & 2 letters over erasure

ree Dollars & Fifty Cts. $3.50 * I, CHARLES DANCAUSE, of Lowell, Middlesex County, 815

S. Rev. Stamps * Massachusetts being married, for consideration paid, Dancause

D. 10-28-25 * grant to Gertrude M. Boyle of Providence, County to

* * * * * * * * * * * * * * * * * * * *

Providence, State of Rhode Island, with QUITCLAIM COVENANTS the land in said Lowell, Boyle

nd in Tewksbury in said County, bounded and described as follows: A certain parcel f land situated in Lowell and Tewksbury in said County bounded and described as follows: Beginning at a point on the Westerly side of Clark Road at land now or formerly f Gookin, thence Northerly by Clark Road two hundred ninety-one and 90/100 (291.90) eet to a stake at land formerly of F. C. Holmes; thence Northerly by land of said olmes and land of Hood Farm Incorporated two hundred eight and 50/100 (208.50/100) eet to a stone bound at other land of Charles I. Hood thence Northwesterly by other and of C. I. Hood seven hundred ninety-six (796) feet to an oak tree at land now or formerly of Field Heirs; thence Southerly by land of said Field Heirs seven hundred sixty-eight and 30/100 (768 30/100) feet to a stake; thence still along said Heirs land 1574° East 34.9 feet to a stone bound at land of Gookin; thence easterly by land of Gookin seven hundred forty-seven (747) feet to the point of beginning, or however otherwise bounded or described. Containing eleven and 7/100 (11 7/100) acres more or less. Also another parcel of land situated in said Lowell and Tewksbury bounded and described as follows: Beginning at a stone bound at the southeasterly corner of the premises about one hundred thirty-five (135) feet from the Westerly side of Clark Road, thence North 74 3/4° West by land now or formerly of Charles I. Hood seven hundred ninety-six (796) feet to an oak tree at land now or formerly of Ladd; thence north 7 1/4° West by land of said Ladd two hundred thirty-seven and 50/100 (237 50/100) feet to a stake; thence North 6° West by land of said Ladd one hundred twelve (112) feet to a stake; thence North 15 3/4° West by land of said Ladd one hundred twenty-two and 50/100 (122 50/100) feet to a stone bound at land now or formerly of Joshua Clark; thence North 68 1/4° East by land of said Clark four hundred twenty-eight and 40/100 (428 40/100) feet to a stone bound at land now or formerly of Bartlett; thence south 14° East by land of said Bartlett and land of Charles I. Hood, now or formerly, four hundred fifty-one (451) feet to a stone bound; thence South 49 1/4° East by land of said Hood one hundred eighty-three (183) feet to a point; thence South 53 1/2° East by land of said Hood one hundred fourteen and 50/100 (114 50/100) feet to a stake; thence South 54° East by land of said Hood ninety-eight and 13/100 (98 13/100) feet to a stone bound; thence South 8 3/4° East by land of said Hood one hundred sixty-one (161) feet to a stone bound at the point of beginning; or however otherwise bounded or described. Containing seven and 846/1000 (7 846/1000) acres more or less.

Also another parcel of land situated in said Lowell and Tewksbury bounded and described

as follows: Beginning at a drill hole in the wall on the westerly side of Clark Road at land now or formerly of Bartlett at the Northeast corner of the premises; thence Westerly by land of said Bartlett seven hundred one and 39/100 (701 39/100) feet to land of said Hood; thence southerly by land of said Hood four hundred nine and 90/100 (409 90/100) feet to a stone bound; thence Southeasterly by land of said Hood one hundred eighty-three (183) feet; thence Southeasterly by land of said Hood one hundred fourteen and 50/100 (114 50/100) feet and one hundred and 50/100 (100 50/100) feet respectively to a stone bound; thence southerly by land of said Hood one hundred sixty-one (161) feet to a stone bound; thence Easterly by land of said Hood about one hundred and thirty-five (135) feet to a point on the Westerly side of Clark Road; then Northerly by the Westerly side of Clark Road about nine hundred thirty-five (935) fee to the point of beginning; or however otherwise bounded or described. Containing ten and 75/100 (10 75/100) acres more or less.

Also another parcel of land situated in said Tewksbury bounded and described as follows: Beginning at a stone bound at the Northwest corner of the premises, thence Easterly by land of said Hood about one hundred thirty-five (135) feet to a point on the Westerly side of Clark Road; thence southerly by the westerly side of Clark Road as established by the County Commissioners in 1913 about two hundred twenty-five (225) feet to other land of said Hood; thence Westerly by land of said Hood about twenty (20) feet to a point; thence Northerly by land of said Hood two hundred eight and 50/100 (208 50/100) feet to the point of beginning; or however otherwise bounded or described. Containing thirty-six one-hundredths (36/100) of an acre more or less. Being the same premises to me conveyed by Sarah A. Hood, Executrix of the will of Charles I. Hood, by deed dated July 3, 1924, and recorded with Middlesex North District Registry of Deeds, Book 709, Page 115. The foregoing parcels are shown on a plan entitled Plan of Land in Lowell and Tewksbury belonging to Charles I. Hood et al. April 1922 by F.W. Huntington & Co. C. E.'s, recorded with Middlesex North District Plans, Book 41, Plan 37. All of the parcels hereby conveyed are conveyed subject to the restriction that no part thereof shall be used for a cemetery or for cemetery purposes. The first parcel hereby conveyed containing eleven and 7/100 acres more or less is conveyed subject to a dedication of a twenty foot strip on the southerly side thereof running parallel to land of Gookin, as and for a public street as shown on a plan entitled Plan of Village Street situated in Lowell and Tewksbury by Henry O. Brooks, C. E. dated November 9, 1923 duly recorded, and also subject to the deed of dedication of which said plan forms a part, dated June 30, 1924, signed by Sarah A. Hood, Bridget Gookin, Margaret W. Merrill, and Herbert C. Merrill, duly recorded. The parcels hereby conveyed having a frontage on Clark Road are conveyed subject to the restriction that no building shal be erected thereon within thirty-five feet from said Road, and that no house erected shall cost less than four thousand dollars or contain more than two tenements or apart

ents. I, Williamena F. Dancause, wife of said grantor release to said grantee all rights of DOWER AND HOMESTEAD and other interests therein. WITNESS our hands and seals this twenty-eighth day of October, 1925.

Witness to both — Charles Dancause (seal)

X. A. Delisle — Williamena F. Dancause (seal)

Commonwealth of Massachusetts Middlesex, ss. Lowell, October 28, 1925. Then personally appeared the above named Charles Dancause and acknowledged the foregoing instrument to be his free act and deed, before me Xavier A. Delisle Justice of the Peace. My commission expires Sept. 14, 1928.

Middlesex ss.N. Dist. Registry of Deeds Recorded October 28, 1925. 1:15 P. M.

1 figure & 2 letters over erasures

816
Boyle
to
Dancause

I, GERTRUDE M. BOYLE of Providence, Providence County, Rhode Island being unmarried for consideration paid, grant to Charles Dancause of Lowell, Middlesex County, Massachusetts, with MORTGAGE COVENANTS, to secure the payment of Three Thousand Dollars in one years with six per centum interest per annum, payable semi-annually, as provided in my note of even date the land in said Lowell, and in Tewksbury, in said Middlesex County, bounded and described as follows: Beginning at a point on the westerly side of Clark Road at land now or formerly of Gookin, thence northerly by Clark Road two hundred and ninety-one and 90/100 (291.90) feet to a stake at land formerly of F. C. Holmes; thence northerly by land of said Holmes and land of Hood Farm Incorporated two hundred eight and 50/100 (208.50) feet to a stone bound at other land of Charles I. Hood; thence northwesterly by other land of the said Hood seven hundred and ninety six (796) feet to an oak tree at land now or formerly of Field Heirs; thence southerly by land of said Field Heirs seven hundred and sixty-eight and 30/100 (768.30) feet to a stake; thence still along said Field Heirs land 1574 degrees east, 34.9 feet to a stone bound at land of Gookin; thence easterly by land of Gookin seven hundred and forty seven (747) feet to the point of beginning, or however otherwise bounded and described. Containing eleven and 7/100 (11.07) acres more or less.

See Possession B. 7457 P. 320
See Mtge's Sale B. 7746 P. 417

Also another parcel of land situated in said Lowell and Tewksbury bounded and described as follows: Beginning at a stone bound at the southeasterly corner of the premises about one hundred and thirty-five (135) feet from the westerly side of Clark Road, thence north 74 3/4 degrees west by land now or formerly of Charles I. Hood seven hundred and ninety-six(796) feet to an oak tree at land now or formerly of Ladd; thence north 7 1/4 degrees west by land of said Ladd two hundred and thirty-seven and 50/100 (237.50) feet to a stake; thence north 6 degrees west by land of said Ladd one hundred twelve (112) feet to a stake; thence north 15 3/4 degrees west by land of said Ladd one hundred and twenty-two and 50/100 (122.50) feet to a stone bound at land now or formerly of Joshua Clark; thence north 68 1/4 degrees east by land of said Clark four hundred twenty-eight and 40/100 (428.40) feet to a stone bound at land now or former-

outhwesterly side of Pine Street, containing ten thousand ninety two (10,092) square feet, more or less, and being Lot forty (40) on a plan of land entitled, "Sunset Addition", Lowell, Mass., owned by Inter City Trust, surveyed by Ernest W. Branch, Civil Engineer, and recorded with Middlesex North District Registry of Deeds, Plan Book 40, plan 7. Being the same premises conveyed to Annabelle J. Cox by Josephine D. Smith, by her deed of even date to be recorded simultaneously herewith in said Registry of Deeds and this conveyance is made subject to a prior mortgage running to the Merrimack River Savings Bank, dated December 16, 1925, which mortgage is noted in the Land Registration Office of the Middlesex North District Registry of Deeds, Book 19, Page 189, and also subject to the restrictions therein referred to, insofar as the same may be now in force and applicable to the premises. This mortgage is upon the statutory condition, for any breach of which the mortgagee shall have the statutory power of sale. We, Annabelle J. Cox and Patrick W. Cox, release to the mortgagee all rights of DOWER AND HOMESTEAD and other interests in the mortgaged premises. WITNESS our hands and seals this eleventh day of February 1927.

See discharge 93-459 p 600.

Charles A. Smith — Annabelle J. Cox (seal)

Patrick W. Cox (seal)

Commonwealth of Massachusetts. Middlesex ss. February 11, 1927. Then personally appeared the above named Annabelle J. Cox and Patrick W. Cox and acknowledged the foregoing instrument to be their free act and deed, before me George F. Haggerty. Justice of the Peace. My commission expires December 6, 1929.

Middlesex ss. N. Dist. Registry of Deeds Recorded February 15, 1927. 10:55 A.M.

292

Boyle by Mtgee to Dancause

I, CHARLES DANCAUSE, holder of a mortgage from Gertrude M. Boyle to me dated October 28, 1925, recorded with Middlesex North District Deeds, Book 730, Page 37, by the power conferred by said mortgage and every other power, for one thousand dollars paid, grant to Charles Dancause the premises conveyed by said mortgage and therein described. WITNESS my hand and seal this twelfth day of February 1927.

X. A. Delisle — Charles Dancause (seal)

Commonwealth of Massachusetts. Middlesex ss. Lowell, Feb. 12, 1927. Then personally appeared the abovenamed Charles Dancause and acknowledged the foregoing instrument to be his free act and deed, before me Xavier A. Delisle. Justice of the Peace. Middlesex ss. N. Dist. Registry of Deeds Recorded February 15, 1927. 11:20 A. M.

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Affidavit

AFFIDAVIT I, Charles Dancause named in the foregoing deed, make oath and say that the principal and interest mentioned in the mortgage above referred to was not paid or tendered or performed when due or prior to the sale, and that I published on the fifteenth twenty-first and twenty-eighth days of January 1927 in the Lowell Courier Citizen a newspaper published, or by its title page purporting to be published in Lowell, Mass., aforesaid, and having a circulation therein, a notice of which the following is a true

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copy: MORTGAGEE'S SALE OF REAL ESTATE. By virtue and in execution of a power of sale contained in a certain mortgage deed given by Gertrude M. Boyle, of Providence, in the State of Rhode Island to Charles Dancause, of Lowell, in the County of Middlesex and Commonwealth of Massachusetts, dated Oct. 28, 1925 and recorded in the Registry of Deeds for the County of Middlesex (North District) book 730, page 37, for breach of th conditions of said mortgage and for the purpose of foreclosing the same will be sold at public auction on the premises, on Friday the eleventh day of February 1927, at two o'clock in the afternoon, all and singular the premises conveyed by said mortgage dee namely; the land in said Lowell, and in Tewksbury, in said Middlesex County, bounded and described as follows: Beginning at a point on the westerly side of Clark Road at land now or formerly of Gookin, thence northerly by Clark Road two hundred and ninety-one and 90/100 (291.90) feet to a stake at land formerly of F. C. Holmes; thence north erly by land of said Holmes and land of Hood Farm Incorporated two hundred eight and 50/100 (208.50) feet to a stone bound at other land of Charles I. Hood; thence north-westerly by other land of said Hood seven hundred and ninety-six (796) feet to an oak tree at land now or formerly of Field Heirs; thence southerly by land of said Field Heirs seven hundred and sixty-eight and 30/100 (768.30) feet to a stake; thence still along said Field Heirs land 1574 degrees east, 34.9 feet to a stone bound at land of Gookin; thence easterly by land of Gookin seven hundred and forty-seven (747) feet to the point of beginning, or however otherwise bounded and described. Containing eleven and 7/100 (11.07) acres more or less.

Also another parcel of land situated in said Lowell and Tewksbury, bounded and describ ed as follows: Beginning at a stone bound at the southeasterly corner of the premises about one hundred and thirty-five (135) feet from the westerly side of Clark Road, thence north 73 3/4 degrees west by land now or formerly of Charles I. Hood seven hun-dred and ninety-six (796) feet to an oak tree at land now or formerly of Ladd; thence north 7 1/4 degrees west by land of said Ladd two hundred and thirty-seven and 50/100 (237.50) feet to a stake; thence north 6 degrees west by land of said Ladd one hundred twelve (112) feet to a stake; thence north 15 3/4 degrees west by land of said Ladd one hundred and twenty-two and 50/100 (122.50) feet to a stone bound at land now or former ly of Joshua Clark; thence north 68 1/4 degrees east by land of said Clark four hundred twenty-eight and 40/100 (428.40) feet to a stone bound at land now or formerly of Bart-lett; thence south 14 degrees east by land of said Bartlett and land of said Charles I. Hood, now or formerly, four hundred fifty-one (451) feet to a stone bound; thence south 49 1/4 degrees east by land of said Hood one hundred eighty-three (183) feet to a point; thence south 53 1/2 degrees east by land of said Hood one hundred fourteen and 50/100 (114.50) feet to a stake; thence south 54 degrees east by land of said Hood ninety-eight and 13/100 (98.13) feet to a stone bound; thence south 8 3/4 degrees east by land of said Hood one hundred sixty-one (161) feet to a stone bound at the point of

eginning, or however otherwise bounded or described. Containing seven and 846/1000 7.846) acres more or less.

lso another parcel of land situated in said Lowell and Tewksbury bounded and described s follows: Beginning at a drill hole in the wall on the westerly side of Clark Road at and now or formerly of Bartlett at the northeast corner of the premises; thence westrly by land of said Bartlett seven hundred one and 39/100 (701.39) feet to land of said ood; thence southerly by land of said Hood four hundred nine and 90/100 (409.90) feet o a stone bound; thence southeasterly by land of said Hood one hundred eighty-three 183) feet; thence southeasterly by land of said Hood one hundred fourteen and fifty no-hundredths (114.50) feet and one hundred and 50/100 (100.50) respectively to a stone ound; thence southerly by land of said Hood one hundred sixty one (161) feet to a stone ound; thence easterly by land of said Hood about one hundred and thirty-five (135) feet o a point on the westerly side of Clark Road; thence northerly by the westerly side f Clark Road about nine hundred thirty-five (935) feet to the point of beginning; or owever otherwise bounded or described. Containing 10 and 75/100 (10.75) acres more or ess.

lso another parcel of land situated in said Tewksbury bounded and described as follows: eginning at a stone bound at the northwest corner of the premises, thence easterly y land of said Hood about one hundred thirty-five (135) feet to a point on the westerly ide of Clark Road; thence southerly by the westerly side of Clark Road as established y the County Commissioners in 1913 about two hundred twenty-five (225) feet to other land of said Hood; thence westerly by land of said Hood about twenty feet to a point; thence northerly by land of said Hood two hundred eight and 50/100 feet to the point of beginning; or however otherwise bounded or described. Containing thirty-six one hundredths (.36) of an acre more or less. The foregoing parcels are shown on a plan entitled "Plan of Land in Lowell and Tewksbury belonging to Charles I. Hood et al, April 1922, by F.W. Huntington & Co. C.E.'s" recorded with Middlesex North District Plans Book 41, Plan 37. All of the said parcels are subject to restriction that no part thereof shall be used for a cemetery or for cemetery purposes. The first parcel containing 11.07 acres, more or less, is subject to a dedication of a twenty foot strip on the southerly side thereof running parallel to land of Gookin, as and for a public street as shown on a plan entitled Plan of Village Street situated in Lowell and Tewksbury by Henry O. Brooks C.E., dated Nov. 9, 1923, duly recorded and also subject to the deed of dedication of which said plan forms a part dated June 30, 1924, signed by Sarah A. Hood, Bridget Gookin, Margaret W. Merrill and Herbert C. Merrill, duly recorded. The parcels having a frontage on Clark Road are subject to the restriction that no building shall be erected thereon within thirty-five feet from said Road, and that no house erected shall cost less than four thousand dollars or contain more than two tenements or apartments. Being the same premises conveyed by Charles Daneause to the said Gertrude M. Boyle by deed dated

October 28, 1925, and recorded in said Middlesex North District Registry of Deeds. $500 will be required to be paid in cash by the purchaser at the time and place of sal Other terms will be announced at the sale. Charles Dancause, Present holder of said mortgage. Jan. 12, 1927. j15-21-28 Pursuant to said notice at the time and place ther in appointed, I sold the mortgaged premises at public auction by E. Gaston Campbell ar auctioneer, to Charles Dancause above named, for one thousand dollars, bid by Charles Dancause, being the highest bid made therefor at said auction.

Charles Dancause
before me

Signed and sworn to by the said Charles Dancause February 12, 1927. Xavier A. Delisle Justice of the Peace.

Middlesex ss. N. Dist. Registry of Deeds Recorded February 15, 1927 11:20 A. M.

7 letters & 3 figures over erasures.2 words interlined.

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294 Bonelli to O'Hara

I, WALTER H. BONELLI of Brookline, Norfolk County, Massachusetts, being unmarrie for consideration paid, grant to Thomas J. O'Hara of Lowell, Middlesex County, Massac setts with QUITCLAIM COVENANTS the land in that part of Lowell, Middlesex County, Mas sachusetts, known as Belvidere Park, being lot number 226 on a plan by Smith & Brooks Surveyors, dated April 1909 and recorded with Middlesex Deeds, Book of Plans No. 26 Page 17 and bounded and described as follows: Easterly by Wetherbee Avenue fifty feet as shown on said plan, Southerly by lot No. 225 one hundred feet, Westerly by lot No. 201 fifty feet and Northerly by lot No. 227 one hundred feet. Containing according tc said plan 5000 square feet more or less. Subject to taxes for the year 1927 and any and all assessments. For my title see Book 729 Page 452, Book 720, Page 223. WITNESS my hand and seal this eleventh day of November 1926.

Walter H. Bonelli (seal

Commonwealth of Massachusetts. Suffolk ss. Boston, Novemeber Eleventh 1926. Then personally appeared the above named Walter H. Bonelli and acknowledged the foregoing instrument to be his free act and deed, before me Louis H. Bonelli Jr. Notary Public My commission expires May 1929. (Notarial Seal)

Middlesex ss. N. Dist. Registry of Deeds Recorded February 15, 1927. 1:15 P. M.

2 letters & 1 figure over erasure.

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295 Baxter to Lennon

KNOW ALL MEN BY THESE PRESENTS that I, Gertrude Baxter, of Lowell, Middlesex Cou ty, Massachusetts, in consideration of four hundred dollars paid by Timothy F. Lennon of said Lowell the receipt whereof is hereby acknowledged, do hereby give, grant, bar gain, sell and convey unto the said Timothy F. Lennon the land in said Lowell with th buildings thereon, situated on the southerly side of Cosgrove Street, and being lot No. 32 on a plan of land in Lowell, belonging to John Cosgrove, which plan is recorde in Middlesex North District Registry of Deeds, Book of Plans 3 A, Plan 15, bounded and described as follows: Beginning at the northwesterly corner of the premises on said Cosgrove Street at Lot No. 33 on said plan; thence running southerly on Lot No.

RECEIVED
LAW DEPT.
CITY OF LOWELL

Jul 29 12 42 PM '64

BOOK 1661 PAGE 343

COMMONWEALTH OF MASSACHUSETTS

CITY OF LOWELL

In City Council

VOTE

Accepting Deed of Land on Dead Horse Lane.

BE IT VOTED by the City Council of the City of Lowell as follows:

That a deed from the Executive Board of the Lowell High School Alumni Association, dated July 28, 1964, a copy of which is hereto annexed, granting to the City of Lowell certain land for practice and play space for Lowell High School students, be and the same is hereby accepted.

In City Council July 28, 1964
Read twice and adopted 6 yeas, 3 absent
William F. Busby, Clerk

Approved on July 29, 1964 by P. Harold Ready, City Manager

A TRUE COPY

ATTEST

William F Busby

City Clerk

Rec'd & entered for record Aug. 21, 1964 at 11h. 21m. A. M. #1214

Lowell High School Alumni Association, a Massachusetts corporation having a usual place of business at Lowell, Massachusetts, without consideration, grants to City of Lowell, a municipal corporation duly organized by law and located in Middlesex County, Massachusetts, with QUITCLAIM COVENANTS, a certain parcel of land in Lowell, situated on the northerly side of Village Street, formerly known as Dead Horse Lane, and described as follows:

See Vol B 1661 P 343

Beginning at a point two hundred fifty-three and 9/10 (253.9) feet distant easterly from the intersection of the westerly line of Village Street with the northerly line of said Village Street, now or formerly Dead Horse Lane;

Thence, running northerly by land of the City of Lowell four hundred fifty-five (455) feet to a point;

Thence, easterly at an angle of 90°, four hundred twenty (420) feet to a point at other land of grantor;

Thence, southerly at an angle of 90°, four hundred fifty-five (455) feet to a point on the northerly line of said Village Street, now or formerly Dead Horse Lane;

Thence, westerly along said Village Street, now or formerly Dead Horse Lane, at an angle of 90°, four hundred twenty (420) feet to the point of beginning.

Being a portion of the premises conveyed to the grantor by deed of Charles Dancause, dated May 10, 1929 and recorded in Middlesex North District Registry of Deeds, Book 776, Page 282.

Said premises are conveyed subject to the following conditions and restrictions:

1. The City of Lowell shall use said land as a suitable practice field and play space for football and other athletic sports for Lowell High School students, and shall suitably maintain it for such purposes.

2. In the event that the said City of Lowell fails to so use said land for two consecutive years, said parcel shall revert to the said Lowell High School Alumni Association or its successors.

3. Nothing herein contained shall be construed to prevent the said City of Lowell, or the Department thereof in charge of said parcel of land, from making a charge for admission to said premises or for the rental of the same.

IN WITNESS WHEREOF, Lowell High School Alumni Association has caused its corporate seal to be hereto affixed and these presents to be signed in its name and behalf by _____ John Janas, its President, and by Paul N. Demogenes, its Treasurer, this 28th day of July, 1964.

LOWELL HIGH SCHOOL ALUMNI ASSOCIATION

By John Janas
Its President

and by Paul N. Demogenes
Its Treasurer

BOOK 1661 PAGE 345

COMMONWEALTH OF MASSACHUSETTS

Middlesex,ss. Lowell, July 28, 1964.

Then personally appeared the above named John Janas and acknowledged the foregoing instrument to be the free act and deed of Lowell High School Alumni Association, before me

Cornelius T. Finnegan, Jr. Notary Public

My commission expires December 17, 1966

I hereby certify that at a meeting of the Executive Board of the Lowell High School Alumni Association held on June 18, 1962, the following Resolution was adopted:

VOTED: That the following land be transferred by deed from the Lowell High School Alumni Association to the City of Lowell for the purpose of making practice and play space for Lowell High School students.

Said land is described as follows: From a point on Dead Horse Lane 253.9 from intersection of Village Street, North 455 (90) East 420 (90), South 455 (90), West 420 (90), back to point of origin.

LOWELL HIGH SCHOOL ALUMNI ASSOCIATION

By _____
Secretary

Rec'd & entered for record Aug. 21, 1964 at 11h. 22m. A. M. #1215

Know all men by these presents.

That The Lowell Five Cent Savings Bank, a body corporate duly established by law at Lowell, in the County of Middlesex and Commonwealth of Massachusetts, successor by merger to City Institution for Savings (see Certificate of Merger recorded with Middlesex North District Registry of Deeds) the present holder of a mortgage from Raymond R. Verville and Rita Y. Verville

..... to said City Institution for Savings

This instrument must be filed for record or registration within 60 days from its date

STATE FORM 301
Revised 3/2009
TT# 2011064

COMMONWEALTH OF MASSACHUSETTS
TOWN OF TEWKSBURY
Office of the Collector of Taxes

2011 00057162
Bk: 25555 Pg: 81 Page: 1 of 1
Recorded: 12/20/2011 02:13 PM

INSTRUMENT OF TAKING

I, KELLY L. ODAMS , Collector of Taxes for the TOWN OF TEWKSBURY , acting under General Laws Chapter 60, Sections 53 and 54, hereby take for the city/town the real property described below:

DESCRIPTION OF PROPERTY

PROPERTY: LAND
CONTAINING: 6.50 AC (more or less)
LOCATION: CLARK RD
PARCEL ID: 0012-0003-0000
REGISTRY: N/A
LAND COURT:
RECORDED AT: MIDDLESEX NORTH DISTRICT DEEDS

This land is taken because taxes, as defined in Chapter 60, Section 43, assessed on the property to:

LOWELL HIGH SCHOOL ALUMNI

for the fiscal year 2011 were not paid within fourteen (14) days after a demand for payment was made on LOWELL HIGH SCHOOL ALUMNI on May 25, 2011 . After notice of intention to take the land was given as required by law, they remain unpaid along with interest and incidental expenses and costs to the date of taking as follows:

Fiscal Year 2011 TAXES REMAINING UNPAID. .	$1,258.00
INTEREST to date of taking	$130.75
INCIDENTAL EXPENSES AND COSTS to Date of Taking.	$41.79
TOTAL FOR WHICH LAND IS TAKEN.	$1,430.54

Executed as a sealed instrument on December 14, 2011

Kelly L. Odams
KELLY L. ODAMS

THE COMMONWEALTH OF MASSACHUSETTS

Middlesex ss.

DATE: Dec. 15, 2011

On this 15th day of Dec, 2011, before me, the undersigned Notary Public , personally appeared KELLY L. ODAMS , proved to me through satisfactory evidence of identification, which were known to me, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose, as Collector of Taxes for the TOWN OF TEWKSBURY

My commission expires Nov. 22, 2013

Denise Graffeo

THIS FORM APPROVED BY THE COMMISSIONER OF REVENUE

2014 00040687
Bk: 28537 Pg: 243 Page: 1 of 3
Recorded: 10/09/2014 04:00 PM

QUITCLAIM DEED

LOWELL HIGH SCHOOL ALUMNI ASSOCIATION, a Massachusetts non-profit corporation having an a usual place of business in Lowell, MA, in consideration of One Dollar ($1.00) paid, grants with **QUITCLAIM COVENANTS,** to

THE CITY OF LOWELL, a municipal corporation having a principal address at City Hall, 375 Merrimack Street, Lowell, MA 01852, the following described premises:

A certain parcel of land situated in Lowell, Massachusetts and Tewksbury, Massachusetts, located near or partially bordered by Village Street, Rogers Street, Clark Road and Douglas Road, constituting the portion of the premises conveyed to the Lowell High School Alumni Association by deed of Charles Dancause, dated May 10, 1929, and recorded in the Middlesex North Registry of Deeds, Book 776, Page 282 that remained after the conveyance of a prior portion of these premises to the City of Lowell by the Lowell High School Alumni Association by deed dated July 28, 1964 and recorded in the Middlesex North Registry of Deeds Book 1661 Page 343.

By acceptance hereof, the grantee agrees to pay all tax liens presently existing against the above described property by the grantee, including the tax lien recorded by the Town of Tewksbury in said Middlesex North Registry of Deeds Book 28408, and Page 278.

For authority to gift these premises, see Letter from the Lowell High School Alumni Association, dated September 8 2014, to be recorded herewith.

For authority to accept gift of these premises and agreement to pay taxes and utility fees, including liens, see Vote of the City Council of the City of Lowell dated September 23, 2014, to be recorded herewith.

The grantor acknowledges receipt of the disclosure statement required by Massachusetts General Laws c. 7C, § 38 and agrees to comply therewith.

As the City of Lowell is a party to this deed, no documentation stamps are required per Massachusetts General Laws c. 64D, § 1.

Executed under seal as of this 29th day of September 2014.

Lowell High School Alumni Association.

By: _____
Timothy S. Patterson, President

Clark Rd Tewksbury, MA
Lowell, MA

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss:

On this 24th day of September, 2014, before me, the undersigned Notary Public, Michelle Callahan personally appeared and proved to me through satisfactory evidence, which was a Massachusetts Driver's License, to be the person whose name is signed on this document, and acknowledged to me that he signed it voluntarily as the President of the Lowell High School Alumni Association for its stated purpose.

_____, Notary Public

My Commission expires:

MICHELLE CALLAHAN
Notary Public
Commonwealth of Massachusetts
My Commission Expires
February 12, 2021

Lowell High School Alumni Association

50 Fr. Morissette Blvd. Lowell Ma 01852-1050

Tim Patterson '96, President
Philip C. Maia '78, David Casey '97, Vice-Presidents
Trudy Vail Michel '59, Recording Secretary
Ryan P. Gilday '96, Corresponding Secretary
Mike McCabe'90, Treasurer

Monday 8th, 2014

On Friday, September 5th 2014, the Board of Directors of the Lowell High School Alumni Association met and voted unanimously to approve that any land remaining in Lowell and Tewksbury, still owned by the Lowell High School Alumni Association, be transferred to the City of Lowell. The City of Lowell has the authority to convey these deeds.

Tim Patterson '96

President
Lowell High School Alumni Association

THIS INSTRUMENT SHOULD BE FILED AT ONCE FOR RECORD OR REGISTRATION.

STATE FORM 441

INSTRUMENT OF REDEMPTION
TITLE IN MUNICIPALITY
TAX TITLE NUMBER: 2011064

THE COMMONWEALTH OF MASSACHUSETTS
TOWN OF TEWKSBURY

OFFICE OF THE TREASURER

The TOWN OF TEWKSBURY , holder of a tax title under a taking for non-payment of the 2011 taxes assessed to
LOWELL HIGH SCHOOL ALUMNI
CLARK RD

on land described in the instrument of taking conveying said title, dated December 14, 2011 and recorded with MIDDLESEX NORTH DISTRICT DEEDS , Book/Page 25555/81 , Document No. , Certificate of Title No. , does hereby pursuant to General Laws, Chapter 60, Section 62, acknowledge satisfaction of the tax title account secured by such instrument of taking.

DESCRIPTION OF LAND

PROPERTY:	LAND	CONTAINING:	6.500 AC (more or less)
LOCATION:	CLARK RD		
ASSESSORS:	0012-0003-0000		
REGISTRY:			
LAND COURT:	-		
RECORDED AT:	MIDDLESEX NORTH DISTRICT DEEDS		

REDEEMER: CITY OF LOWELL

Witness the execution of this instrument this 19TH day of DECEMBER, 2014

TOWN OF TEWKSBURY

By Kelly L. Odams, Treasurer

THE COMMONWEALTH OF MASSACHUSETTS

MIDDLESEX MA , ss. 12/19/14

Then personally appeared the above named KELLY L. ODAMS Treasurer of the TOWN OF TEWKSBURY , and acknowledged the foregoing instrument to be the free act and deed of said town.

Before me,

My commission expires 09-04-2020 Michele B. Sullivan
Notary Public

2014 00051737
Bk: 28714 Pg: 60 Page: 1 of 1
Recorded: 12/22/2014 10:17 AM

Nobis
Engineering a Sustainable Future

October 20, 2016
File No. 91830.00

Ms. Alicia Caritano
Senior Associate
Perkins Eastman
50 Franklin Street, Suite 203
Boston, Massachusetts 02110

Re: Transmittal of Phase I Environmental Site Assessment
Lowell High School Existing Conditions Evaluation/Geoenvironmental
Perkins Eastman Project #67150.00
Lowell, Massachusetts

Dear Ms. Caritano:

Nobis Engineering, Inc. (Nobis) completed a Phase I Environmental Site Assessment (ESA) of six parcels of land located in the downtown area of Lowell, Massachusetts (the Site). Five of these parcels are owned by the City of Lowell and are used as facilities and infrastructure for Lowell High School. The sixth parcel is currently privately owned and occupied by a pediatric dentistry office.

The Phase I ESA Report is included as an attachment to this letter. This report has been edited to address your comments provided via email on October 14, 2016. The objectives and conclusions of this report are summarized in this cover letter, along with some discussion about potential impacts during construction from subsurface environmental conditions and the management of contaminated soils encountered during construction activities.

OBJECTIVE OF THE PHASE I

This Phase I ESA was conducted to support a Feasibility Study being performed by Perkins Eastman on behalf of the City of Lowell under a grant provided by the Massachusetts School Building Authority (MSBA). The Phase I ESA is intended to fulfill, in part, the requirements of MSBA Module 3, Section 3.1.4 (Evaluation of Existing Conditions), specifically to document the existing subsurface environmental conditions within the footprint of the current Lowell High School and an adjacent parcel being considered for expansion.

The Phase I ESA identifies several Recognized Environmental Conditions (RECs) associated with the historical use of the subject properties. RECs are defined by the American Society for Testing and Materials (ASTM) as:

Nobis Engineering, Inc.
585 Middlesex Street
Lowell, MA 01851

> *"The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."*

It is important to note that RECs do not necessarily indicate oil or hazardous materials (OHM) have been released to the environment at the Site, but only that there is a potential that OHM has been released to the environment. Determination of the presence or absence of a release can only be made after the collection of field data, which is beyond the scope of a Phase I ESA.

RECOGNIZED ENVIRONMENTAL CONDITIONS

The RECs identified in the Phase I ESA can be used to evaluate potential subsurface environmental issues that might be encountered should a construction or renovation project be undertaken on one or more of the six parcels included in the assessment. Nobis offers the following conclusions with respect to the potential impacts of subsurface environmental conditions on future redevelopment efforts for Lowell High School:

- The Site has been developed since the early 1800s, when the Merrimack Canal and associated textile mills were constructed. The Merrimack Manufacturing Company and Boott Cotton Mills were both located to the north of the Site, and a rail line was constructed to the west of the canal to serve these mills. Today this rail line still exists and is used for streetcar traffic associated with the Lowell National Historical Park.

  Former railroad activities likely transported and handled raw materials, chemicals, and hazardous materials associated with the operation of the mills. Also, railroad operations and maintenance activities themselves typically utilize OHM such as creosote or arsenic-laced railroad ties, herbicides, lubricating oils, diesel fuel, and diesel exhaust, which commonly result in releases of heavy metals, pesticides/herbicides, and petroleum-related contamination along railroad corridors. Any disturbance of soil within the former railroad corridor should consider the possibility that residual contamination is present due to historical use.

- The mills operated until the mid-1900s before closing down and falling victim to urban renewal efforts in the 1960s, which completely changed the configuration of streets in the portion of the Site that is currently occupied by the Lord Building and the Field House. For over 100 years, the portion of the Site located to the west of the Merrimack Canal was occupied by tenement homes associated with the mill, but also a small portion of the mill complex itself. The extreme northwest corner of the Site, the current location of the Field House, was formerly occupied by a "Finishing Mill" that was part of the Merrimack mill complex. The finishing process in a textile mill could have included application of dyes, bleaches, or other chemicals to prepare the textile for its end use. Any disturbance of soil

in this portion of the Site should consider the possibility that residual contamination is present due to historical use.

- In 1920, the Steam Plant was constructed at the corner of Kirk and French Streets. Based on the review of historical maps, it appears that the Steam Plant was initially fired by coal, and a “coal bin” was present between the Steam Plant and the Freshman Academy. Residual coal and/or coal ash contains high levels of semi-volatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs). Any disturbance of soil in this portion of the Site should consider the possibility that residual contamination is present due to historical use.

- Review of Lowell Fire Department records revealed that the High School facility has/had a 12,600-gallon “below grade” “Faber Burner” tank located on French Street. The tank’s contents were not listed, nor was the installation date, removal date, or any sort of inspection date. Fire Department records do not provide any additional details regarding the tank. This tank may have been a storage vessel for oil that was used to fuel the boilers in the Steam Plant before it was converted to natural gas, or used to heat one of the school buildings. The exact location of this tank is unknown, but is likely to be near the Steam Plant along French Street. According to City representatives, this tank is no longer in service. However, any subsurface exploration performed in the vicinity of the Steam Plant should consider the possibility that this tank is still in place, and that petroleum products may have been released to the environment.

In summary, if construction or renovation activities (or pre-design activities) are expected to disturb soils, or if excess soils are expected to be generated during construction, considerations should be made for the management of environmental media. For example, if soils are expected to be displaced in order to construct a foundation for a new building, these soils should first be evaluated to determine if they have been impacted by OHM. Typically, pre-characterization of soils consists of the collection of soil samples from the area to be disturbed, and analysis of soil samples for a wide range of potential contaminants to determine the presence or absence of contamination, and to meet the requirements of an off-site reuse/disposal location, should these soils be surplus material unable to be reused within the project site.

The typical suite of laboratory analyses for pre-characterization soil samples includes volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270, polychlorinated biphenyls (PCBs) by EPA Method 8082, total petroleum hydrocarbons (TPH) by EPA Method 8100, and heavy metals by EPA Methods 6010/6020. Other analyses may be added based on site-specific knowledge of former operations.

SOIL CLASSIFICATION AND MANAGEMENT

The results of these laboratory analyses assist the Environmental Professional with recommendations for soil handling and off-site reuse/disposal, as well as identify any health and

safety protocols that should be incorporated into earthwork operations. In a very general sense, the types of soils that might be encountered at a site like Lowell High School fall into the following classifications:

- Class A-1: Soils meet the definition of background and are suitable for reuse without restrictions. Typically this means that there are no detectable concentrations of VOCs, PCBs, or TPH; and that SVOCs and metals are present at concentrations lower than the values published in Table 1 of the MassDEP Technical Guidance Document *Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil* (May 2002).

- Class A-2: Soils contain detectable concentrations of some contaminants above background, but all contaminants are present below the Massachusetts Contingency Plan (MCP) Reportable Concentrations for Category S-1 Soil (RCS-1). This soil is not regulated for disposal under the MCP, and is therefore eligible for off-site reuse provided that the material meets the MassDEP's anti-degradation or "similar soils" provision (310 CMR 40.0032[3][b]). This section of the MCP states that soils must not be reused at a location where "existing concentrations of oil and/or hazardous material…are significantly lower than the levels of those oil and/or hazardous materials present in the soil being disposed or reused." In other words, the soils cannot be reused at a location where they would increase the level of contamination already present at the receiving site.

- Class B-1: Soils contain concentrations of at least one contaminant above RCS-1. These soils are regulated under the MCP and, in many cases, require reporting to MassDEP. These soils may be disposed in a lined or unlined landfill within Massachusetts provided that they meet the criteria established in MassDEP Policy #COMM-97-001, *Reuse and Disposal of Contaminated Soil in Massachusetts Landfills* (August 1997).

- Class B-2: Soils contain concentrations of at least one contaminant above RCS-1 and the COMM-97 reuse criteria. These soils must be transported to an out-of-state landfill for disposal.

The general information included in the section above is provided as guidance for planning purposes during the feasibility stage of this project. There are several nuances, including exemptions and variances that can be applied if specific observations of urban fill materials are made, that might be applicable to the Site as subsurface information is collected and evaluated. A Licensed Site Professional (LSP) should be involved with any soil management evaluations that are made during pre-design or construction, to ensure compliance with all applicable environmental laws and regulations.

SUBSURFACE INVESTIGATION

Given the identification of RECs on the Site, a Phase II investigation may be warranted during the pre-design phase of the project to determine the presence or absence of OHM in soils at the Site. At a minimum, Phase II investigations should include the following:

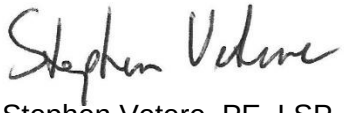
- Surface geophysical survey (electromagnetic and ground penetrating radar) in the vicinity of the Steam Plant to identify subsurface anomalies that might indicate the presence of an abandoned underground storage tank. This survey might be followed up with test pitting to identify the source of any anomalies.

- Collection of soil samples from Site areas where disturbance of soils is anticipated. The objective of this investigation would be to determine whether OHM is present in soils. This information would be used to determine the appropriate health and safety precautions that should be taken by construction workers, as well as to identify potential reuse or disposal options for excess soils generated during the project. Shallow soil samples (0 to 2 feet below ground surface) can be collected using hand augers. A small drilling rig (Geoprobe® or equivalent) would be required to obtain deeper soil samples.

If you have any questions on the content of this letter or the attached Phase I ESA report, please do not hesitate to contact me at (978) 703-6029 or by email at *svetere@nobiseng.com*.

Very truly yours,

Nobis Engineering, Inc.



Stephen Vetere, PE, LSP
Director of Environmental Services

Attachments: Phase I Environmental Site Assessment, Lowell High School

cc: Joseph Drown, Perkins Eastman
Patrick Jones, Perkins Eastman

PHASE I ENVIRONMENTAL SITE ASSESSMENT

LOWELL HIGH SCHOOL EXISTING CONDITIONS EVALUATION
MSBA FEASIBILITY STUDY

38 KIRK STREET, 50 FATHER MORISSETTE BOULEVARD, 55 FRENCH STREET/68 JOHN STREET, 35 FRENCH STREET, 75 ARCAND DRIVE
LOWELL, MASSACHUSETTS

FOR

PERKINS EASTMAN
PROJECT NUMBER 67150.00

BY

NOBIS ENGINEERING, INC.
NH | MA | VT | NJ | MD
(800) 394-4182
www.nobiseng.com

Nobis Project No. 91830.00
October 20, 2016

Nobis
Engineering a Sustainable Future

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LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

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ES EXECUTIVE SUMMARY

Nobis Engineering, Inc. (Nobis) completed a Phase I Environmental Site Assessment (ESA) of six parcels of land located in the downtown area of Lowell, Massachusetts (the Site). Five of these parcels are owned by the City of Lowell and are used as facilities and infrastructure for Lowell High School. The sixth parcel is currently privately owned and occupied by a pediatric dentistry office. The sixth parcel was included in the ESA because it is being considered for potential acquisition by the City for expansion of the current high school. Nobis performed the Phase I ESA in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-13.

This Phase I ESA was conducted to support a Feasibility Study being performed by Perkins Eastman on behalf of the City of Lowell under a grant provided by the Massachusetts School Building Authority (MSBA). This document is intended to fulfill, in part, the requirements of MSBA Module 3, Section 3.1.4 (Evaluation of Existing Conditions), specifically to document the existing environmental conditions within the footprint of the current Lowell High School and an adjacent parcel being considered for expansion.

The six parcels are hereafter collectively referred to as “the Site”. The Site is the current location of Lowell High School, as well as a dentistry practice located to the south of the High School property. The High School complex consists of five separate buildings occupying land on either side of the Merrimack Canal, which bisects the campus, running north/south through the center of the Site. To the west of the canal is the Lord Building and the Field House; to the east of the canal is the 1922 Building, Freshman Academy, and Steam Plant. The dentistry office is located to the west of the Merrimack Canal.

The portion of the Site located to the west of the canal was first developed in the 1820s concurrent with the development of the Merrimack Canal and the Merrimack Manufacturing Company, a former textile mill. A portion of the Merrimack Manufacturing Company mill complex occupied the northwest corner of the Site, and the remaining Site area west of the canal was occupied by tenement homes associated with the mill. A rail line entered the Site from the south, running parallel to the canal, and a spur was built running perpendicular to the canal along the southern boundary of the Site (currently the dentistry office). In the 1960s, an urban renewal program resulted in the demolition of the mill and associated housing, and the streets to the west of the

canal were completely reconfigured to resemble the present day layout. In 1980, the Lord Building and Field House were constructed on vacant land as improvements to the existing high school, which before this time was entirely located on the east side of the canal.

The portion of the Site located east of the canal was first developed in the early- to mid-1800s. During the 1820s, the land upon which the Freshman Academy is situated was developed as row houses for workers in the Boott Cotton Mills, another former mill that operated in the Site vicinity. The remainder of the Site area east of the canal was developed in the 1840s when the original Lowell High School was constructed on the current footprint of the “old building” of the High School. By 1894, the current “old building” replaced this original school building and the area around the High School was used for residential and storage. In 1902, the “High School Annex” was constructed on Paige Street to the south of the row houses. In 1920, the Steam Plan was constructed. In 1922, the High School expanded to the north toward French Street, replacing residences that occupied this land. In 1939-1940, the Lowell Trade School was built on the current footprint of the Freshman Academy, replacing the row houses and operating alongside the existing High School Annex. In 1997, the most recent addition to the High School was completed, extending the 1922 Building to the north closer to French Street.

Due to its location within a historically urban area, there are several properties within a 1/8-mile radius of the Site that were identified in environmental databases; however, a review of their location relative to the Site, as well as available environmental records, suggests these properties are unlikely to adversely impact environmental conditions at the Site.

Nobis performed a site reconnaissance on August 30, 2016 and conducted a review of City records pertaining to the Site in order to identify historical use, storage, or release of oil or hazardous materials at the Site. Nobis conducted interviews with persons familiar with the current and historical site operations.

Based on the review of historical records, observations made during the site reconnaissance, and information provided in interviews with City personnel, Nobis identified the following Recognized Environmental Conditions (“RECs”), as defined in Section 3.2.78 of the Practice:

- City of Lowell Fire Department records contained one index card file for Lowell High School, which indicated that the facility had a 12,600-gallon “below grade” “Faber Burner”

tank located on French Street. The tank's contents were not listed, nor was the installation date, removal date, or any sort of inspection date. The record does not provide any additional details regarding the tank. This tank may have been a storage vessel for oil that was used to fuel the boilers in the Steam Plant before it was converted to natural gas, or used to heat one of the school buildings. The exact location of this tank is unknown, but is likely to be near the Steam Plant along French Street.

- Sanborn Fire Insurance Maps show a "coal bin" in the 1950, 1952, and 1977 maps in what is now the alley between the Freshman Academy and the Steam Plant. The historical storage of coal in this vicinity may have resulted in the release of coal or coal ash to the environment. A release of coal and/or coal ash could result in high levels of semi-volatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs) in soil.

- 50 Father Morissette Boulevard was historically part of the Merrimack Manufacturing Company property. Most of the property was used for tenement housing; however, the northwestern corner of the property contained two buildings used as an "Old Packing Building" and "Finishing Mill". It is possible that dyes, solvents, or other chemicals used in textile processing were used, stored, or released in this portion of the Site.

- A railroad spur leading into the Merrimack Manufacturing Company was present along the southern border of the current 75 Arcand Drive property from the early 1900s until at least 1952. The railroad is not shown on the 1977 Sanborn fire insurance maps. Additionally, the rail line from which this spur originated directly abuts the Lord Building to the east. This line is still used for trolley services. Former railroad activities likely transported and handled raw materials, chemicals, and hazardous materials associated with the operation of area industry. In addition, railroad operations and maintenance activities themselves may have impacted the Site, as creosote or arsenic-laced railroad ties, herbicides, lubricating oils, diesel fuel, and diesel exhaust commonly result in releases of heavy metals, pesticides/herbicides, and petroleum-related contamination along railroad corridors.

Nobis also encountered several de minimis conditions for the Site. De minimis conditions (environmental concerns, although not RECs) encountered during the assessment include the storage of cleaning products, paints, sealants, pool maintenance chemicals, and laboratory

supplies used for school operations. These chemicals were observed to be labeled, contained, and no evidence of release was noted.

Any subsurface exploration or soil excavation performed in the areas identified above should consider the possibility that environmental media may be contaminated. Prior to performing any pre-design or construction work, Phase II investigations are warranted to evaluate whether these RECs have resulted in a release of contamination the environment, and to provide information to assist with soil management and health and safety planning for Site workers. Phase II investigations might include the advancement of soil borings and collection of soil samples for laboratory analysis. A surface geophysical survey may also be beneficial to identify the location of the suspected storage tank in the vicinity of the Steam Plant.

1.0 INTRODUCTION

Nobis has completed a Phase I Environmental Site Assessment (ESA) of six parcels of land located in the downtown area of Lowell, Massachusetts (the Site). Five of these parcels, 50 Father Morissette Boulevard, 35 and 55 French Street, 68 John Street, and 38 Kirk Street, are owned by the City of Lowell and are used as facilities and infrastructure for Lowell High School. The sixth parcel, located at 75 Arcand Drive, is currently owned by TRS Lowell Doctors Park Trust and is occupied by a pediatric dentistry office. The 75 Arcand Drive parcel was included in this ESA because it is being considered for potential acquisition by the City for expansion of the current high school. A Site Locus Map is included as Figure 1. A Site Plan is included as Figure 2. A Massachusetts Office of Geographic Information Systems (MassGIS) Map of the Site and vicinity is included as Figure 3.

1.1 Purpose

This Phase I ESA was conducted to support a Feasibility Study being performed by Perkins Eastman on behalf of the City of Lowell under a grant provided by the Massachusetts School Building Authority (MSBA). This document is intended to fulfill, in part, the requirements of MSBA Module 3, Section 3.1.4 (Evaluation of Existing Conditions), specifically to document the existing environmental conditions within the footprint of the current Lowell High School and an adjacent parcel being considered for expansion.

To accomplish this objective, Nobis performed a Phase I ESA in conformance with the American Society for Testing and Materials (ASTM) E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”. Exceptions and limitations to this report are noted in Section 1.4 below. The objective of a Phase I ESA is to assess environmental conditions at the Site and in the general vicinity for *Recognized Environmental Conditions* (RECs) associated with the presence of petroleum products (PP) or hazardous material (HM). To meet this objective, Nobis performed the tasks described in Section 1.2.

1.2 Detailed Scope-of-Services

The Phase I ESA included the following activities:

- A review of Massachusetts Department of Environmental Protection (MassDEP) and United States Environmental Protection Agency (EPA) regulatory database listings concerning environmental conditions at, and in the vicinity of the Site, as provided in a database search report provided by Environmental Data Resources Inc. (EDR®).

- Contacted City of Lowell officials to obtain information pertaining to present and historical environmental conditions at the Site and adjacent environs.

- A review of available ownership history and land use records, and interview persons with knowledge of the Site to obtain information on past use.

- A review of available aerial photographs, topographic maps, Sanborn Fire Insurance Maps, and historical city directories to aid in assessing local hydrogeology and in assessing past and present land use at the Site and vicinity.

- Performed a site visit on August 30, 2016 to assess general environmental conditions at the Site and adjacent environs for evidence of RECs associated with past or present PP or HM waste handling or storage activities.

- The preparation of this report summarizing the results of the assessment.

1.3 Significant Assumptions

It is assumed that federal, state, and local records are generally complete and current. The preparer assumes that all individuals contacted and/or interviewed during the preparations of this Phase I ESA have responded in good faith. Nobis is entitled to rely on all information gathered during this scope of work.

1.4 Limitations and Exceptions

This Phase I ESA is intended to assess the Site for potential significant environmental issues. It is not intended as a guidance document for potential future remedial action.

Nobis did not have access to the potential acquisition property at 75 Arcand Street during the site reconnaissance on August 30, 2016. This property is not currently owned by the City of Lowell and subsequently Nobis did not have access to view property conditions.

Additional limitations are noted in Appendix A.

1.5 Special Terms and Conditions

No special terms or conditions apply to this Phase I ESA.

1.6 User Reliance

User reliance is subject to the requirements of 40 CFR Part 312, ASTM E1527-13, as noted herein.

1.7 User Obligations

As defined in ASTM E1527-13, the user responsibilities, as applicable, are as follows:

- Identify the scope of work.
- Decide whether to use prior assessments.
- Check title records for environmental liens and activity and use restrictions.
- Disclose specialized knowledge and experience.
- Explain why the purchase price is below market value, if it is discounted.
- Answer interview questions in good faith.
- Provide the information summarized in the user questionnaire provided by Nobis.

2.0 SITE DESCRIPTION

This section provides a description of the Site and adjoining properties.

2.1 Location and Legal Description

According to City Assessor records, five Site parcels are currently owned by the City of Lowell School Department. The property at 75 Arcand Street, being considered for acquisition by the City of Lowell School Department, is privately owned. A summary of tax parcel IDs, building IDs, parcel size and associated street addresses, and current ownership information for the parcels is presented in the table below.

Lowell Assessor's Office Parcel ID	Building ID	Street Address	Approximate Parcel Size (Acres)	Current Owner
158-2470-50	Lord Building and Field House	50 Father Morissette Boulevard	3.29	City of Lowell School Dept.
158-2465-35	Steam Plant	35 French Street	0.15	City of Lowell School Dept.
177-2465-55*	Freshman Academy	55 French Street	0.41	City of Lowell School Dept.
177-3270-68*		68 John Street	0.38	City of Lowell School Dept.
158-3410-38	1922 Building	38 Kirk Street	2.31	City of Lowell School Dept.
158-210-75	Lowell Dentistry for Children	75 Arcand Drive	1.43	TRS Lowell Doctors Park Trust c/o Drs. Montiminy Inc.

*These two parcels make up the Freshman Academy building.

During Site reconnaissance and associated correspondence with knowledgeable personnel, the 1922 Building was occasionally referred to as the "1922 building" by faculty and students. Additionally, the Lord Building was occasionally referred to as the "1980 building". This nomenclature refers to the date of construction of these buildings.

According to the City of Lowell Assessor's Department, all of the subject properties are currently zoned "DMU", which is defined in Article 3 of the City of Lowell Zoning Book (adopted December

7, 2004) as a “downtown mixed-use district”. Copies of the applicable properties’ assessor cards are included in Appendix B.

2.2 Site and Vicinity General Characteristics

The Site is located within an urban area of the City of Lowell with mixed residential, commercial, and recreational uses. The topography of the Site and surrounding environs is relatively flat. According to the Site Locus Map (Figure 1), the topographic gradient decreases to north/northeast, towards the Merrimack River, which is located approximately 650 feet from the Site.

2.3 Current Use of the Property

The subject properties (excluding 75 Arcand Street) are the current location of Lowell High School. The Lord Building and associated Field House, Freshman Academy, and the 1922 Building are all currently used as academic facilities. Academic facilities associated with these buildings include classrooms, laboratories, cafeterias, auditoriums, and administrative offices. The Lord Building facility and the 1922 Building are separated geographically by the Merrimack Canal, which runs north/south between the two buildings. Students and faculty are able to move between the Lord and 1922 Buildings using covered bridges which span over the canal below. The Freshman Academy is a completely separate building for 9th grade students, located to the east of the 1922 Building.

The Field House attached to the Lord Building is used as a sports and recreational facility. This facility contains a pool, an indoor track and gymnasium, a wrestling room, weight rooms, and locker rooms.

The 1922 and Freshman Academy buildings are heated using a forced steam system, which is produced by the Steam Plant, located at 35 French Street. The steam plant building contains the associated equipment (boilers, piping, compressors, etc.) used to produce steam.

The 75 Arcand Street property is used as a pediatric dentist office called Lowell Dentistry for Children.

2.4 Descriptions of Structures, Roads, Other Improvements on the Site

The subject properties and associated buildings are described in greater detail in the sections below.

2.4.1 50 Father Morissette Boulevard – Lord Building and Field House

The 50 Father Morissette Boulevard parcel is comprised of two buildings including the approximately 143,250 square foot Lord Building and the approximately 73,310 square foot Field House (square footage as reported on property cards on file with the Lowell Assessor's Office). The two buildings on this parcel are connected via lobby space and are both concrete block/masonry frames. The buildings are heated with natural gas via a forced hot air system. Both buildings were constructed in 1980.

The Lord Building is a slab-on-grade, three-story rectangular shaped educational wing comprised of classrooms, laboratories, a cafeteria, a kitchen, conference space, the Creegan Media Center, bathrooms, nurse's offices, Jeanne D'Arc Credit Union and ATM, storage space, a school store, a theatre, and administrative offices. The roof is steel frame with rolled composite roofing. Air handling units for the HVAC system are present on the roof of the building.

The Field House is a two-story hexagonal building with a multi-sport gymnasium, a pool, wrestling room, weight rooms, locker rooms, and furnace rooms. The basement contains a pool pump area where chlorine and carbon dioxide for the pool are stored. The Field House is located west of the Lord Building. The roof is steel frame with enamel metal shingles.

A paved access road leads from Father Morissette Boulevard on the western portion of the property to a loading dock and small parking area on the southern side of the Lord Building. The loading dock is primarily used for offloading trucks carrying food and drinks for the cafeteria.

Portions of the property that are not paved for walkways or the access road are landscaped.

2.4.2 35 French Street – Steam Plant

The approximately 2,500 square foot one-story steam plant abuts the Freshman Academy to the west. The building contains two large boilers, compressors, expansion tanks, and piping which

are used to generate steam which heats the 1922 Building and Freshman Academy. A tunnel connecting the steam plant and the 1922 Building runs from the west side of the steam plant under Kirk Street and connects in the eastern side of the 1922 Building basement. Piping associated with the steam heating system runs throughout the tunnel. Piping from the Steam Plant enters the second story of the Freshman Academy.

The Steam Plant was constructed circa 1920 and renovated in 1996. The Steam Plant building is slab-on-grade with masonry frame, heated by steam, with rolled composite roofing. An approximately 50-foot chimney is present adjacent to the southern wall of the plant.

A paved alley is present to the east of the steam building, between the Freshman Academy and the steam plant.

2.4.3 55 French Street and 68 John Street – The Freshman Academy

The approximately 92,000 square foot Freshman Academy is two stories with a basement. It is constructed with a masonry frame and a rolled composite roof. The building is comprised of classrooms, administrative offices, a kitchen, a cafeteria, a theater, and laboratories. The building is used only for freshman students.

The current building was constructed in two sections in the early 1900s. The northern portion of the building, along French Street, was built in 1939-1940 and was formerly identified as the Lowell Trade School. The southern portion of the building, along Paige Street, was built in 1902 and was formerly identified as the High School Annex. This building was fully renovated and repurposed in 1986.

2.4.4 38 Kirk Street – The 1922 Building

The approximately 300,000 square foot, rectangular shaped 1922 Building at 38 Kirk Street is three stories with a basement. The building is comprised of classrooms, administrative offices, an auditorium, laboratories, art rooms, and a health center.

The building was constructed in three sections from the 1890s to the mid-1990s. The southern portion of the building was constructed in in the 1890s and was the original Lowell High School. In 1922, the central portion of the building was constructed. The northern section of the building

along Father Morissette Boulevard was constructed in 1997. Renovations to the interior of the 1894 and 1922 buildings were performed in the mid-1990s.

The building is steel framed with rolled composite roofing. The building is heated via steam generated by the Steam Plant. Multiple utility rooms containing electrical equipment and equipment for hot water heating and circulation are present in the basement.

An art room in the basement contains a dark room and kilns. However, the dark room has been taken out of use and all hazardous materials have been removed.

2.4.5 75 Arcand Street – Lowell Dentistry for Children (Potential Acquisition)

The building at 75 Arcand Street is not owned by the City and is currently operated as a commercial doctor and dentist's office. Based on City property record cards, the building is two stories, with electric heat, steel frame, and a tar and gravel roof. Much of the undeveloped portions of this parcel is occupied by a paved parking lot to the north, east, and south of the building. Unpaved areas of the parcel are landscaped with trees, shrubs, grass, and bark mulch.

2.5 Current Use of Adjoining Properties

The 50 Father Morissette Boulevard parcel is bordered to the north across Father Morissette Boulevard by a parking garage, to the east beyond Lucy Larcom Park and the Merrimack Canal by the 1922 Building, to the west beyond Arcand Drive by residential properties, and to the south by Lowell Dentistry for Children.

The Freshman Academy and Steam Plant parcels are bordered to the north beyond French Street by residential properties, self-storage units, and Boarding House Park; to the east by a parking garage; to the west by the Lowell National Historical Park Headquarters and the 1922 Building; and to the south by a parking lot, residential properties, and social services offices.

The 38 Kirk Street parcel (1922 Building) is bordered to the north and south by residential properties; to the east beyond Kirk Street by commercial properties, the Lowell National Historical Park Headquarters, and residential properties; and to the west beyond Lucy Larcom Park and the Merrimack Canal by the Lord Building.

The 75 Arcand Drive parcel is bordered to the north by the Lord Building and Field House at 50 Father Morissette Boulevard; to the east beyond Lucy Larcom Park and the Merrimack Canal by residential properties, a church, and a social services center; to the west by residential properties and the Lowell City Fire and Police Departments; and to the south by the Lowell Masonic Center.

The Lowell Parks Department owns the properties on the eastern and western sides of the canal. Lucy Larcom Park runs along the eastern border of the Merrimack Canal and both sides contain benches, sidewalks, small monuments, and greenspace for public use. A railroad right-of-way exists between 50 Father Morissette Boulevard and the park along the western side of the canal. The railroad itself is still intact; however, it is no longer in use.

2.6 Presumed Groundwater Flow Direction

Based on a review of the topography of the subject properties and vicinity, as well as its proximity to major surface water bodies, the presumed general direction of groundwater flow in the Site vicinity is toward the northeast, ultimately discharging to the Merrimack River, which flows northwest to southeast approximately 1,000 feet from the Site. However, the presence of several manmade canals in the vicinity of the subject properties may impact local groundwater conditions such that on a micro scale, the direction of groundwater flow could vary widely.

3.0 USER PROVIDED INFORMATION

Mr. Richard Underwood, Director of Operations for Lowell High School, provided responses to the user inquiries outlined in ASTM E1527-13. The completed User Questionnaire is included as Appendix C. The User was requested to respond to the best of his knowledge.

3.1 Specialized Knowledge

The User does not have specialized knowledge pertaining to the likely presence of contamination at the Site properties.

3.2 Commonly Known or Reasonably Ascertainable Information

The User did not know of any specific chemicals present on the Site properties currently or in the past, outside of those used in the school laboratory and chlorine used for the pool. The User is not aware of any spills or chemical releases on the Site properties. The User did not know of any environmental cleanups at the Site properties.

3.3 Valuation Reduction for Environmental Issues

At the time of this report, there are no plans to transfer ownership of the property and thus the question does not apply.

3.4 Owner, Property Manager, and Occupant Information

The Site is currently occupied by Lowell High School. Mr. Underwood provided responses to the Owner Questionnaire on behalf of the City of Lowell (Appendix C).

3.5 Reason for Performing Phase I

The User indicated that the Phase I ESA is being conducted to evaluate the presence of any potential environmental issues at the Site in anticipation of a large facility renovation. The City of Lowell is evaluating the feasibility of renovating or rebuilding the high school in its current location. This report will help the City evaluate current or foreseeable environmental conditions, issues, or constraints associated with the current facility properties and 75 Arcand Drive, to evaluate the extent to which environmental issues could impact renovation costs.

4.0 RECORDS REVIEW

The following sections document the information gathered during review of available environmental records, physical setting sources, and historical site use information.

4.1 Standard Environmental Record Sources

As part of this ESA, state and federal environmental records were reviewed in the form of an environmental database report provided by EDR® (Appendix D). When available, information was also obtained from federal, state, and local municipal records. Parcels associated with the Site and several surrounding properties were identified in databases accessed by EDR®. The following sections identify and summarize the databases evaluated in the EDR® Database Report, as well as identify Site properties and/or pertinent properties within the vicinity of the Site listed in the accessed databases. Several notable database findings are provided below:

Lowell High School, Kirk Street (the Site): The Site is listed in the facility index system (FINDS) database. This database contains air pollution data collected by the EPA, state, local, and tribal air pollution control agencies. It is unknown for certain why the Site is included in this database, however it is likely due to the presence of the Steam Plant. No violations or environmental releases were identified for this database listing.

Lowell High School, 50 French Morissette Boulevard (the Site): The Site is listed in the FINDS and US Aerometric Information Retrieval System (AIRS). AIRS is the national repository for information concerning airborne pollution in the United States. Both databases relate to tracking air emissions from the Steam Plant. An information violation was issued in March 2012. Compliance was soon achieved and this violation is unlikely to impact present day environmental conditions at the Site.

4.1.1 Federal and State Regulatory Agency Reviews

EPA National Priority List (NPL). The EPA's NPL is a list of confirmed or proposed Superfund facilities. The Site was not identified as an NPL facility or Delisted NPL facility. No NPL facilities or Delisted NPL facilities were identified within a 1-mile radius of the Site.

Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). The CERCLIS database is the EPA's database of current and potential Superfund sites currently or previously under investigation. The Site was not identified as a CERCLIS facility. No CERCLIS facilities were identified within a 1/2-mile of radius of the Site.

Comprehensive Environmental Response, Compensation and Liability Information System Archived Sites (CERCLIS-NFRAP). The CERCLIS-NFRAP database is a database of archived CERCLIS facilities that, to the best of the EPA's knowledge, assessment has been completed and the EPA has determined no further steps will be taken to list this site on the NPL. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not deemed to be a potential NPL site.

The Site was not identified as a CERCLIS NFRAP facility. No CERCLIS NFRAP facilities were identified within a ¼-mile of radius of the Site.

Resource Conservation and Recovery Act (RCRA) Handlers. The RCRA database is the EPA's database of registered hazardous waste generators and Treatment, Storage, or Disposal (TSD) facilities. The Site was not identified as a TSD facility or a corrective action (CORRACTS) facility. No TSD or CORRACTS facilities were identified within ¼-mile of the Site.

Lowell High School was listed in the RCRA database as a RCRA Conditionally Exempt Small Quantity Generator (RCRA-CESQG). The RCRA-CESQG (EPA ID No. MAR000010918) is listed at 50 French Street, but does not identify the hazardous waste currently or formerly generated at the Site. The EDR® Database report lists a "Written Informal" Violation associated with a Generator Manifest initially identified on January 26, 2012 and later enforced on March 6, 2012. The EDR® Report indicates compliance was achieved February 1, 2013. According to Richard Underwood, Head of Facilities at Lowell High School, the high school no longer generates any sort of hazardous waste. Additionally, no documentation regarding any hazardous waste spills were identified in Site records review.

One (1) RCRA Large Quantity Generator (RCRA LQG) was identified less than 1/8-mile from the Site, identified as a CVS Pharmacy located at 35 Merrimack Street. This facility (EPA ID No. MAC300019775) is located 364 feet southeast of the Site, and reportedly has not had any violations. This generator is unlikely to pose an environmental threat to the Site.

Three (3) RCRA Small Quantity Generators (RCRA SQG) were identified within ¼-mile of the Site:

- **Konarka Technologies (116 John Street**) is listed as a SQG of ignitable waste, spent halogenated and non-halogenated solvents, and waste oil. According to the EDR® Report, there are no documented releases or spills associated with this property.

- The **Wannalancit Building (600 Suffolk Street**) is listed as a SQG for a variety of wastes, including but not limited to ignitable waste, heavy metals, spent halogenated and non-halogenated solvents, volatile organic compounds (VOCs), polychlorinated biphenyl (PCB) waste, and waste oil. This parcel is inferred to be located hydraulically upgradient to the Site. According to the EDR® Report, there are no documented releases or spills associated with this property.

- The **Ames Photonics Center (720 Suffolk Street**) is listed as a SQG for a variety of wastes, including but not limited to corrosive waste, ignitable waste, reactive waste, heavy metals, spent halogenated and non-halogenated solvents, VOCs, PCB waste, and waste oil. According to the EDR® Report, there are no documented releases or spills associated with this property.

These RCRA SQG facilities are unlikely to pose an environmental threat to the Site.

Three (3) RCRA CESQGs were identified within 1/8-mile of the Site:

- **Hess Gas Station (330 Merrimack Street)** is listed as a CESQG for ignitable waste and reportedly has not had any violations.

- The **Lowell Fire Department (99 Moody Street)** is listed as a CESQG for ignitable waste and reportedly has not had any violations.

- The **Lowell National Historic Park (400 Foot of John Street)** is listed as a CESQG for ignitable waste and waste oil. Although the database indicates several violations have been identified with this RCRA CESQG, the violations reportedly have been rectified by confirmed compliance evaluations.

These RCRA CESQG facilities are unlikely to pose an environmental threat to the Site.

Federal Emergency Response Notification System (ERNS) Releases. The ERNS database is the EPA's database of emergency response actions. The Site was not identified as an ERNS facility.

Federal Institutional Controls and/or Engineering Controls Registries. The Land Use Control Information System (LUCIS) contains records of land use control information pertaining to former Navy Base Realignment and Closure properties. The US Engineering Controls Sites List identifies sites at which engineering controls have been implemented, including various forms of caps, building foundations, liners, and treatment methods which create environmental pathway elimination for regulated substances to enter the environment. Institutional controls include administrative measures (groundwater use restrictions, construction restrictions, property use restrictions, etc) to prevent exposure to contaminants remaining at sites. No Federal engineering or institutional controls were identified for the Site or within 0.5 miles of the Site.

State and Tribal Hazardous Waste Site Inventory (SHWS) Sites, State RELEASE Database, State and Tribal Leaking Underground Storage Tank (LUST) List, State and Tribal Leaking Aboveground Storage Tank (LAST), and Spills Database. The RELEASE and SHWS databases contain records of release reports submitted to MassDEP. The LUST database contains records of leaking underground storage tanks. Properties identified in these databases are usually found throughout the other federal and state databases researched by EDR®. The Spills database contains records of release reports submitted to the Commonwealth of Massachusetts.

Seventeen (17) SHWS sites were identified within 1/8-mile of the Site. Of the 17 identified SHWS Sites, six (6) have been closed with Class A-1 Response Action Outcome (RAO) Statements, indicating the released contamination has been reduced to background and/or the threat of release has been eliminated. Four (4) of the 17 SHWS sites have been closed with Class A-2 RAO Statements, indicating that some form of remediation was implemented and, although contamination was not reduced to background levels, a Permanent Solution has been achieved and there are no restrictions on the use of the property. The Class A-1 and Class A-2 RAO sites are highly unlikely to adversely impact environmental conditions at the Site. The seven remaining SHWS sites identified within 1/8-mile are described below:

- **Former Boott Cotton Mill, 130 John Street (located approximately 500 feet northeast of the Site):** This property has had multiple reported releases. The releases are described below.

  - Release Tracking Number (RTN) 3-26688: This RTN also covers the release associated with RTN 3-30667 and is a result of a release of PCBs, petroleum hydrocarbons, and lead to soil. Soil contamination was discovered in 2007 during development of the current residential buildings on the parcel. Multiple excavations have been performed to remove a majority of the contamination. The RTN status is currently Phase IV, indicating that remediation is ongoing. This RTN remains open (i.e. a Permanent Solution has not been achieved).

  - RTN 3-27777: This RTN was issued as a result of a hydraulic fluid release from a pipe in July 2008. The release was abated and closed via a Class A-1 RAO in August 2008. As discussed above, this release is unlikely to impact conditions at the Site.

  This property is inferred to be hydraulically downgradient from the Site, and therefore releases occurring at this property are not likely to adversely impact environmental conditions at the Site.

- **50 Arcand Drive (located approximately 200 feet west of the Site):** This property is identified in the SHWS, LUST, Release, and Institutional Controls Databases as a result of a release of petroleum hydrocarbons to soil and groundwater identified in February 1999 during the removal of underground storage tanks (USTs) at the Lowell Police and Fire Department (RTN 3-18004). Three 4,000-gallon USTs were removed in 1999, and replaced with three 6,000-gallon USTs. A Class A-3 RAO statement was filed in August 2009, indicating that remediation was conducted and a Permanent Solution was achieved, but that an Activity and Use Limitation (AUL) was implemented to prevent exposure to contamination left in place. The RAO document indicates that groundwater flows to the west, in the opposite direction of the Site. Given the property is located hydraulically downgradient from the Site, this release is unlikely to adversely impact environmental conditions at the Site.

- **River Place Towers, 115-145 Post Office Square, Lowell (located approx. 300-500 feet north of the Site):** This property is listed on the Release, SHWS, and State Institutional Controls databases as a result of a release of petroleum hydrocarbons to soil discovered in November 1996 during the removal of USTs (RTN 3-14505). The RTN was closed with a Class A-3 RAO, indicating that remediation was conducted and a Permanent Solution was achieved, but an AUL was implemented in order to prevent exposure to contamination remaining in place. This property is inferred to be located hydraulically downgradient from the Site, and therefore the release is not likely to adversely impact environmental conditions at the Site.

- **Former Gasoline Station, 70 French & Amory Street, Lowell (located approx. 300 feet east the Site):** This property is listed in the Release and SHWS databases as a result of contamination related to two USTs uncovered in 1989 (RTN 3-1975). A notice of responsibility (NOR) was submitted to the potentially responsible party in 2008, outlining measures that must be taken to bring the property into compliance with the MCP. However, available MassDEP documents do not provide any additional data regarding investigations or remedial actions at the property. The release location is inferred to be hydraulically downgradient from the Site, and therefore unlikely to adversely impact environmental conditions at the Site.

- **44 Post Office Square (located approx. 120 feet north and northeast of the Site):** This property is identified in the LUST, Release, SHWS, and State Institutional Controls databases for the release of approximately 6,000 gallons of No. 6 fuel oil into the adjacent Merrimack River in 1979 (RTN 3-354). Upon completion of follow up environmental investigations, three more USTs were identified and removed, and contaminated soil was excavated (RTN 3-14565). A Class A-3 RAO Statement was filed in March 1999 which included the implementation of an AUL to prevent exposure to contamination left in place. The property is believed to be located hydraulically down and cross-gradient to the Site, and is therefore unlikely to adversely impact environmental conditions at the Site.

Six (6) LUST sites were listed within a 1/8-mile radius of the Site. Of the six LUST Sites identified, three have been closed with either a Class A-1 RAO or a Permanent Solution with No Conditions (PSNC), indicating contamination has been reduced to background levels and there are no restrictions on the use of the property. Two of the remaining three LUST Sites have been closed

with Class A-2 RAOs (indicating remediation was conducted and a Permanent Solution was achieved, but contamination was not reduced to background). These two LUST Sites are located at a former Hess Station, one listed at **253 Merrimack Street (RTN 3-4509)** and **300 Merrimack Street (RTN 3-28784)**. Documentation on file with MassDEP indicates groundwater was interpreted to flow in a northwesterly direction along Merrimack Street, cross-gradient to downgradient from the Site. The final LUST site was located at 44 Post Office Square, and is described above. Based on the locations of the LUST sites and their inferred cross-gradient or downgradient location relative to the Site, they are unlikely to adversely impact environmental conditions at the Site.

State and Tribal Active Solid Waste Disposal Sites (SWL). The Site was not identified as a current or former SWL. No landfills were identified within ¼-mile of the Site.

State and Tribal Underground Storage Tank (UST) List. The UST database is a list of USTs registered with the Commonwealth of Massachusetts. Six UST facilities were identified within ¼-mile of the Site. Three of the UST facilities are located within 1/8-mile of the Site, and are listed below:

- **Lowell Police and Fire Department** (50 Arcand Drive) is located approximately 200 feet west of the Site. This property contains three 6,000-gallon USTs which provide diesel and gasoline for municipal vehicles. No reported issues or violations have occurred associated with these USTs, and no impacts to environmental conditions at the Site are expected.

- **Boott Mills Museum** (115 John Street) is located approximately 500 feet east of the Site. This property contains one 550-gallon diesel UST. RTN 3-31857 is associated with this tank, however a PSNC has been filed for the release and therefore no impacts to environmental conditions at the Site are expected.

- **Former Hess Gas Station** (300 Merrimack Street) is located approximately 400 feet south of the Site. This property contains three 10,000-gallon gasoline USTs and two 550-gallon waste oil USTs. All of the tanks were reportedly installed in 1988. The USTs associated with this property are believed to be associated with RTNs 3-4509 and 3-28784 (see LUST Database results). MassDEP documentation indicates groundwater flow has been interpreted at the parcel as flowing westerly along Merrimack Street, away from the Site, therefore no impacts to environmental conditions at the Site are expected.

Based on the inferred cross-gradient or downgradient locations of these UST sites relative to the Site, the UST facilities are unlikely to adversely impact environmental conditions at the Site.

State and Tribal Aboveground Storage Tank (AST) List. The AST database is a list of ASTs registered with the Commonwealth of Massachusetts. No AST facilities were identified within ¼-mile of the Site.

State and Tribal Institutional Control / Engineering Control Registries (INST CONTROL) List. The INST CONTROL list contains properties where AULs have been established on the future use of contaminated property. The Site was not identified on the INST CONTROL list. Four (4) Institutional Control properties are listed within ¼-mile of the Site. Three of the properties have been identified above (River Place Towers, 44 Post Office Square, and 50 Arcand Drive), and are not likely to adversely impact environmental conditions at the Site.

The fourth location, The Tremont Mills Site located at 257 Father Morissette Boulevard, is approximately 750 feet west of the Site. Four different RTNs have been associated with this former mill property, including RTN 3-19880 (petroleum and PCB contamination in property soils), RTN 3-27821 (petroleum sheen observed on Western Canal north of Hall Street), RTN 3-27828 (asbestos containing material [ACM] in demolished boiler material), and RTN 3-27830 (threat of release from a drum containing viscous tar in demolition debris). The January 2011 Class A-3 RAO Statement submitted to MassDEP indicates that on-site groundwater contains low levels of petroleum contamination, at concentrations that do not exceed applicable MassDEP risk-based standards. Given the property's location in relation to the Site, it is unlikely to adversely impact environmental conditions at the Site.

4.1.2 City of Lowell Municipal Record Review

On August 31, 2016, Nobis visited the City of Lowell municipal offices to review records from the Assessor's Office, Engineering Department, City Clerk, Historical Department, and Fire Department. This section provides a summary of the review of municipal records.

4.1.2.1 Assessor's Department

According to City Assessor records, five (5) of the six (6) Site parcels are currently owned by the City of Lowell's School Department. A summary of parcel IDs and associated street addresses is presented in the table below.

Lowell Assessors Office Parcel ID	Street Address	Approximate Year Building Constructed*	Approximate Parcel Size (Acres)	Current Owner
158-2470-50	50 Father Morissette Boulevard	1980	3.29	City of Lowell School Dept.
158-2465-35	35 French Street	1920	0.15	City of Lowell School Dept.
177-2465-55*	55 French Street	1920	0.41	City of Lowell School Dept.
177-3270-68*	68 John Street	1939	0.38	City of Lowell School Dept.
158-3410-38	38 Kirk Street	1920	2.31	City of Lowell School Dept.
158-210-75	75 Arcand Street	1970	1.43	TRS Lowell Doctors Park Trust c/o Drs. Montiminy Inc.

*=Approximate year building constructed refers to the current building on the parcel, and does not indicate that the current building was the first building to occupy the tax parcel.

All six Site tax parcels are currently zoned "DMU", which is defined in the City of Lowell's Zoning Book (amended October 22, 2013) as a "Downtown Mixed-Use District". A copy of the assessor cards for these properties is included in Appendix B.

4.1.2.2 City of Lowell Engineering Department

The City of Lowell Engineering Department contained floor layouts for the 1922 and Lord Buildings as well as the Field House. Additionally, a summary report listing all building violations was identified from an October 2015 Building Inspection of the facility. Listed violations appeared to address facility equipment or infrastructure that had become damaged or worn out over time that was not up to Massachusetts Building or Plumbing Code.

The Engineering Department also provided files pertaining to facility upgrades that have been performed at the school throughout the years. Examples include: replacement of the slate roof in

the 1892 portion of the 1922 building in 2012; replacement of lighting, windows, toilets, radiators, and other interior components in 1995; installation of air conditioning units in 1995; air handling units upgrades on the Lord Building in 2005. Original documentation retrieved from the Engineering Department files is provided in Appendix B.

4.1.2.3 City of Lowell Clerk's Office

The City of Lowell Clerk's Office contained minimal useful information regarding the Site or Site buildings. The Clerk's Office was able to provide historical city directories of the surrounding neighborhood.

4.1.2.4 Lowell Historical Society

Given the historic nature of the area and the buildings currently occupying the Site, Nobis inspected available records at the Lowell Historical Society. Mr. Steve Stowell of the Lowell Historical Department was able to provide Cultural Resources Inventories of the Site buildings. Original documentation is provided in Appendix B.

4.1.2.5 City of Lowell Fire Department

Nobis reviewed available records at the City of Lowell Fire Department. Original documentation is provided in Appendix B. The Fire Department records contained one index card file for Lowell High School, which indicated the facility had a 12,600-gallon "below grade" "Faber Burner" tank located on French Street. The tank's contents were not listed, nor was the installation date, removal date, or any sort of inspection date. The record does not provide any additional details regarding the tank.

4.2 Online Resources

Nobis reviewed a Statement of Interest (SOI) form submitted by Lowell High School to the MSBA dated April 2014, related to "replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements". Information related to the history, structure, and usage of the School buildings provided in this document are referenced throughout this report. The SOI was provided to Nobis by Perkins Eastman, the lead firm of the feasibility study design team, and is included in Appendix E.

4.3 Additional Environmental Sources

Nobis reviewed documents available on the MassDEP Reportable Release Lookup internet database. The documents and records available on this website pertain to sites or properties at which reportable releases or threats of release of contamination have occurred and MassDEP has assigned a Release Tracking Number. The findings of this review are included in the site summaries provided in Section 4.1. As detailed above, Nobis did not identify conditions at nearby release sites that would be expected to adversely impact environmental conditions at the Site.

4.4 Physical Setting Sources

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) dated July 7, 2014, the Site is not located in a 100- or 500-year flood zone. The nearest floodplain areas are the canal (which bisects the Site) and the Merrimack River, located approximately 750 feet to the northeast.

4.5 Historical Use Information on the Properties and Surrounding Area

According to Nobis' review of historical records, the historical use of Site properties is as follows:

According to the Lowell Cultural Resources Inventory for the Site, the Lowell High School was initially built on Kirk and Anne Streets in 1840, at the site of the "1894 Building". At the time of its construction, the high school building was reportedly the only development within the current school footprint (east of the canal) all the way to French Street. By the 1850s, the area had been built up with several row houses along Kirk Street and additional houses along Anne Street. The Kirk Street Congregational Church was built at the corner of Kirk and French Streets in 1846. In the 1850s, Boott Mills constructed a boarding house row along French Street on the property now occupied by the Freshman Academy.

To the west of the canal, tenement homes associated with the former Merrimack Manufacturing Company were initially developed circa 1820. As of 1892, the area within the footprint of the current high school was occupied by homes associated with the Merrimack Manufacturing Company or Boott Cotton Mills (including the row houses mentioned above), and community buildings constructed to support the population of mill workers and their families. Based on review of the oldest available maps of the Site, the current Lowell High School was being constructed in

1892 at the current location of the “1894 Building”. The Kirk Street Primary School was located across Kirk Street from the high school. The Lowell Congregational Church was located on the corner of Kirk and French Streets. A storage building was located at the corner of Paige and John Streets. The Site area maintained this configuration and use until at least 1907, with the only major change being the construction of the “High School Annex” in 1902 and the “Manual Training School” along Paige Street prior to 1907.

Major changes within the Site area between 1907 and 1950 included construction of the “Heating Plant” (present day Steam Plant) in 1920, demolition of tenement homes on the 38 Kirk Street parcel and expansion of the high school in 1922, and demolition of the row houses along French Street and construction of the Lowell Trade School in 1939-1940. In 1950, Lowell High School was located entirely to the east of the Merrimack Canal, with the 1894 and 1922 Buildings located on their current footprint, and the Freshman Academy buildings present as their predecessor schools (High School Annex No.1 and Lowell Trade School).

The next major reconfiguration of the Site area was during the late 1960s/early 1970s, when the tenement homes located to the west of the canal were demolished and the streets reconfigured. This change followed the demolition of the Merrimack Manufacturing Company mills in the mid-1960s. The gridded streets that provided the structure for this neighborhood were removed and Arcand Drive was created to form the western and northern boundaries of the present day 50 Father Morissette Boulevard parcel. In 1980, the Lord Building and Field House were constructed on this newly formed parcel.

The following sections provide specific details regarding the review of Sanborn Fire Insurance maps, aerial photographs, topographic maps, and city directories reviewed for the Site.

4.5.1 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Maps were provided by EDR® for the years 1892, 1907, 1950, 1952, 1977. The EDR® Certified Sanborn Map Report is included as Appendix F. The following is a summary of information obtained from each Sanborn map:

Lord Building and Field House (50 Father Morissette Drive)

- **1892:** The parcel on which the Lord Building and Field House would later be constructed is occupied entirely by tenement row houses. Dutton Street extends northward along the southeastern property boundary, running parallel (to the west) to the Merrimack Canal which bisects the Site. Two buildings associated with the Merrimack Manufacturing Company facility, an old textile mill, extend south onto the parcel in the northwest corner.

- **1907:** The parcel and associated buildings appear similar to that of the 1892 map. The parcel continues to be improved with multiple tenement row houses. The two buildings associated with the Merrimack Manufacturing Company still occupy the northwestern corner of the parcel. The buildings appear to be used as an “Old Packing Building” and “Finishing Mill”.

- **1950:** The parcel and associated buildings appear similar to that of the 1907 map. The parcel continues to be improved with multiple tenement row houses. One of the two Merrimack Manufacturing Company buildings has been razed. One set of tenement row houses in the northwestern corner have also been razed to accommodate the extension of the Finishing Mill building further southeast onto the parcel.

- **1952:** No changes have been made to the parcel since the drafting of the 1950 Sanborn map.

- **1977:** All of the former tenement housing facilities have been razed. All of the Merrimack Manufacturing Company buildings have also been razed. The streets within the current limits of the parcel have been significantly realigned, forming the current boundaries of the parcel. Dutton Street no longer runs parallel along the Merrimack Canal, and instead terminates at the southern corner of the existing Site. Worthen Street, Bradford Street, and an unnamed alley that were formerly part of the tenement development, are no longer present and Arcand Drive now runs to the west and north of the parcel, forming the western and northern property boundaries. The parcel is improved with one small building; the use or occupancy of this building is unknown.

Steam Plant (35 French Street)

- **1892:** The parcel is improved with a two-story dwelling attached to a dwelling to the south.

- **1907:** The parcel appears similar to the 1892 Sanborn map.

- **1950:** The 1950 Sanborn map depicts the dwelling having been razed. The parcel is now improved with a “Heating Plant”, constructed in 1920. Three horizontal steam boilers appear in the building. Adjacent east of the plant is a “coal bin”. A brick chimney has also been constructed just to the south of the Heating Plant.

- **1952:** No changes have been made to the parcel since the drafting of the 1950 Sanborn map.

- **1977:** No changes have been made to the parcel since the drafting of the 1952 Sanborn map.

Freshman Academy (55 French Street, 68 John Street)

- **1892:** The parcel is improved with tenement row houses associated with the Boott Cotton Mill. A storehouse is located south of the tenement houses.

- **1907:** The parcel still is improved with the tenement row houses along French Street. The storehouse on the southern region of the parcel has been razed and improved with a Manual Training School and the three-story “High School Annex”.

- **1950:** The tenement houses have been razed, and the area has been improved with a two-story Lowell Trade School. The Sanborn map indicates the building was constructed between 1939 and 1940. The High School Annex is still in place south of the new trade school. Almost the entire parcel land area is covered by the footprints of the two buildings.

- **1952:** No changes have been made to the parcel since the drafting of the 1950 Sanborn image.

- **1977:** No changes have been made to the parcel since the drafting of the 1952 Sanborn image.

1922 Building (50 Father Morissette Drive)

- **1892:** The parcel is improved with two-story dwellings, tenement row houses along Kirk Street, and the "Kirk Street Congregational Church" on the corner of Kirk Street and French Street. The southern end of the parcel is improved with the foundation of the High School, which is presumably under construction. Anne Street appears to run between the parcel and the Merrimack Canal, adjacent to the west.

- **1907:** The parcel appears the same as the 1892 Sanborn image; however, it appears the three-story Lowell High School building has been completed, occupying the southern third of the parcel.

- **1950:** The row houses and Congregational Church have been razed. The land area formerly occupied by the row houses and church is improved with an extension of the Lowell High School. The construction date of the northern wing of the high school is specified as 1921. The new high school wing appears to be three stories tall, and includes an assembly hall. The original high school building is present with the same footprint on the southern region of the parcel, with a construction date of 1892 specified.

- **1952:** No changes have been made to the parcel since the drafting of the 1950 Sanborn map.

- **1977:** No changes have been made to the parcel since the drafting of the 1952 Sanborn map.

75 Arcand Street (Lowell Dentistry for Children – potential acquisition)

- **1892:** The parcel is occupied entirely by tenement row houses. Dutton Street extends northward along the southeastern property boundary, running parallel (west) to the Merrimack Canal which bisects the Site.

- **1907:** The parcel and associated buildings appear similar to that of the 1892 map. Since 1892, a railroad spur has been added to the rail line running along Dutton Street. The spur runs perpendicular to Dutton Street along the southern border of the Site on what is now 75 Arcand Drive (the remnants of this spur are still visible in recent aerial photographs of the area).

- **1950:** The parcel and associated buildings appear similar to that of the 1907 map.

- **1952:** The parcel and associated buildings appear similar to that of the 1950 map.

- **1977:** All of the former tenement housing facilities have been razed. The parcel is improved with one small building located centrally on the parcel; the use or occupancy of this building is unknown. Dutton Street no longer runs parallel along the Merrimack Canal, and terminates at the southern corner of the parcel. The size and orientation of the building indicates that this is presumed to be the building that currently occupies the parcel. The railroad spur along the southern boundary of the property is no longer identified.

4.5.2 Historical Aerial Photographs

Historical aerial photographs were provided by EDR® for the years 1938, 1952, 1963, 1965, 1977, 1980, 1985, 1998, 2006, 2008, 2010, and 2012. The EDR® Aerial Photo Decade Package is included in Appendix F. The following information was obtained from each aerial photograph:

- **1938:** Tenement homes occupy the portion of the Site located to the west of the canal (the Lord Building and Field House have yet to be constructed). The area to the east of the canal is occupied by the high school buildings constructed in 1892 and 1921. The Steam Plant and High School Annex are present at the east end of the Site.

- **1952:** The Site appears similar to the 1938 photo with the exception of the High School Annex (current Freshman Academy), which appears to have been improved with the Lowell Trade School.

- **1963 and 1965:** The Site appears similar to the 1952 photo. Substantial demolition of mill buildings on the Merrimack Manufacturing Company property is noted to the north of the

Site, and a large swath of vacant land is present at the current location of the Tsongas Center and associated parking facilities.

- **1977:** The Site areas to the east of the canal appear similar to the 1963 and 1965 photos. To the west of the canal, the tenement homes have been demolished and streets reconfigured to resemble the present-day alignment (Arcand Drive has been created along the current western and northern boundaries of the Site). The area enclosed by the newly constructed Arcand Drive appears to be occupied by a single building at the south end of the property, which appears to be the current building on the 75 Arcand Street parcel. The 50 Father Morissette Boulevard parcel appears to be developed as a parking lot or storage lot for vehicles. To the north of the Site, some redevelopment has occurred on the former Merrimack Manufacturing Company property.

- **1980, 1985, and 1998:** The Site areas to the east of the canal appear similar to the 1963 and 1965 photos. To the west of the canal, the Lord Building and Field House have been constructed. To the south of these buildings, the building on the 75 Arcand Street parcel remains in the same configuration as the 1977 photo. Additional development is noted to the north of the Site, including two high-rise towers that appear to be the existing River Place Towers Apartments. In the 1998 photo, the Tsongas Center has been built.

- **1998, 2006, 2008, 2010, 2012:** There are no significant changes in the configuration of the Site in this series of photos.

4.5.3 Historical Topographic Maps

Historical topographic maps were provided by EDR® for the years 1893, 1918, 1921, 1931, 1935, 1941, 1942, 1943, 1946, 1950, 1965, 1966, 1979, 1986, and 2012. The EDR® Historical Topographic Map Report is included in Appendix F.

Topographic maps 1893 – 1935: The Site area is located within the industrialized portion of the City. The Merrimack Canal and nearby mills are depicted, and the street configuration is shown, but specific Site buildings are not displayed on these maps.

Topographic maps 1941 – 1979: The topographic maps illustrate the Lowell High School occupying the 1922 Building parcel at 38 Kirk Street. 50 Father Morissette Boulevard, where the Lord Building and Field House are located, are unimproved with any notable structures. The Freshman Academy parcel appears to be improved with the “Trade High School”. No buildings are depicted on the 75 Arcand Drive property.

1987: The topographic map illustrates the Lowell High School occupying the 1922 Building, the Lord Building, and the Field House. The Freshman Acadamy parcels and the 75 Arcand Drive parcel all appear similarly to the previous historic topographic maps.

2012: The building footprints are no longer shown on this map. The Site area is referred to as the “Hamilton Mill”.

4.5.4 City Directories

City Directory archives list the name of an occupant at a particular address. The EDR® City Directory Abstract is included in Appendix F. Nobis reviewed directories dated 1942, 1948, 1954, 1960, 1966, 1971, 1976, 1981, 1986, 1992, 1995, 1999, 2003, 2008, and 2013. Results of properties are summarized below.

- **50 Father Morissette Boulevard (Lord Building and Field House):** Father Morissette Boulevard first appears in the city directory in 1995. Lowell High School is listed at 50 Father Morissette Boulevard in the 2008 directory, but not in any of the other directories.

- **35 and 55 French Street:** These properties are not listed in any of the city directories reviewed. On French Street between Anne Street (Merrimack Canal) and John Street, the listings in the 1942, 1948, and 1954 directories include the Lowell Crayon Company at 2 French Street, “storage” at 40 French Street, and the Lowell Trade School at the corner of French and John Streets. In the 1960, 1966, and 1971 directories, two additional entries are published: “Bon Marche Warehouse No. 3” at 20 French Street and “White J C Store”/H&H Paper Company at 42 French Street. Also, 43 French Street is now listed as the Lowell Trade High School. By 1976, two new businesses had moved into 38 and 40 French Street, an electronics and sound equipment store and “Dara International Inc”. In 1981, the Sara Lee Sweet Company is added to the listing at 42 French Street. By 1986,

all of the properties on French Street between the canal and Bridge Street were listed as vacant. From 1992 to 2013, the listings in this portion of French Street were primarily City of Lowell School District related entities.

- **38 Kirk Street:** This property is not listed in any of the city directories reviewed. In the directories published between 1942 and 1981, 30 Kirk Street is listed as Lowell High School and other school-related uses. Properties across the street from the school during this time period were used for storage, residential apartments, City health department offices, a Boy Scouts of America office, and for a short time in the early 1970s Associated Electronics, Inc.

- **75 Arcand Street:** This property first appears in the 1971 city directory, as this street did not exist prior to this time. Since 1971, this property has been listed as a professional park and office building, with tenants including dentists, orthodontists, oral surgeons, an optometrist, and a chiropractor.

4.6 Vapor Encroachment Screening

As specified in the ASTM 1527-13 standard, Nobis completed a vapor encroachment screening (VES) for the Site. The screening was conducted in general accordance with ASTM E 2600-10, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*.

A vapor encroachment condition (VEC) is "*the presence or likely presence of chemical(s) of concern (COC) vapors in the soil or groundwater of the Site caused by the release of vapors from contaminated soil or groundwater either on or near the Site. A VEC is a potential exposure pathway, specifically to building occupants, whereby volatile organic contamination present in soil and groundwater may partition into the vapor phase and migrate into soil gas and indoor air.*"

Based on the review of records conducted for the Phase I ESA, Nobis has concluded that a VEC is not likely present at the Site. Environmental data collection (i.e. soil and groundwater sampling) would be required in order to definitively rule out a VEC at the Site.

5.0 SITE RECONNAISSANCE

Nobis performed a site reconnaissance on August 29, 2016. Details are provided in the following sections.

5.1 Methodology and Limiting Conditions

Mr. Evan Rudomen of Nobis Engineering visited the Site to observe property conditions. Photographs taken during the site reconnaissance are included as Appendix G.

5.2 General Site Setting

The Site is located within an area of mixed residential, commercial, and recreational use, including multiple parking garages, historical sites, a park, apartment buildings, and commercial space. The Site is made up of six buildings, all within a two city-block radius. The Lord Building, Field House, 1922 Building, the Freshman Academy, and the steam plant building are currently owned by the City of Lowell and are part of the Lowell High School complex. The 75 Arcand Street property is not owned by the City and is currently operated as a pediatric dentist's office.

The Lord Building and Field House (50 Father Morissette Boulevard) are located on the western portion of the Site, with the 75 Arcand Street property abutting them to the south. A narrow park, the Lucy Larcom Park, and the Merrimack Canal are located to the east of the Lord Building and Field House, separating them from the 1922 Building. The 1922 Building connects to the Lord Building via two enclosed, glazed bridges which span across the canal and park below. The Freshman Academy and the steam plant are approximately one city block to the east of the 1922 building, with the steam plant building abutting the Freshman Academy to the west.

5.3 Exterior Observations

The on-site buildings are constructed of masonry and concrete. Portions of the ground surface immediately outside the building are covered in asphalt pavement. Remaining portions of the Site ground surface are landscaped. Specific observations of the use, storage, and potential release of oil and hazardous materials in the exterior portions of the Site are described below.

- A generator and pad-mounted transformer are present adjacent to the southwestern corner of the Lord Building.

- A Conex box is present along the southwestern property boundary with de minimis motor oil, lubricant, gasoline, and vehicle maintenance fluids.

- Three additional pad-mounted transformers are present at the Site. Two are located at the northwestern property boundary, at the intersection of Arcand Drive and Father Morissette Boulevard. The other is adjacent to the southwestern corner of the Freshman Academy, along Paige Street.

5.4 Interior Observations

Nobis' observations of the use, storage, and potential release of oil and hazardous materials in the building interior are described below.

- De minimis storage of cleaning products, sealants, paints, glosses, degreasers, printer ink, and various other products used by custodians for maintenance of the buildings. These products are all contained and showed no evidence of a release.

- The basement below the field house contains chlorine, calcium hypochlorite tablets, and sodium hyprochlorite for the pool. Liquid and gaseous carbon dioxide tanks are also stored in this area which are used to maintain proper pH for the pool. All chemicals are containerized, labeled, and show no signs of release.

- Classroom laboratories contained a variety of acids, bases, dyes, stains, buffers, oxidants, alcohols, and other chemicals used for classroom experiments. These chemicals are present at de minimis levels and there is no evidence of a release.

- Floor drains were observed in various locations throughout the High School properties. According to Alan Sayer, all floor drains discharge to the municipal sewer system.

- Used furniture was located within the basement of the Lord Building, in the steam plant, and in unused rooms throughout school buildings.

- A small room within the switchboard room in the basement of the Lord Building contained a rectangular concrete pit approximately 2 feet deep with a floor drain at its base. Several disconnected pipes were also present in this room. It did not appear that this room had been used in several years, and its original use is unknown.

- Several 5-gallon buckets of floor stripper are stored in the basement of the Lord Building.

6.0 INTERVIEWS

Interviews performed for preparation of this Phase I ESA are described below.

6.1 Interview with Owner and Owner's Representative

The Site is currently owned by the City of Lowell, Massachusetts. Nobis interviewed Mr. Rick Underwood, Head of Facilities for Lowell High School. Mr. Underwood has been working at the school for approximately 25 years. He indicated that the Site has been used by the school throughout its history. He stated that he has no knowledge of any PP storage or usage during his time at the Site. The only hazardous materials stored on the property are related to basic high school laboratory experiments and chlorine used for the pool. These are discussed in greater detail in Section 5.4 of this report.

6.2 Interviews with Others

Nobis spoke to Mr. Alan Sayer, Senior Custodian for the Lowell High School. Mr. Sayer informed Nobis that all floor drains throughout the building are connected to the municipal sewer system. He stated that he has no knowledge of any HM or PP storage or usage during his time at the Site. He also informed Nobis that any waste oil produced by the kitchen, or in regular maintenance processes for the school, is stored in a five-gallon bucket which is picked up by the Department of Public Works as needed.

7.0 CONCLUSIONS

In accordance with ASTM Practice E 1527-13 requirements, the Environmental Professionals that prepared this Phase I ESA provide the following Statement of Conclusion:

> *We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527 of the site located at 50 Father Morissette Boulevard, 35 French Street, 55 French Street, 68 John Street, 38 Kirk Street, and 75 Arcand Drive in Lowell, Massachusetts. Any exceptions to, or deletions from, this practice are described in Section 1.4 and Section 10.0 of this report. This assessment has revealed evidence of current recognized environmental conditions at the Site in connection with historical use of the property, as well as current conditions at the property.*

8.0 OPINION

Based on review of the documentation available for the preparation of this Phase I ESA, and the observations made on the property, it is the opinion of the Nobis Environmental Professionals who prepared this assessment that RECs, as defined in ASTM E1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*, are present at the Site. The following is a description of the RECs identified at the Site as a result of the assessment:

- City of Lowell Fire Department records contained one index card file for Lowell High School, which indicated the facility had a 12,600-gallon “below grade” “Faber Burner” tank located on French Street. The tank’s contents were not listed, nor was the installation date, removal date, or any sort of inspection date. The record does not provide any additional details regarding the tank. This tank may have been a storage vessel for oil that was used to fuel the boilers in the Steam Plant before it was converted to natural gas, or used to heat one of the school buildings. The exact location of this tank is unknown, but is likely to be near the Steam Plant along French Street.

- Sanborn Fire Insurance Maps show a “coal bin” in the 1950, 1952, and 1977 maps in what is now the alley between the Freshman Academy and the Steam Plant. The historical storage of coal in this vicinity may have resulted in the release of coal or coal ash to the environment. A release of coal and/or coal ash could result in high levels of semi-volatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs) in soil.

- 50 Father Morissette Boulevard was historically part of the Merrimack Manufacturing Company property. Most of the property was used for tenement housing; however, the northwestern corner of the property contained two buildings used as an “Old Packing Building” and “Finishing Mill”. It is possible that dyes, solvents, or other chemicals used in textile processing were used, stored, or released in this portion of the Site.

- A railroad spur leading into the Merrimack Manufacturing Company was present along the southern border of the current 75 Arcand Drive property from the early 1900s until at least 1952. The railroad is not shown on the 1977 Sanborn Fire Insurance Maps. Additionally, the rail line from which this spur originated directly abuts the Lord Building to the east. This

line is still used for trolley services. Former railroad activities likely transported and handled raw materials, chemicals, and hazardous materials associated with the operation of area industry. In addition, railroad operations and maintenance activities themselves may have impacted the Site, as creosote or arsenic-laced railroad ties, herbicides, lubricating oils, diesel fuel, and diesel exhaust commonly result in releases of heavy metals, pesticides/herbicides, and petroleum-related contamination along railroad corridors.

Nobis also encountered several de minimis conditions for the Site. De minimis conditions (environmental concerns, although not RECs) encountered during the assessment include the following:

- De minimis storage of cleaning products, sealants, paints, glosses, degreasers, printer ink, and various other products used by custodians for maintenance of the buildings. These products are all contained and showed no evidence of a release.

- The basement below the field house contains chlorine, calcium hypochlorite tablets, and sodium hyprochlorite for the pool. Liquid and gaseous carbon dioxide tanks are also stored in this area which are used to maintain proper pH for the pool. All chemicals are containerized, labeled, and show no signs of release.

- Classroom laboratories contained a variety of acids, bases, dyes, stains, buffers, oxidants, alcohols, and other chemicals used for classroom experiments. All chemicals are containerized, labeled, and show no signs of release.

9.0 ADDITIONAL SERVICES

No additional services were performed for this Phase I ESA.

10.0 DEVIATIONS

Substantive deviations from ASTM E 1527-13 “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process” are detailed in Section 2.4.

11.0 REFERENCES

ASTM Standards on Environmental Site Assessments for Commercial Real Estate (E 1527-13), Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, 2013.

Certified Sanborn Map Report, Environmental Data Resources Inc., Inquiry Number: 4714118.3, August 30, 2016.

EDR Historical Topographic Map Report, Environmental Data Resources Inc., Inquiry Number: 4714118.4, August 30, 2016.

EDR Aerial Photo Decade Package, Environmental Data Resources Inc., Inquiry Number: 4714118.9, August 30, 2016.

EDR-City Directory Abstract, Environmental Data Resources Inc., Inquiry Number: 4714118.5, August 30, 2016.

EDR Radius Map with GeoCheck, Environmental Data Resources Inc., Inquiry Number: 4714118.2s, August 30, 2016.

Lowell National Historical Park and Preservation District: Cultural Resources Inventory Report, Division of Cultural Resources North Atlantic Regional Office Nation Park Service, Document, 1980.

Massachusetts State Building Authority, 2014. Statement of Interest, Lowell High School. April 10.

USEPA 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries; Final Rule, 11/1/05.

12.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

This section presents the qualifications of the Environmental Professionals that performed the assessment of the Site. The following attestations are presented to satisfy the requirements of the All Appropriate Inquiries (AAI) Rule (40 CFR Part 312):

> *We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of this part. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.*

Evan Rudomen
Staff Scientist

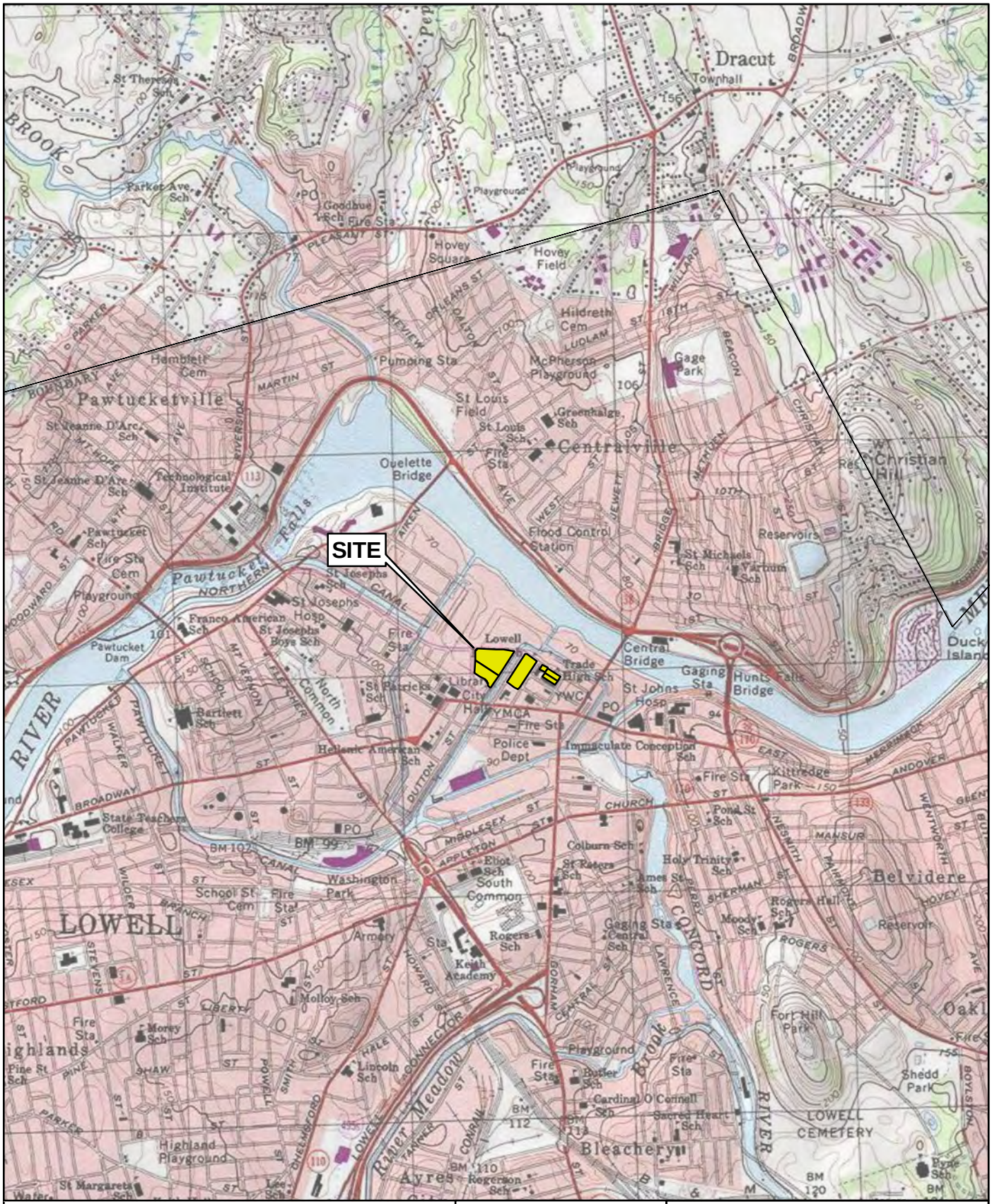
- Over 3 years of experience as an environmental professional performing ASTM Phase I and Phase II property investigations and hazardous material surveys.
- Conducting hazardous materials surveys (asbestos, regulated materials).
- Conducting site investigations and remediation activities at sites contaminated with petroleum or hazardous materials throughout the Northeast United States.
- Performing field investigations, providing contractor management, coordinating environmental projects, preparing reports and interfacing with Federal, State and local regulatory agencies.

Stephen Vetere, PE, LSP, LEP
Senior Environmental Engineer

- Over 17 years of experience in providing a variety of environmental engineering services throughout the Northeast United States including site assessment, remediation, long-term monitoring, and five-year reviews.
- Manages and performs site assessments, remedial investigations, risk assessments, and develops remedial action plans for sites regulated under CERCLA and state programs as well as Brownfield properties.

- Designs and manages a variety of site remediation programs including contaminated soil excavation, groundwater recovery and treatment systems, in situ bioremediation systems, and enhanced natural attenuation remedial systems.
- Manages long-term monitoring programs at landfills and other closed facilities.

FIGURES



USGS Topographic Map
Lowell, Mass.
Revised 1987

0 500 1,000 2,000

Feet 1 inch = 2,000 feet

N

Nobis
Engineering a Sustainable Future
Nobis Engineering, Inc.
585 Middlesex Street
Lowell, MA 01851
T(978) 683-0891
www.nobiseng.com
Client-Focused, Employee-Owned

FIGURE 1

LOCUS MAP
LOWELL HIGH SCHOOL
PHASE I INVESTIGATION
LOWELL, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: EJ
PROJECT NO. 91830.00	DATE: SEPTEMBER 2016

Path: O:\Active\91830.00 - Lowell High School, Lowell MA - Perkins EIG\GIS\Figures\Figure 1 Lowell High Locus.mxd **Date Printed:** 9/15/2016



Notes:

1. Locations of site features depicted hereon are approximate and given for illustrative purposes only.

Legend

- Site Parcels
- Other Properties

0 100 200 400

Feet

1 inch = 200 feet

N

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Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301
(603) 224-4182
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FIGURE 2

SITE PLAN
LOWELL HIGH SCHOOL
PHASE I INVESTIGATION
LOWELL, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: SV
PROJECT NO. 91830.00	DATE: SEPTEMBER 2016

Path: O:\Active\91830.00 - Lowell High School, Lowell MA - Perkins E\GIS\Figures\Figure 2 Lowell High Site Plan.mxd **Date Printed:** 1/24/2017

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

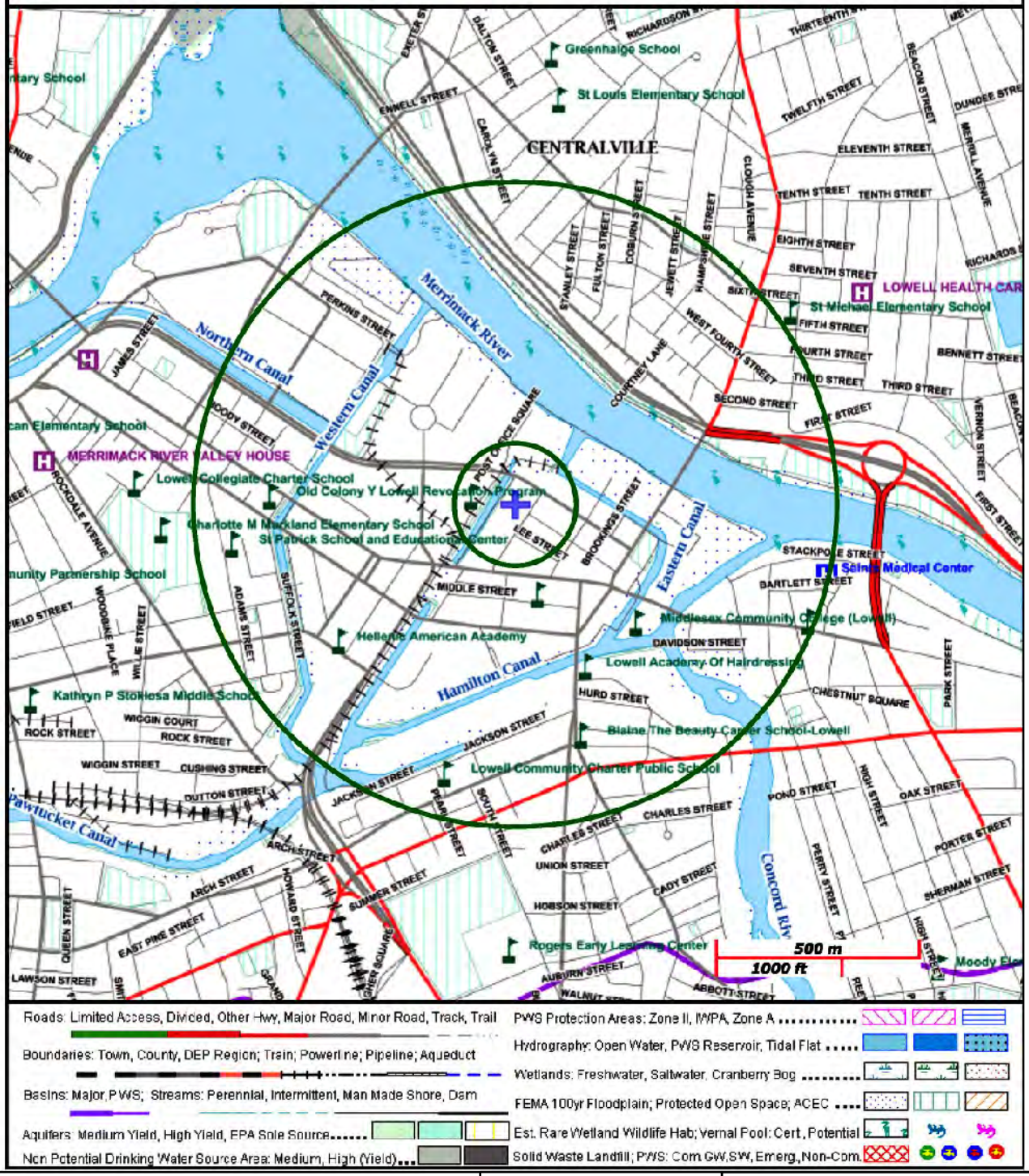
Site Information:

LOWELL, MA

NAD83 UTM Meters:
4724234mN , 310811mE (Zone: 19)
September 16, 2016

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com GW,SW, Emerg., Non-Com.

N

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FIGURE 3

MASS DEP SITE ASSESSMENT
LOWELL HIGH SCHOOL
PHASE I INVESTIGATION
LOWELL, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: EJ
PROJECT NO. 91830.00	DATE: SEPTEMBER 2016

Path: O:\Active\91830.00 - Lowell High School, Lowell MA - Perkins EIG\S\Figures\Figure 3 Lowell High MassDEP Site Assessment.mxd Date Printed: 9/16/2016

Lowell High School
Environmental Appendix
Note: File to be included in electronic file only

APPENDIX A

APPENDIX A
LIMITATIONS

1) This Environmental Site Assessment was performed in accordance with generally accepted practices of other consultants undertaking similar assessments at the same time and in the same geographical area. The results of this assessment are based on our professional judgment and are not scientific certainties. Specifically, Nobis Engineering, Inc. does not and cannot represent that the site contains no hazardous wastes or other latent conditions beyond those observed during this preliminary assessment. No other warranty, express or implied, is made.

2) The observations and conclusions presented in this report were made solely on the basis of conditions described thereon and not on scientific tasks or procedures beyond the scope of described services or the budgetary and time constraints imposed by the client.

3) Observations were made of the site as indicated in this report. Where access to portions of the site was unavailable or limited, Nobis Engineering, Inc. renders no opinion as to the presence of hazardous wastes or the presence of indirect evidence of hazardous wastes in those portions of the site.

4) No property boundary, site feature, or topographic surveys of the site were performed by Nobis Engineering, Inc.

5) Our services did not include assessments for the presence of pesticides, herbicides, urea-formaldehyde foam insulation (UFFI), or lead in drinking water at the site. In addition, no air quality monitoring or chemical analyses of soil, surface water, or groundwater were performed as part of this assessment. The site was not assessed for compliance with the Clean Air Act. Our services did not include an assessment for typical non-friable asbestos-containing materials such as floor tiles, exterior siding, and roofing materials.

6) The purpose of this screen was to preliminarily screen the physical characteristics of the subject site with respect to the presence of hazardous wastes in the environment within the context of ASTM E 1527-13, “Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process”. No attempt was made to check the compliance of present or past owners of the site with federal, state, or local laws.

7) This assessment has been prepared for the exclusive use of the City of Lowell, Massachusetts solely for use in an environmental evaluation of the site. Reliance by others on the information and opinions contained herein is strictly prohibited without prior written consent of Nobis Engineering, Inc.

8) Nobis did not have access to the proposed acquisition property at 75 Arcand Street during the site reconnaissance on August 30, 2016. This property is not currently owned by the City of Lowell and subsequently Nobis did not have access to view property conditions.

APPENDIX B

APPENDIX B

Property Location: 75 ARCAND DR | MAP ID: 158/ 210/ 75/ / | Bldg Name: | State Use: 3420

Vision ID: 35655 | Account # D12900 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 08/30/2016 14:50

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
TRS LOWELL DOCTORS PARK TRUS	1 Level	1 All Public	1 Paved	
C/O DRS MONTMINY INC				
75 ARCAND DR				
LOWELL, MA 01852-1026				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	0158 0210 0075 0000	Tract	3101
FLAG		Block	309
GIS Id	0210-75	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B2A00		
GIS ID: F_706649_3060852		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
COMMERC.	3420	673,300	673,300
COM LAND	3420	229,500	229,500
COMMERC.	3420	18,300	18,300
		Total	921,100	921,100

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LOWELL, MA

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
TRS LOWELL DOCTORS PARK TRUST	2736/ 152	04/30/1984	U		1	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	3420	673,300	2015	3420	673,300	2014	3420	673,300
2016	3420	229,500	2015	3420	229,500	2014	3420	229,500
2016	3420	18,300	2015	3420	18,300	2014	3420	18,300
	Total:	921,100		Total:	921,100		Total:	921,100

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.
38	I&E FINE 38D	0	50	3

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ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
C/A				

NOTES

DBA:PROFESSIONAL PARK

7 UNITS

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	666,900
Appraised XF (B) Value (Bldg)	6,400
Appraised OB (L) Value (Bldg)	18,300
Appraised Land Value (Bldg)	229,500
Special Land Value	0
Total Appraised Parcel Value	921,100
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	921,100

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
20081596	11/19/2008	RE	Remodel	61,000	12/10/2008	99	12/10/2008	REMOVE REPLACE R
20030220	03/24/2003	CM	Commercial	9,000	09/15/2003	99	09/14/2003	2 signs ext lit
2002/737	06/24/2002	RE	Remodel	82,000	01/29/2003	99	01/29/2003	NO VALUE
00/1270	04/24/2001	RE	Remodel	67,990	08/29/2001	99	08/29/2001	NO VALUE

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/21/2013	C	O	KG	00	Measur+Listed/Complete
06/19/2013	E		KG	01	Measur+1Visit - Left Car
06/29/2007			VI	65	Full Field Rev - VI
10/16/2006	1		LH	00	Measur+Listed/Complete
06/18/1999			MR	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	3420	Professional Office	DMU				47,268	SF	2.98	1.0000	5	1.0000	1.00	C100	1.60			1.00	4.77	225,400
1	3420	Professional Office					0.34	AC	12,100.00	1.0000	0	1.0000	1.00		0.00			1.00	12,100.00	4,100

Total Card Land Units: 1.43 AC | Parcel Total Land Area: 1.43 AC | Total Land Value: 229,500

Property Location: 75 ARCAND DR **MAP ID:** 158/ 210/ 75/ / **Bldg Name:** **State Use:** 3420

Vision ID: 35655 **Account #** D12900 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 08/30/2016 14:50

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	18		Office Bldg
Model	94		Commercial
Grade	03		Average
Stories	2		
Occupancy	1		
Exterior Wall 1	19		Brick Veneer
Exterior Wall 2			
Roof Structure	10		Steel Frm/Trus
Roof Cover	04		Tar & Gravel
Interior Wall 1	04		Plywood Panel
Interior Wall 2			
Interior Floor 1	14		Carpet
Interior Floor 2	11		Ceram Clay Til
Heating Fuel	04		Electric
Heating Type	07		Electr Basebrd
AC Type	03		Central
Bldg Use	3420		Professional Office
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	01		HEAT/AC PKGS
Frame Type	05		STEEL
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	05		SUS-CEIL & WL
Rooms/Prtns	02		AVERAGE
Wall Height	9		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

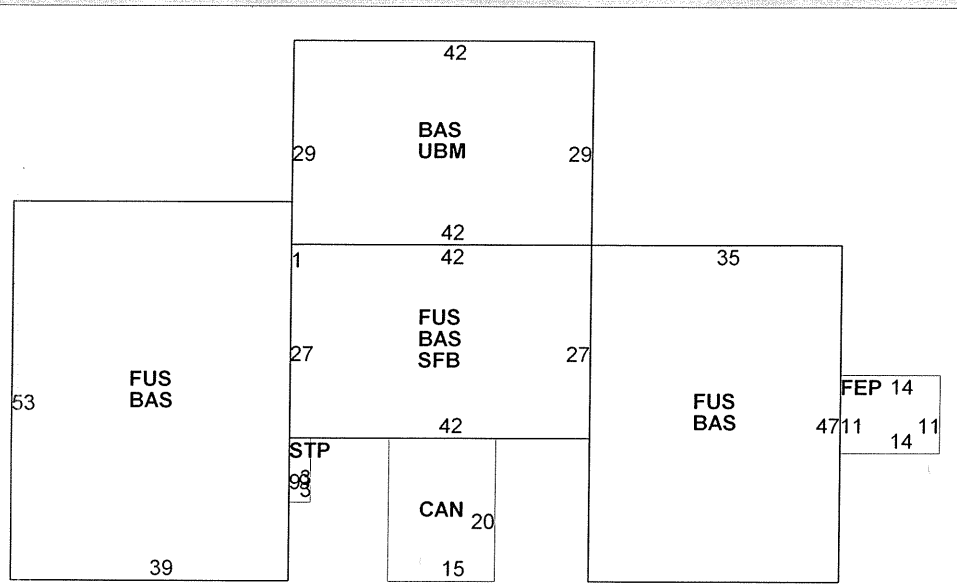
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
3420	Professional Office	100

COST/MARKET VALUATION

Adj. Base Rate:	79.83
	980,712
Net Other Adj:	0.00
Replace Cost	980,712
AYB	1970
EYB	1988
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	27
Functional Obslnc	0
External Obslnc	5
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	68
Apprais Val	666,900
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
	9-2FIXAV			L	0	0.00	1996		0		0	0
PAV1	PAVING-ASPH			L	37,03	0.90	1996		0		50	16,700
SGN2	DOUBLE SIDE			L	24	35.00	2003		0		90	800
SGN2	DOUBLE SIDE			L	24	35.00	2003		0		90	800
SPR1	SPRINKLERS-			B	11,81	0.80	1988		1		100	6,400



BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	6,064	6,064	6,064	79.83	484,089
CAN	Canopy	0	300	60	15.97	4,790
FEP	Porch, Enclosed	0	154	100	51.84	7,983
FUS	Upper Story, Finished	4,846	4,846	4,846	79.83	386,856
SFB	Bsmt, Fin Above Grade	907	1,134	907	63.85	72,406
STP	Stoop	0	27	3	8.87	239
UBM	Basement, Unfinished	0	1,218	305	19.99	24,348
	Ttl. Gross Liv/Lease Area:	11,817	13,743	12,285		980,712

Property Location: 68 JOHN ST | MAP ID: 177/ 3270/ 68/ / | Bldg Name: | State Use: 9341

Vision ID: 37556 | Account #200052 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 08/30/2016 14:49

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL SCHOOL DEPT 375 MERRIMACK ST LOWELL, MA 01852-1852 Additional Owners:	1 Level	1 All Public	1 Paved	

SUPPLEMENTAL DATA

Other ID:	0177 3270 0068 0000	Tract	3101
FLAG		Block	315
GIS Id	3270-68	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B3000		
GIS ID: F_707579_3060790		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9340	4,994,900	4,994,900
EXM LAND	9340	137,800	137,800
		Total	5,132,700	5,132,700

226
LOWELL, MA

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL			U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9340	4,994,900	2015	9340	5,244,700	2014	9340	5,244,700
2016	9340	137,800	2015	9340	137,800	2014	9340	137,800
	Total:	5,132,700		Total:	5,382,500		Total:	5,382,500

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

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ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
B3/A				

NOTES

DBA: C.G. MCDONOUGH
MAGNET SCHOOL

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	4,936,300
Appraised XF (B) Value (Bldg)	58,600
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	137,800
Special Land Value	0
Total Appraised Parcel Value	5,132,700
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	**5,132,700**

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/29/2007			VI	65	Full Field Rev - VI
11/30/1998			SG	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9341	Lowell Education C	DMU				16,737	SF	6.86	1.0000	5	1.0000	1.00	C110	1.20			1.00	8.24	137,800

Total Card Land Units: 0.38 AC | Parcel Total Land Area: 0.38 AC | Total Land Value: 137,800

Property Location: 68 JOHN ST | **MAP ID:** 177/ 3270/ 68/ / | **Bldg Name:** | **State Use:** 9341

Vision ID: 37556 | **Account #** 200052 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 08/30/2016 14:49

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	83		Schools-Public
Model	94		Commercial
Grade	04		Average +10
Stories	3		
Occupancy	1		
Exterior Wall 1	20		Brick/Masonry
Exterior Wall 2			
Roof Structure	04		Wood Truss
Roof Cover	04		Tar & Gravel
Interior Wall 1	03		Plastered
Interior Wall 2			
Interior Floor 1	12		Hardwood
Interior Floor 2	03		Concr-Finished
Heating Fuel	03		Gas
Heating Type	06		Steam
AC Type	01		None
Bldg Use	9341		Lowell Education C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	06		CEIL & WALLS
Rooms/Prtns	02		AVERAGE
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

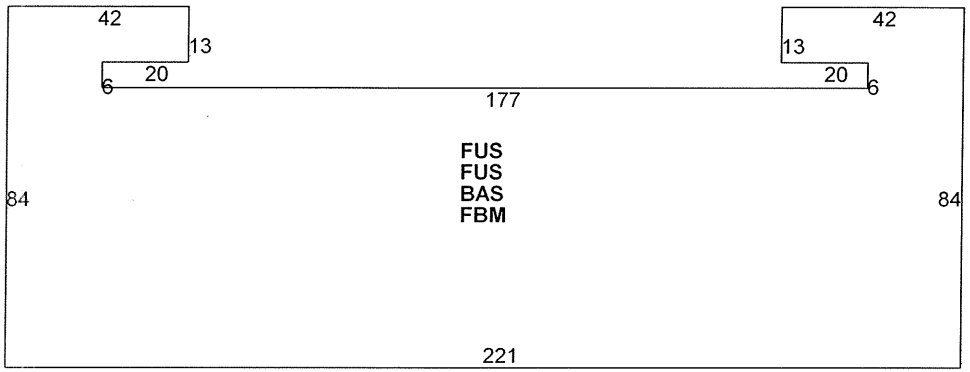
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9341	Lowell Education C	100

COST/MARKET VALUATION

Adj. Base Rate:	141.44
	8,227,166
Net Other Adj:	0.00
Replace Cost	8,227,166
AYB	1939
EYB	1975
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	40
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	60
Apprais Val	4,936,300
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
SPR1	SPRINKLERS-			B	47,163	0.80	1975		1		100	22,600
ELV1	PSSNGR ELEV			B	3	20,000.00	1975		1		100	36,000
	3-2FIXAV			B		1.00	1975		1		100	0
	4-W/C			B		1.00	1975		1		100	0
	3-URN			B		1.00	1975		1		100	0

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	15,721	15,721	15,721	141.44	2,223,547
FBM	Basement, Finished	0	15,721	11,005	99.01	1,556,525
FUS	Upper Story, Finished	31,442	31,442	31,442	141.44	4,447,094
	Ttl. Gross Liv/Lease Area:	47,163	62,884	58,168		8,227,166

No Photo On Record

Property Location: 55 FRENCH ST | MAP ID: 177/ 2465/ 55/ / | Bldg Name: | State Use: 9341

Vision ID: 46646 | Account #200049 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 08/30/2016 14:49

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL SCHOOL DEPT 375 MERRIMACK ST LOWELL, MA 01852-1852 Additional Owners:	1 Level	1 All Public	1 Paved	

SUPPLEMENTAL DATA			
Other ID:	0177 2465 0055 0000	Tract	3101
FLAG		Block	314
GIS Id	2465-55	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B3000		
GIS ID:	F_707622_3060855	ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9340	3,277,400	3,277,400
EXM LAND	9340	138,900	138,900
		Total	3,416,300	3,416,300

226
LOWELL, MA

VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL	924/ 374	12/31/1938	U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9340	3,277,400	2015	9340	3,277,400	2014	9340	3,277,400
2016	9340	138,900	2015	9340	138,900	2014	9340	138,900
		Total: 3,416,300			Total: 3,416,300			Total: 3,416,300

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

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ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
B3/A				

NOTES

DBA:CITY MAGNET SCHOOL

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	3,241,400
Appraised XF (B) Value (Bldg)	36,000
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	138,900
Special Land Value	0
Total Appraised Parcel Value	3,416,300
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	3,416,300

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
2002/974	08/08/2002	RE	Remodel	50,000	02/28/2003	99	02/28/2003	NO VALUE

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/29/2007			VI	65	Full Field Rev - VI
11/30/1998			SG	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9341	Lowell Education C	DMU				17,759	SF	6.52	1.0000	5	1.0000	1.00	C110	1.20			1.00	7.82	138,900

Total Card Land Units: 0.41 AC | Parcel Total Land Area: 0.41 AC | Total Land Value: 138,900

Property Location: 55 FRENCH ST | **MAP ID:** 177/ 2465/ 55/ / | **Bldg Name:** | **State Use:** 9341

Vision ID: 46646 | **Account #** 200049 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 08/30/2016 14:49

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	83		Schools-Public
Model	94		Commercial
Grade	03		Average
Stories	2		
Occupancy	1		
Exterior Wall 1	20		Brick/Masonry
Exterior Wall 2			
Roof Structure	04		Wood Truss
Roof Cover	04		Tar & Gravel
Interior Wall 1	03		Plastered
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2	12		Hardwood
Heating Fuel	03		Gas
Heating Type	06		Steam
AC Type	01		None
Bldg Use	9341		Lowell Education C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	06		CEIL & WALLS
Rooms/Prtns	02		AVERAGE
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

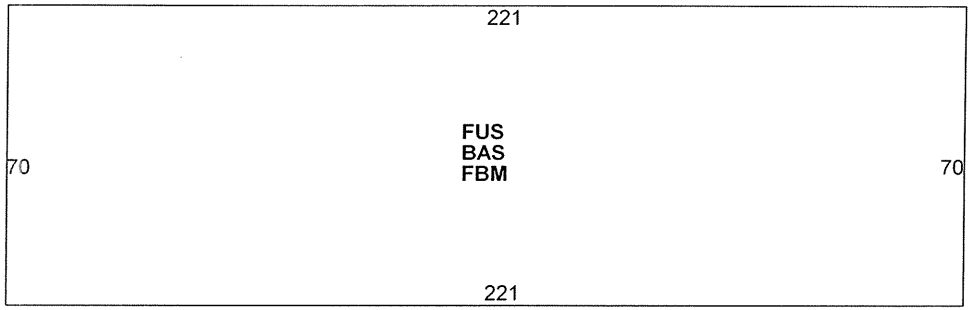
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9341	Lowell Education C	100

COST/MARKET VALUATION

Adj. Base Rate:	129.34
	5,402,402
Net Other Adj:	0.00
Replace Cost	5,402,402
AYB	1920
EYB	1975
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	40
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	60
Apprais Val	3,241,400
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



No Photo On Record

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
ELV1	PSSNGR ELEV			B	3	20,000.00	1975		1		100	36,000
	3-2FIX			B		1.00	1975		1		100	0
	4-WC			B		1.00	1975		1		100	0
	3-URN			B		1.00	1975		1		100	0

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	15,470	15,470	15,470	129.34	2,000,890
FBM	Basement, Finished	0	15,470	10,829	90.54	1,400,623
FUS	Upper Story, Finished	15,470	15,470	15,470	129.34	2,000,890
	Ttl. Gross Liv/Lease Area:	30,940	46,410	41,769		5,402,402

Property Location: 50 FATHER MORISSETTE BLVD | MAP ID: 158/ 2470/ 50/ / | Bldg Name: | State Use: 9341

Vision ID: 35659 | Account #201071 | Bldg #: 1 of 2 | Sec #: 1 of 1 | Card 1 of 2 | Print Date: 08/30/2016 14:45

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL SCHOOL DEPARTMENT 375 MERRIMACK ST LOWELL, MA 01852-1852 Additional Owners:	1 Level	1 All Public	1 Paved	

SUPPLEMENTAL DATA

Other ID:	0158 2470 0050 0000	Tract	3101
FLAG		Block	309
GIS Id	2470-50	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B2000		
GIS ID: F_706769_3061051		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9340	23,339,400	23,339,400
EXM LAND	9340	683,000	683,000
EXEMPT	9340	6,500	6,500
	Total	24,028,900	24,028,900

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LOWELL, MA

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL	2313/ 190	07/10/1978	U		1	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9340	23,339,400	2015	9340	23,339,400	2014	9340	23,339,400
2016	9340	683,000	2015	9340	683,000	2014	9340	683,000
2016	9340	6,500	2015	9340	6,500	2014	9340	6,500
	Total:	24,028,900		Total:	24,028,900		Total:	24,028,900

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
C/A				

NOTES

1 PASS ELEV, 2000 LBS,
3 STOPS
1980 BLDG, COBURN HALL

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	13,599,600
Appraised XF (B) Value (Bldg)	99,500
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	683,000
Special Land Value	0
Total Appraised Parcel Value	24,028,900
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	24,028,900

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
201407789	06/26/2014	RE	Remodel	104,207	07/22/2014	99	07/22/2014	REPLACE ALL EXISTI
201313051	10/18/2013	RE	Remodel	496,000		0		REPLACE EXT DOORS
201203250	05/23/2012	RE	Remodel	919,000		0		REPLACE ROOFING &
2005-0950	07/27/2005	NA	No Value/No Vi	125,000	08/08/2005	0	08/08/2005	FY06- 12 ROOF TOP UI
2003/780	07/02/2003	RE	Remodel	45,000	10/17/2003	99	10/17/2003	NO VALUE
01/454	06/05/2001	RE	Remodel	16,998	10/03/2001	99	10/03/2001	NO VALUE

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/19/2013	E		MB	01	Measur+1Visit - Left Car
06/29/2007			VI	65	Full Field Rev - VI
06/18/1999			MR	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9341	Lowell Education C	DMU				143,248	SF	2.98	1.0000	5	1.0000	1.00	C100	1.60			1.00	4.77	683,000

Total Card Land Units: 3.29 AC | Parcel Total Land Area: 3.29 AC | Total Land Value: 683,000

Property Location: 50 FATHER MORISSETTE BLVD **MAP ID:** 158/ 2470/ 50/ / **Bldg Name:** **State Use:** 9341

Vision ID: 35659 **Account #** 201071 **Bldg #:** 1 of 2 **Sec #:** 1 of 1 **Card** 1 of 2 **Print Date:** 08/30/2016 14:45

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	83		Schools-Public
Model	94		Commercial
Grade	03		Average
Stories	3		
Occupancy	1		
Exterior Wall 1	20		Brick/Masonry
Exterior Wall 2			
Roof Structure	10		Steel Frm/Trus
Roof Cover	02		Rolled Compos
Interior Wall 1	05		Drywall/Sheet
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2	14		Carpet
Heating Fuel	03		Gas
Heating Type	04		Forced Air-Duc
AC Type	03		Central
Bldg Use	9341		Lowell Education C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	05		SUS-CEIL & WL
Rooms/Prtns	02		AVERAGE
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

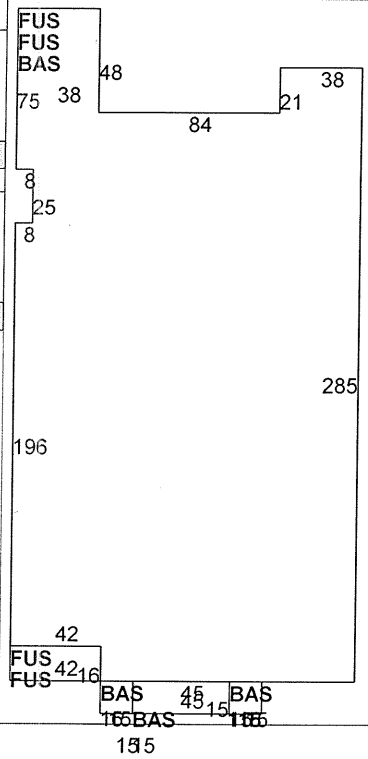
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9341	Lowell Education C	100

COST/MARKET VALUATION

Adj. Base Rate:	129.69
	17,435,394
Net Other Adj:	0.00
Replace Cost	17,435,394
AYB	1980
EYB	1993
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	22
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	78
Apprais Val	13,599,600
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



No Photo On Record

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
	44FIXTURES			L	1	0.00	1980		0		0	0
SPR1	SPRINKLERS-			B	133,8	0.80	1993		1		100	83,500
SPR3	DRY			B	600	0.90	1993		1		100	400
ELV1	PSSNGR ELEV			B	1	20,000.00	1993		1		100	15,600

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	45,115	45,115	45,115	129.69	5,850,964
FUS	Upper Story, Finished	89,324	89,324	89,324	129.69	11,584,430
	Ttl Gross Liv/Lease Area	134,439	134,439	134,439		17,435,394

Property Location: 50 FATHER MORISSETTE BLVD | MAP ID: 158/ 2470/ 50/ / | Bldg Name: | State Use: 9341

Vision ID: 35659 | Account #201071 | Bldg #: 2 of 2 | Sec #: 1 of 1 | Card 2 of 2 | Print Date: 08/30/2016 14:45

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL SCHOOL DEPARTMENT 375 MERRIMACK ST LOWELL, MA 01852-1852 Additional Owners:	1 Level	1 All Public	1 Paved	

SUPPLEMENTAL DATA

Other ID:	0158 2470 0050 0000	Tract	3101
FLAG		Block	309
GIS Id	2470-50	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B2000		
GIS ID: F_706769_3061051		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9340	23,339,400	23,339,400
EXM LAND	9340	683,000	683,000
EXEMPT	9340	6,500	6,500
		Total	24,028,900	24,028,900

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LOWELL, MA

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL	2313/ 190	07/10/1978	U		1	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9340	23,339,400	2015	9340	23,339,400	2014	9340	23,339,400
2016	9340	683,000	2015	9340	683,000	2014	9340	683,000
2016	9340	6,500	2015	9340	6,500	2014	9340	6,500
	Total:	24,028,900		Total:	24,028,900		Total:	24,028,900

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

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ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
C/A				

NOTES

GYM W/POOL & SEVERAL
OTHER SPORTS FACILITIES
HEXAGON SHAPED
60X60 BASEMENT-BOIL RM
45X80 INDOOR POOL, DRAINE
D 6-18-99, TILE FROM CIEL
ING CONTAINING ASBESTOS
BLDG HAS BEEN GUTTED

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	9,640,300
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	6,500
Appraised Land Value (Bldg)	0
Special Land Value	0
Total Appraised Parcel Value	24,028,900
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	24,028,900

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/19/2013	E		MB	01	Measur+1Visit - Left Car
06/29/2007			VI	65	Full Field Rev - VI
06/18/1999			MR	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
2	9341	Lowell Education C	DMU				0	SF	0.01	1.0000	0	1.0000	1.00		0.00			.00	0.01	0

Total Card Land Units: 0.00 AC | Parcel Total Land Area: 3.29 AC | Total Land Value: 0

Property Location: 50 FATHER MORISSETTE BLVD **MAP ID:** 158/ 2470/ 50/ / **Bldg Name:** **State Use:** 9341

Vision ID: 35659 **Account #** 201071 **Bldg #:** 2 of 2 **Sec #:** 1 of 1 **Card** 2 of 2 **Print Date:** 08/30/2016 14:45

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	83		Schools-Public
Model	94		Commercial
Grade	03		Average
Stories	2		
Occupancy	1		
Exterior Wall 1	20		Brick/Masonry
Exterior Wall 2			
Roof Structure	10		Steel Frm/Trus
Roof Cover	09		Enam Mtl Shing
Interior Wall 1	05		Drywall/Sheet
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2	12		Hardwood
Heating Fuel	03		Gas
Heating Type	04		Forced Air-Duc
AC Type	03		Central
Bldg Use	9341		Lowell Education C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	05		SUS-CEIL & WL
Rooms/Prtns	02		AVERAGE
Wall Height	30		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9341	Lowell Education C	100

COST/MARKET VALUATION

Adj. Base Rate:	154.65
	11,476,577
Net Other Adj:	0.00
Replace Cost	11,476,577
AYB	1980
EYB	1999
Dep Code	G
Remodel Rating	
Year Remodeled	
Dep %	16
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	84
Apprais Val	9,640,300
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

FUS/BAS[36655]

UBM[3600]

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
SPL1	POOL-INGR			L	360	18.00	1980		0		100	6,500

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	36,655	36,655	36,655	154.65	5,668,696
FUS	Upper Story, Finished	36,655	36,655	36,655	154.65	5,668,696
UBM	Basement, Unfinished	0	3,600	900	38.66	139,185
	Ttl. Gross Liv/Lease Area:	73,310	76,910	74,210		11,476,577

No Photo On Record

Property Location: 38 KIRK ST | MAP ID: 158/ 3410/ 38/ / | Bldg Name: | State Use: 9341

Vision ID: 35665 | Account #200053 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 08/30/2016 14:48

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL SCHOOL DEPT 375 MERRIMACK ST LOWELL, MA 01852-1852 Additional Owners:	1 Level	1 All Public	1 Paved	

SUPPLEMENTAL DATA

Other ID:	0158 3410 0038 0000	Tract	3101
FLAG		Block	316
GIS Id	3410-38	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B3000		
GIS ID: F_707165_3060899		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9340	26,828,200	26,828,200
EXM LAND	9340	359,800	359,800
EXEMPT	9340	2,400	2,400
	Total	27,190,400	27,190,400

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LOWELL, MA

VISION

RECORD OF OWNERSHIP

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL			U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9340	26,828,200	2015	9340	26,828,200	2014	9340	26,828,200
2016	9340	359,800	2015	9340	359,800	2014	9340	359,800
2016	9340	2,400	2015	9340	3,200	2014	9340	4,000
	Total:	27,190,400		Total:	27,191,200		Total:	27,192,000

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
C/A				

NOTES

1 ELEV, 4 STOPS, 2000 LB
2 TUNNELS TOTAL
18 FIRESTANDS
700 DF AUDITORIUM
1609 SEATS
NEW TUNNEL CONNECTING
COBURN BLDG

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	26,694,900
Appraised XF (B) Value (Bldg)	133,300
Appraised OB (L) Value (Bldg)	2,400
Appraised Land Value (Bldg)	359,800
Special Land Value	0
Total Appraised Parcel Value	27,190,400
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	27,190,400

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
20020789	07/03/2002	NA	No value/visit	91,500	01/31/2003	99	01/31/2003	PBD/Repl wd fls/Aud
145	03/29/1996	RE	Remodel	23,175,000	06/24/1997	99	06/24/1997	FY98

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/29/2007			VI	65	Full Field Rev - VI
06/21/1999			MR	01	Measur+1Visit - Left Car

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9341	Lowell Education C	DMU				100,627	SF	2.98	1.0000	5	1.0000	1.00	C110	1.20			1.00	3.58	359,800

Total Card Land Units: 2.31 AC | Parcel Total Land Area: 2.31 AC | Total Land Value: 359,800

Property Location: 38 KIRK ST **MAP ID:** 158/ 3410/ 38/ / **Bldg Name:** **State Use:** 9341

Vision ID: 35665 **Account #** 200053 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 08/30/2016 14:48

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	83		Schools-Public
Model	94		Commercial
Grade	04		Average +10
Stories	3		
Occupancy	1		
Exterior Wall 1	19		Brick Veneer
Exterior Wall 2			
Roof Structure	04		Wood Truss
Roof Cover	02		Rolled Compos
Interior Wall 1	03		Plastered
Interior Wall 2			
Interior Floor 1	12		Hardwood
Interior Floor 2			
Heating Fuel	02		Oil
Heating Type	06		Steam
AC Type	01		None
Bldg Use	9341		Lowell Education C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	05		STEEL
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	05		SUS-CEIL & WL
Rooms/Prtns	02		AVERAGE
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

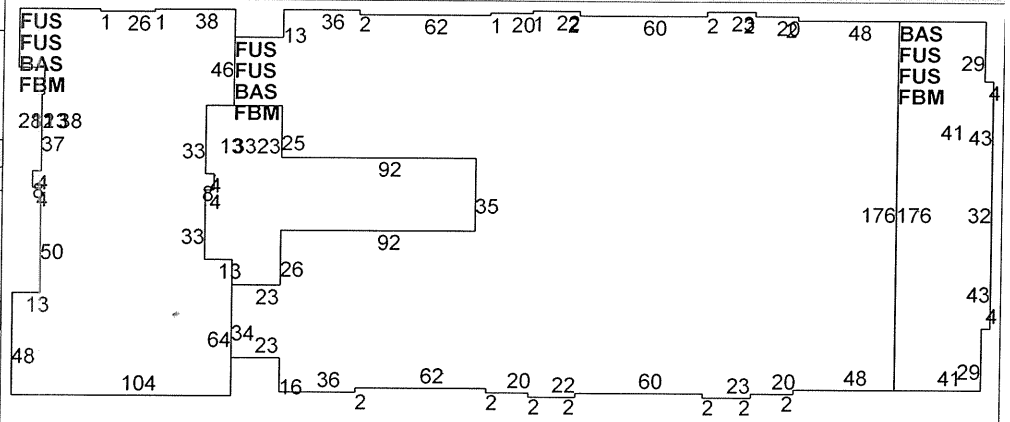
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9341	Lowell Education C	100

COST/MARKET VALUATION

Adj. Base Rate:	143.42
	39,843,098
Net Other Adj:	0.00
Replace Cost	39,843,098
AYB	1920
EYB	1982
Dep Code	G
Remodel Rating	
Year Remodeled	
Dep %	33
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	67
Apprais Val	26,694,900
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	



No Photo On Record

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
				L	1	15,840.00	1968		2		100	1,000
				L	1	2,880.00	1968		2		100	200
				L	1	20,640.00	1968		2		100	1,200
SPR1	SPRINKLERS-			B	277,8	0.80	1982		1		60	133,300

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	75,084	75,084	75,084	143.42	10,768,397
FBM	Basement, Finished	0	75,084	52,559	100.39	7,537,907
FUS	Upper Story, Finished	150,168	150,168	150,168	143.42	21,536,794
	Ttl Gross Liv/Lease Area:	225,252	300,336	277,811		39,843,098

Property Location: 35 FRENCH ST | MAP ID: 158/ 2465/ 35/ / | Bldg Name: | State Use: 9311

Vision ID: 46402 | Account #200443 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 08/30/2016 14:49

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
CITY OF LOWELL	1 Level	1 All Public	1 Paved	
375 MERRIMACK ST				
LOWELL, MA 01852				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	0158 2465 0035 0000	Tract	3101
FLAG		Block	314
GIS Id	2465-35	Units	
Ward		Broom	
Precinct		Historic Dis	
Zone	B3001		
GIS ID:	F_707490_3060942	ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9310	208,500	208,500
EXM LAND	9310	112,400	112,400
EXEMPT	9310	5,900	5,900
		Total	326,800	326,800

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LOWELL, MA

VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
CITY OF LOWELL	2350/ 737		U		0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2016	9310	208,500	2015	9310	208,500	2014	9310	208,500
2016	9310	112,400	2015	9310	112,400	2014	9310	112,400
2016	9310	5,900	2015	9310	6,200	2014	9310	6,600
	Total:	326,800		Total:	327,100		Total:	327,500

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
C/A				

NOTES

HIGH SCHOOL BOILER ROOM
UNDERGROUND TUNNELL
CONNECTS TO THE
LOWELL NAT HISTORICAL
PARK HEADQUARTERS

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	206,900
Appraised XF (B) Value (Bldg)	1,600
Appraised OB (L) Value (Bldg)	5,900
Appraised Land Value (Bldg)	112,400
Special Land Value	0
Total Appraised Parcel Value	326,800
Valuation Method:	C
Adjustment:	0
Net Total Appraised Parcel Value	326,800

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
2007-0129	02/09/2007	RE	Remodel	0	02/15/2007	99	02/15/2007	TENT FOR WINTERFE

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
06/21/2013	C		KG	00	Measur+Listed/Complete
06/29/2007			VI	65	Full Field Rev - VI
06/18/1999			CM	00	Measur+Listed/Complete

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9311	City of Lowell C	DMU				6,672	SF	14.04	1.0000	5	1.0000	1.00	C110	1.20			1.00	16.85	112,400

Total Card Land Units: 0.15 AC | Parcel Total Land Area: 0.15 AC | Total Land Value: 112,400

Property Location: 35 FRENCH ST | **MAP ID:** 158/ 2465/ 35/ / | **Bldg Name:** | **State Use:** 9311

Vision ID: 46402 | **Account #** 200443 | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 08/30/2016 14:49

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	12		Commercial
Model	94		Commercial
Grade	03		Average
Stories	1		
Occupancy	1		
Exterior Wall 1	19		Brick Veneer
Exterior Wall 2			
Roof Structure	10		Steel Frm/Trus
Roof Cover	04		Tar & Gravel
Interior Wall 1	01		Minim/Masonry
Interior Wall 2			
Interior Floor 1	03		Concr-Finished
Interior Floor 2			
Heating Fuel	02		Oil
Heating Type	06		Steam
AC Type	01		None
Bldg Use	9311		City of Lowell C
Total Rooms			
Total Bedrms	00		
Total Baths	0		
Heat/AC	00		NONE
Frame Type	03		MASONRY
Baths/Plumbing	02		AVERAGE
Ceiling/Wall	02		CEILING ONLY
Rooms/Prtns	02		AVERAGE
Wall Height	30		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

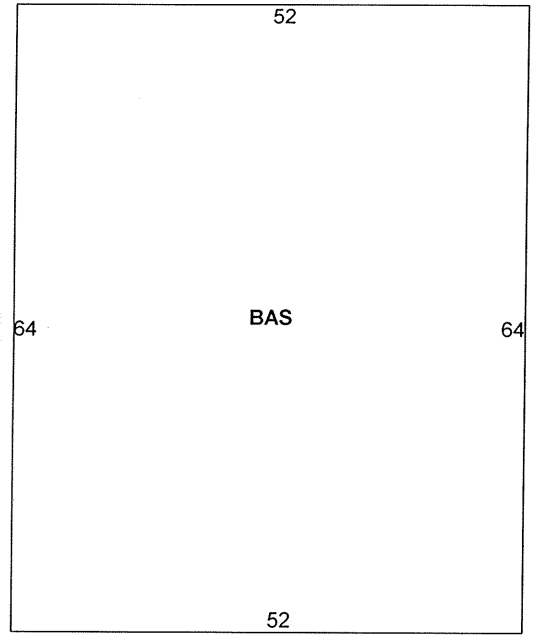
Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9311	City of Lowell C	100

COST/MARKET VALUATION

Adj. Base Rate:	103.60
	344,781
Net Other Adj:	0.00
Replace Cost	344,781
AYB	1920
EYB	1975
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	40
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	1
Status	
% Complete	
Overall % Cond	60
Apprais Val	206,900
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

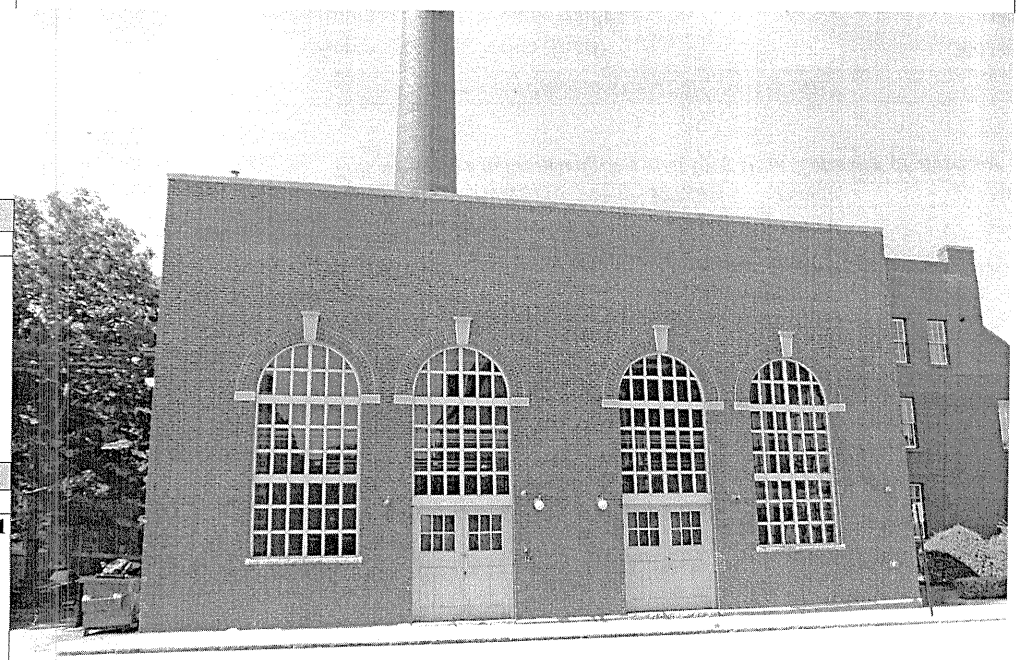


OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
	1-CHIM			L	1	19,500.00	1980		2		100	5,900
	OHD			L	1	0.00	1920		0		0	0
SPR1	SPRINKLERS-			B	3,328	0.80	1975		1		100	1,600

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	3,328	3,328	3,328	103.60	344,781
	Ttl Gross Liv/Lease Area:	3,328	3,328	3,328		344,781



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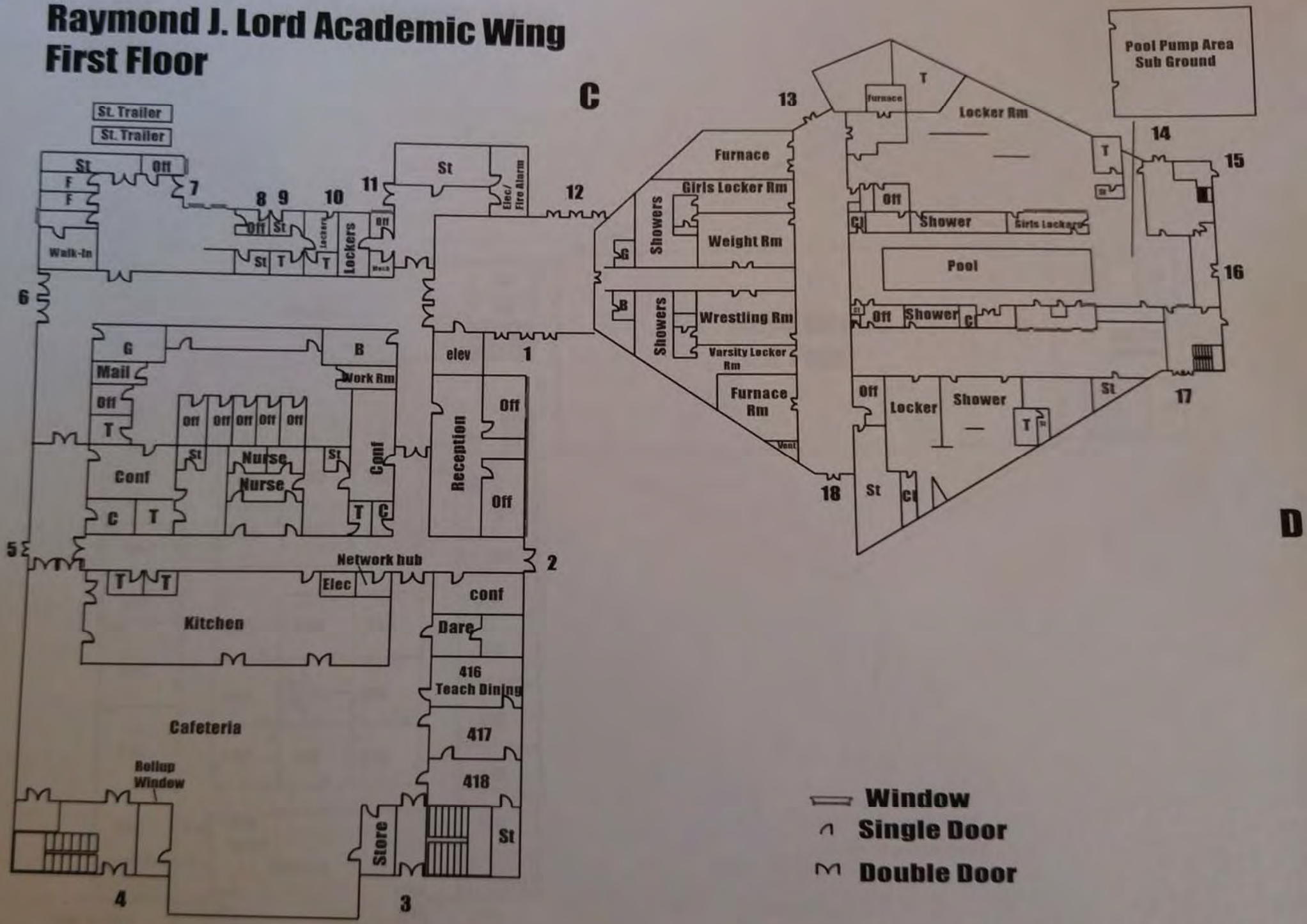
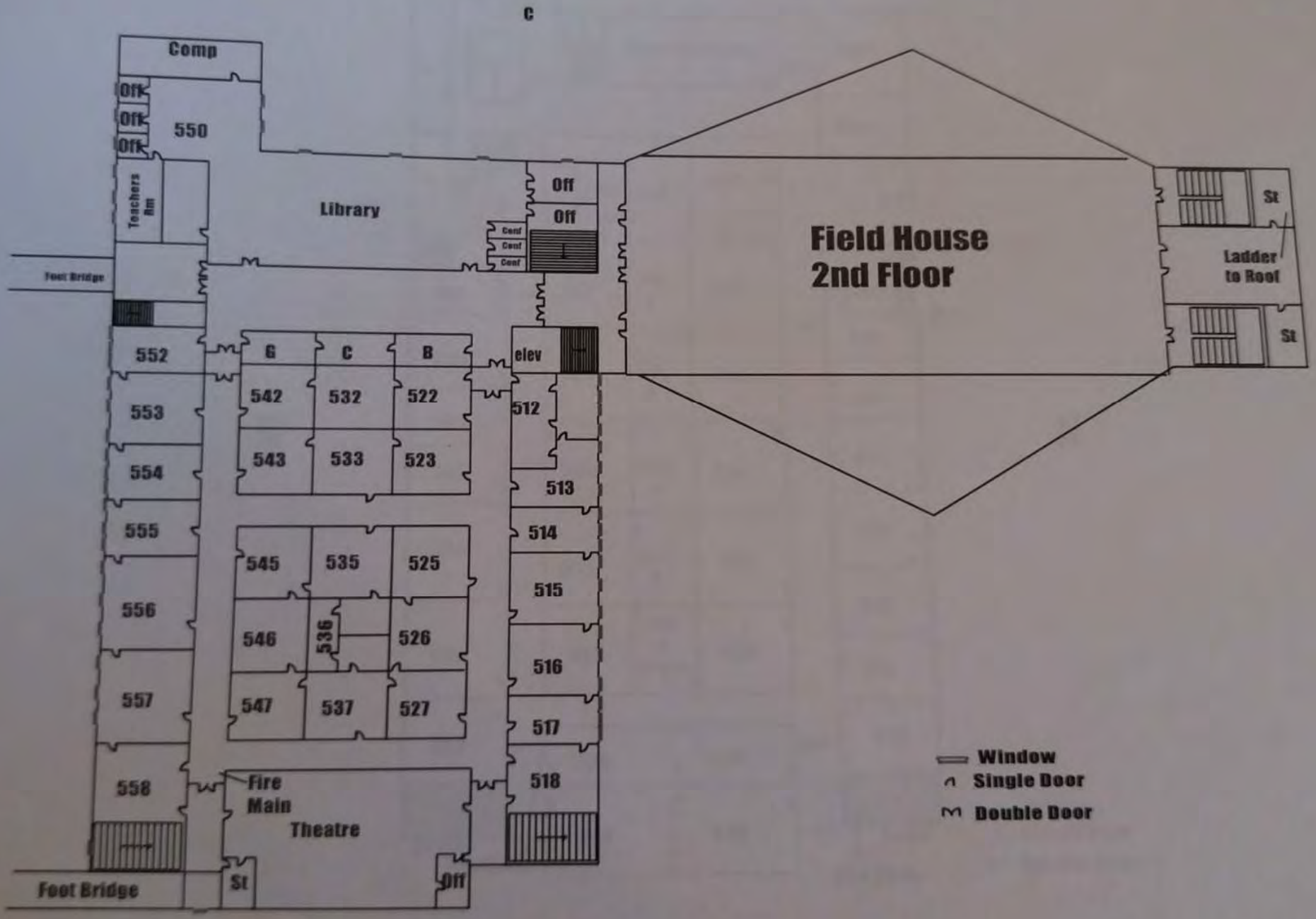
Lowell High School

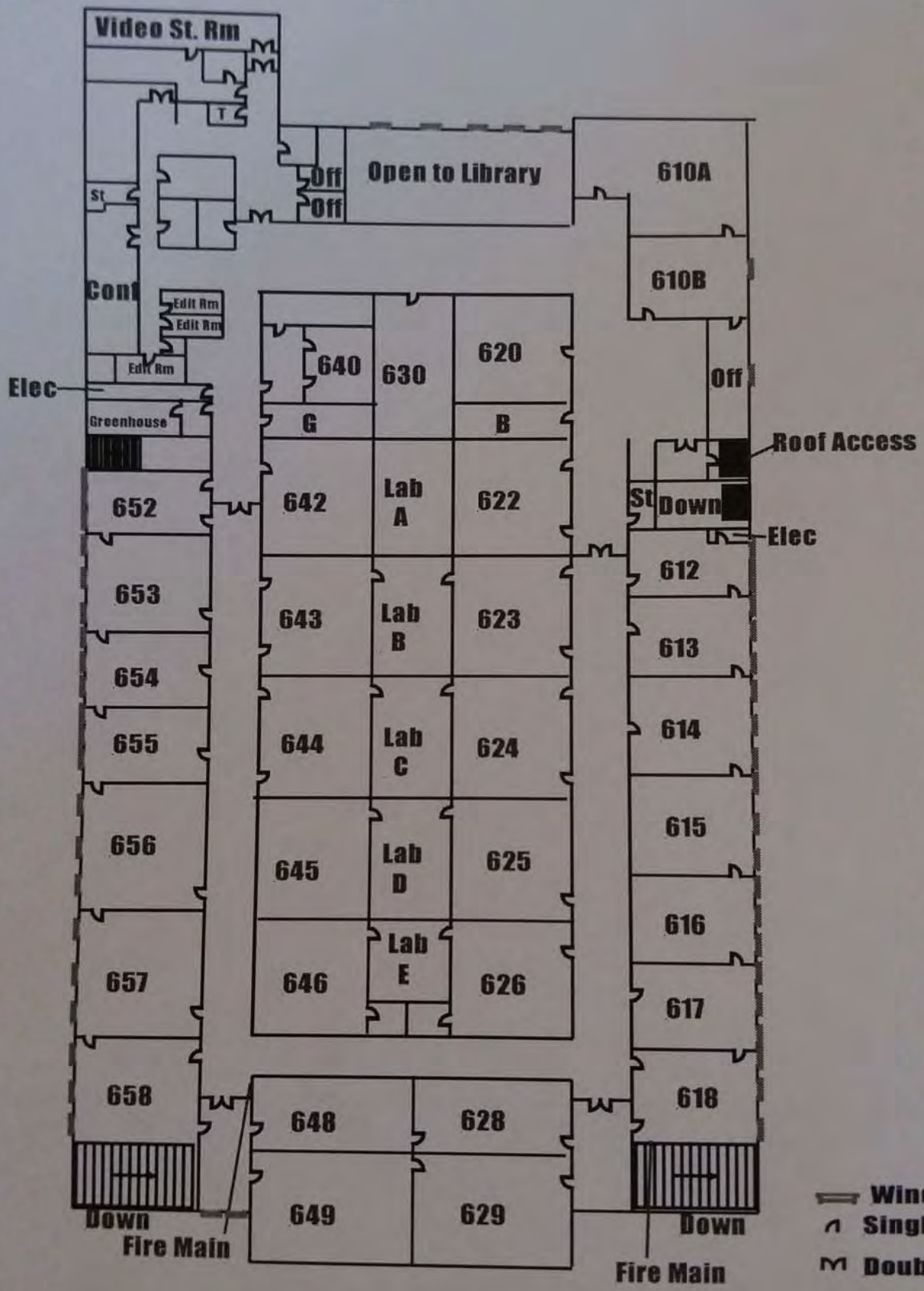
Raymond J. Lord Academic Wing
First Floor



Raymond J. Lord Academic Wing
Second Floor



Raymond J. Lord Academic Wing
Third Floor



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George D. Kouloheras Academic Wing

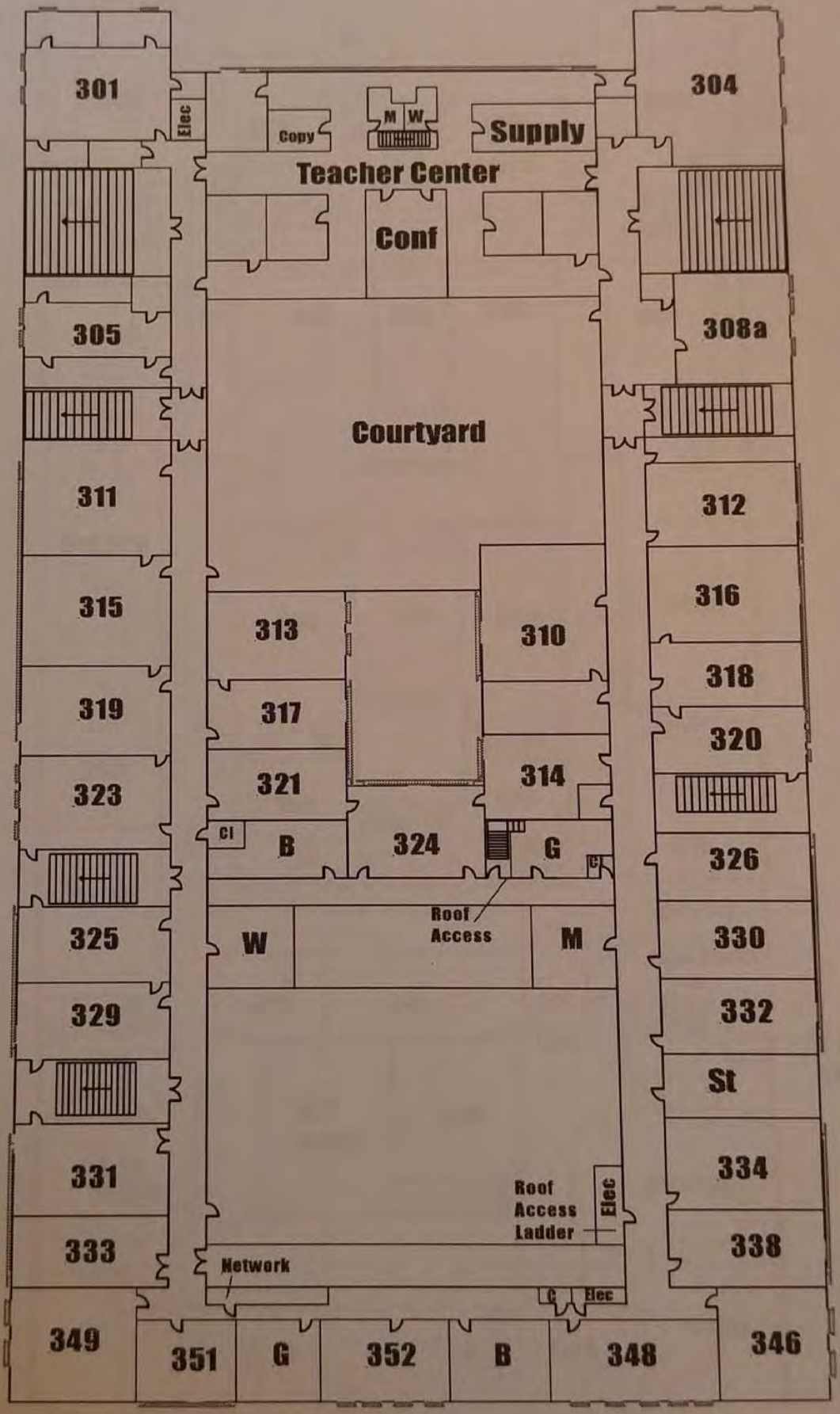
First Floor



George D. Kouloheras Academic Wing
Second Floor

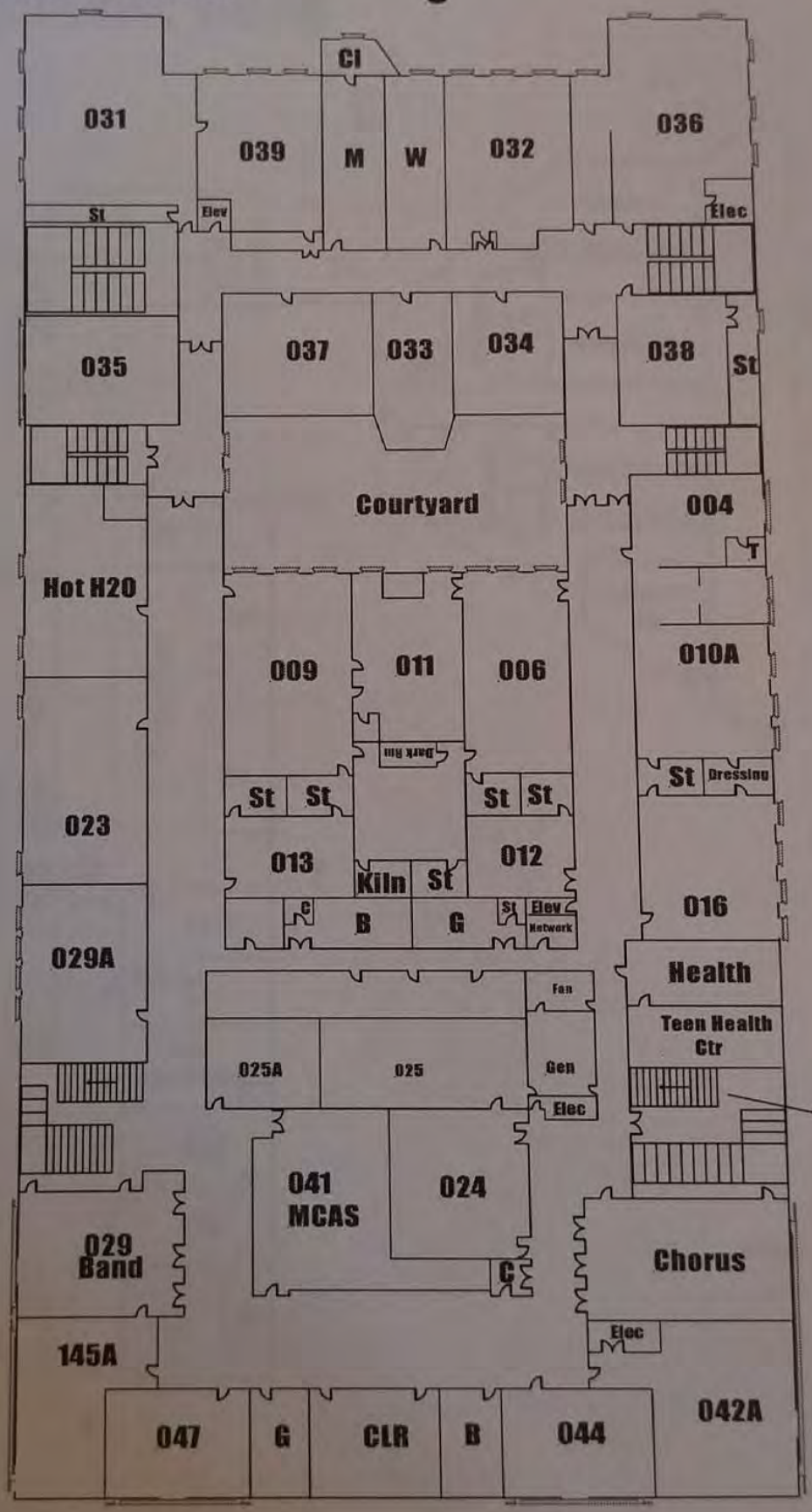


George D. Koulouheras Academic Wing
Third Floor



chool

George D. Kouloheras Academic Wing
Basement Floor



Project Scope Summary
Coburn Hall
Lowell High School
Lowell, Massachusetts

Programing

1) Provide Teachers Center on Ground Level.
2) Provide 7 new classrooms and 1 computer lab.

Site

1) Alternate: Open alley, restore cobblestone Paving

Structural

1) Repair and/or replace existing wood timber beams and joist members as required to meet current structural code requirements including provisions for seismic loading. This work required by the SBAB to fund project.

Exterior Closure

1) Remove and rebuild chimneys.
2) Spot point the mortar joints in brick walls
3) Repoint all mortar joints at terra cotta trim
4) Install lightning protection.
5) Alternate: Replace windows in existing configuration with new insulated glass in thermally broken aluminum frames to match existing.
6) Alternate: Remove glass block and painted aluminum panels from the arched windows at the stairways and on the third floor, install new fixed insulated glass in aluminum frames to be compatible with original design.
7) Spot repair of existing slate roofing.

Interior Construction

1) Install new suspended acoustical panel ceilings throughout
2) Patch and paint all walls.
3) Install plywood over existing raised floors and install new floor vinyl composition coverings.
4) Rehabilitate wood wainscot.
5) Replace the stairs to the roof and attic wings.
6) Renovate public and faculty toilets to provide ADA compliant fixtures and spaces.
7) Provide all new toilet fixtures, heavy duty stainless steel partitions and accessories.
8) Provide area of rescue assistance on each floor to comply with ADA.

Mechanical

1) Entirely new make-up and exhaust air system to meet fresh air requirements of code.
2) Air conditioning provided at Teachers Center and Computer Classrooms.
3) Remove existing steam radiators & piping system and replace with hot water fin tube radiation heating system complete with new piping and steam to hot water converter station.

Electrical

1) All existing electrical work including lighting will be removed and a new electrical system will be installed.
2) Repair or replace, as required, clock units which are inoperative. Provide new clock units in new classrooms.
3) Provide new fire alarm system conforming with current code requirements.
4) Provide new security system.

Plumbing

1) Totally replace existing plumbing sewer and supply lines.
2) Provide new toilets to accommodate ADA requirements.
3) Provide new toilet fixtures and drinking fountains.
4) Refurbish dry sprinkler system in attic.

Project Scope Summary
1922 Building
Lowell High School
Lowell, Massachusetts

Programing

1) Minor reconfiguration of existing spaces in isolated areas to improve efficiency, netting 6 additional or "found" classrooms.

Site

Structural

1) Provide additional support as required to receive new mechanical equipment in attic and roof areas.

Exterior Closure

1) Spot point approximately 20% of the mortar joints in brick walls.
2) Repoint all mortar joints at terra cotta trim
3) Selectively point mortar joints on parapet and penthouses
4) Replace EPDM flashing on the roof side of the parapets and at the roof/wall juncture.
5) Rebuild 200 feet of deteriorating parapet.
6) Remove clock on west face and repair clock on Kirk Street side.
7) Alternate: Remove glass block and painted aluminum panels from the arched windows at the stairways and replace with insulated glass in aluminum frames to match the configuration of the original 1922 Building.

Interior Construction

1) Patch miscellaneous damage to the plaster and paint the corridor walls on all levels.
2) Patch and paint all classroom walls on all levels.
3) Renovate public and faculty toilets to provide ADA compliant fixtures and spaces. Toilets walls are to be painted, drywall ceilings installed & painted and new ceramic floor tile provided.
4) Provide all new toilet fixtures, heavy duty stainless steel partitions and accessories.
5) Provide area of rescue assistance on each floor to comply with ADA.
6) Alternate: Paint auditorium
7) Repair & paint or replace 1800 lockers. Level 1 lockers recently renovated will remain.

Mechanical

1) Supplement and reconfigure existing make-up and exhaust air system to meet fresh air requirements of code.
2) Air conditioning provided at all Computer Classrooms.
3) Remove existing steam radiators & piping system and replace with hot water fin tube radiation heating system complete with new piping and steam to hot water converter station.
4) Provide appropriate ventilation levels within auditorium.
4) Alternate: Air condition the auditorium.

Electrical

1) Replace or repair all existing classroom lighting to meet current illumination and energy standards.
2) Repair or replace, as required, clock units which are inoperative. Provide new clock units in "found" classrooms.
3) Provide new alarm system conforming with current code requirements.

Plumbing

1) Totally replace existing plumbing sewer and supply lines.
2) Renovate existing toilets and/or provide new toilets to accommodate ADA requirements.
3) Provide new toilet fixtures and drinking fountains.

Project Scope Summary
Classroom Addition
Lowell High School
Lowell, Massachusetts

Programing

1) Provide new classroom addition at the north end of the 1922 Building. The addition includes 9 new general classrooms and 8 new computer labs.
2) Provide toilets to accommodate the Classroom Addition as well as assist in providing for the toilet count deficiencies of the 1922 Building.
3) Create a sense of main public entrance for the 1922 Building auditorium.

Site

1) Eliminate "exterior" steps from the main entrance access pathway.

Structural

1) As required to meet current code structural standards and seismic requirements.

Exterior Closure

1) Exterior wall will be clad in brick to match the buff color brick currently on the 1922 Building.

Interior Construction

1) All new construction.
2) Classroom and corridor walls shall be painted block.

Mechanical

1) Make-up and exhaust air system to meet fresh air requirements of code.
2) Air conditioning provided at all levels of the central core (areas inside the loop corridor system), all Computer Classrooms, Guidance Offices and Administrative Offices.
3) Replace all fiberglass duct with metal duct.

Electrical

1) Lighting to meet current illumination and energy standards.
2) Power requirements for HVAC and High-Tech system.
3) Repair the master clock system.
3) Provide alarm system conforming with current code requirements.
4) Provide emergency lighting to conform with code requirements.
5) Provide new security system.

Plumbing

1) New toilet fixtures as required.

Project Scope Summary
1980 Building
Lowell High School
Lowell, Massachusetts

Programing

1) Conversion of existing classrooms in center core area of level 2 to a Teachers Center.
2) Convert 8 classrooms to computer labs.

Structural

1) Provide additional support as required to receive new mechanical equipment on roof areas.

Exterior Closure

1) Spot repairs of roof and parapet.

Interior Construction

1) Paint the corridor walls on all levels.
2) Remove carpet in corridors on all levels and replace with vinyl composition tile.
3) Paint all classroom walls on all levels.
4) Remaining Classroom ceilings (those not affected by the wall functions) shall be painted.
5) Remove carpet and replace with vinyl composition tile in classrooms on all levels.
6) Renovate public and faculty toilets to provide ADA compliant fixtures and spaces. Toilets walls are to be painted, drywall ceilings installed & painted and new ceramic floor tile provided.
7) Provide stainless steel partitions and accessories.
8) Remove carpet in Dining Area and replace with vinyl composition tile.
9) Distribute 1200 new lockers along one side of corridors.

Mechanical

1) Make-up and exhaust air system to meet fresh air requirements of code.
2) New air conditioning provided at levels 2 & 3 of the central core including all Computer Labs and the Little Theater.
3) Replace all fiberglass supply and return air duct with metal duct.

Electrical

1) Replace or replace all existing classroom lighting to meet current illumination and energy standards.
2) Repair or replace, as required, clock units which are inoperative. Provide new clock units in "found" classrooms.
3) Provide new alarm system conforming with current code requirements.
4) Provide emergency lighting to conform with code requirements.
5) Provide new security system.

Plumbing

1) Reuse existing toilets reconfigured as required to provide ADA compliant layouts.
2) Existing plumbing lines and stacks to be reused as much as possible. Repair existing drinking fountains

Project Scope Summary
Library/Technology Center
Lowell High School
Lowell, Massachusetts

Programing

1) Provide Library/Technology Center to be located at the south end of the 1980 Building. The Center consisting of both new and renovated space includes stack areas, a Library Instructional Center, an Interactive Learning Center, Multimedia Production Areas, a TV Studio and support areas.

Site

1) Existing dock area will remain, but will be a covered dock area when the new Technology Center is added to level 2 & 3 above the dock area.
2) Existing truck turning radiuses will be maintained.

Structural

1) As required to meet current code structural standards and seismic requirements.

Exterior Closure

1) Exterior wall will be clad in brick to match the brown color brick currently on the 1980 Building.

Interior Construction

1) Metal stud and drywall partitions in the library area.
2) Acoustic separation of TV studio and multi-media areas will be provided.

Mechanical

1) Make-up and exhaust air system to meet fresh air requirements of code.
2) Air conditioning will be provided throughout the Technology Center.

Electrical

1) Lighting to meet current illumination and energy standards.
2) Power requirements for HVAC and High-Tech system.
3) Extend the current master clock system.
4) Provide fire alarm system conforming with current code requirements.
5) Provide emergency lighting to conform with code requirements.
6) Provide new security system.

Plumbing

1) New staff toilets in Library area.

Project Scope Summary
Pedestrian Bridge
Lowell High School
Lowell, Massachusetts

Programing

1) Provide Level 2 pedestian bridge over the canal between the 1980 Building and the 1922 Building.
2) Exterior appearance will be compatable with the existing pedestrian bridge.
3) Provide tinted glass and mechanical ventilation
4) Potential Alternate: Grade level bridge to be reviewed. Interface with trolly car has not been finalized at this time. The trolly tracks would likely need to be raised to walkway level with the potential of significant cost impact. Cost impact and acceptance by historical review board to be studied and recommendation forthcoming.

The City of Lowell • Dept. of Planning and Development • Division of Development Services
Lowell City Hall • 375 Merrimack Street • Lowell, MA 01852
P: 978.674.4144 • F: 978.446.7103
www.LowellMA.gov

Diane N. Tradd
DPD Director

R. Eric Slagle
Director of Development Services

Shaun Shanahan
Building Commissioner

10/8/15

Lowell High School
1922 Building
50 Father Morissette Blvd.
Contact: Alan Sayer
asayer@lowell.k12.ma.us

Lowell High School
1980 Building
50 Father Morissette Blvd.
Contact: Alan Sayer
asayer@lowell.k12.ma.us

This report is in two parts; the first being the 1922 Building and the second part being the 1980 Building.

Issues discovered during inspection by Building Inspector Nelson Miller on 10/7/15:

Part One

Critical Violations:

1. **780 CMR IBC Chapter 9:** Entire automatic fire suppression sprinkler system is not operating in Coburn Hall.

Building Code Violations:

Violations noted on all stories:

1. **780 CMR IBC §1503:** Roof has multiple leaks and sections of roofing un-adhered. Verify source of leak and repair especially (but not limited to) the following:
    a. Roof above restaurant is leaking in several locations
2. **780 CMR IBC §808:** Ceiling tiles throughout building.
3. **248 CMR Plumbing Code:** Leaks in steam heating system. Potential burn hazard and loss of minimum temperature as per **780 CMR IBC §1204** and **IMC §309.1**

Level "0":

1. **780 CMR IBC §709.4:** Wall continuity damaged and possible fire separation lost due to holes in walls. These holes shall be repaired with like material to restore separation and continuity. The deficiencies are in the following places but not limited to:
    a. Room 027
    b. Electric / Fire Control Room
2. **780 CMR IBC §102.8:** Where egress door crash hardware is missing it shall be replaced in all areas including but not limited to:
    a. Sprinkler room number 023.
    b. Sprinkler pump room.
    c. Electric / Fire Control Room
3. **780 CMR IBC §715:** Exit doors at stairwell "C" in disrepair.
4. **780 CMR IMC Chapter 5:** Exhaust fans in restaurant do not work.
5. **780 CMR IMC §102.3:** Heat unit in restaurant does not work and panel will not shut.
6. **780 CMR IBC §715.4.8:** Fire doors throughout this story broken, malfunctioning, impeded or otherwise non-functional.
7. **527 CMR §12.00, NFPA 70 §620.4:** Elevator room is missing a cover over the elevator control panel.

Level 100:

1. **527 CMR §12.00, NFPA §406.5 (G):** Light fixture (outlet) broken a canal side exit.
2. **780 CMR IBC §102.8:** Where existing auditorium chairs are broken, malfunctioning or unsafe for continued use, they shall be repaired or replaced.
3. **780 CMR IBC §709.4:** Boys' bathroom has holes in the wall near the urinals.

Level 200:

1. **780 CMR IECC §C402.3:** Gaskets failing on arched windows in stairwell and is appears to reduce or eliminate the required energy efficiency of the window.

Level 300:

1. **780 CMR IBC §808:** Ceiling tiles throughout building.
2. **527 CMR §12.00, NFPA §406.5 (G):** Light fixtures (outlets) missing or broken throughout this story.
3. **780 CMR IBC §1006.3 and §1011:** Coburn Hall attic is missing emergency lights and exit signs from occupied areas to exit access doors.
4. **780 CMR IBC §1012 and §1013:** Stairwell "G" has multiple locations where the metal frame rails and/or guards are deteriorated and failing.

Maintenance Issues:

1. Floor tiles missing throughout building on all stories.

Issues discovered during inspection by Building Inspectors Paul Winchester and Nelson Miller on 10/6/15:

Part Two

Critical Violations:

1. **105 CMR 410.000:** Beehive in exterior wall of room 629 shall be removed

Violations noted on all stories:

1. **780 CMR IBC §1503:** Roof has multiple leaks and sections of roofing un-adhered from underlayment. Verify source of leak(s) and repair especially (but not limited to) the following areas:
    a. Roof above restaurant is leaking in several locations
2. **780 CMR IBC §808:** Ceiling tiles throughout building missing or in disrepair.
3. **248 CMR Plumbing Code:** Leaks in steam heating system. Potential burn hazard and loss of minimum temperature as per **780 CMR IBC §1204** and **IMC §309.1** and suspected loss of required efficiency per **IECC §101.4.1**
4. **780 CMR IBC §715.4.8:** All interior corridor fire doors inoperative, malfunctioning, have damaged hardware or are otherwise in disrepair.

First Floor:

1. **780 CMR IBC §1011:** Exit sign broken at boys' locker room.
2. **780 CMR IBC §1006.3:** Emergency lights needed in room beneath pool to illuminate path from occupied spaces to exit access door(s).
3. **780 CMR IBC §709.4:** Wall removed for ductwork outside pool entrance needs to be fixed.
4. **527 CMR §12.00, NFPA 70 §110.32:** Blocked electric panels in dry storage room (kitchen).
5. **527 CMR §12.00, NFPA §230.27 & §300:** Exterior electrical conduit attached to bridge is broken.
6. **527 CMR §12.00, NFPA §406.5:** Electric termination box missing protective cover in Galley Kitchen.
7. **780 CMR IBC §102.8:** Where egress door crash hardware is missing it shall be replaced in all areas including but not limited to:
    a. Electric room(s).
    b. Exit door in main electric room.

Second Floor:

1. **780 CMR IBC §1008.1.9:** Exit doors malfunctioning, doesn't close correctly or otherwise in disrepair in the following locations but not limited to these locations:
    a. Outside Little Theater (canal side)
    b. All exit doors from Gymnasium are broken
2. **780 CMR IBC §1011.2:** Exit light outside Little Theater (canal side) non-functional or inoperative under emergency conditions.
3. **780 CMR IMC §102.3:** Thermostat covers missing throughout building. Where missing, subject to tampering or impact damage, protective covering shall be restored or installed.

Third Floor:

1. **780 CMR IBC §1008.1.10:** Electric room exit doors appear to be installed without the benefit of permits and as installed are swinging the incorrect direction. These doors are required to be installed to swing in the direction of travel if the equipment inside the room is ≥1200 amperes.
2. **780 CMR IBC §2604.2:** Sound proofing material TV Studio does not appear to meet or exceed the flame spread index per this section of code. Provide documentation proving compliance.
3. **780 CMR IBC §1503:** Roof has multiple leaks and sections of roofing un-adhered. Verify source of leak and repair.

Maintenance Issues:

- Current elevator certification needed
- Treads are missing from stairs in staircase #1

Consequently, it is the position of this office that this property must undergo the following in order to assure that general health and life safety has been restored.

- Permits shall be obtained to affect repairs from this office as required per 780 CMR IBC Chapter 1.
- A licensed building contractor shall obtain the required permits
- A licensed electrical contractor shall obtain a permit should repair be required to the service panels and means of disconnect

Please note that this report deals with plainly visible issues and makes no assertions that additional code violation(s) are not present. Compliance with Local Zoning and City Ordinances is not considered in this report.

Regards,

Shaun Shanahan/CBO

Christopher McWhite, HCO, Plans Examiner/Local Inspector
Cc: Shaun Shanahan, CBO, City of Lowell Building Commissioner
Doug Collupy, City of Lowell, Inspector of Wires
Norman Card, City of Lowell, Plumbing and Gas Inspector
David Ouellette, City of Lowell Sr. Health Official
Brian Curley, City of Lowell Operations Director

LOWELL CULTURAL RESOURCES INVENTORY

IDENTIFICATION 30 KIRK STREET — MAP SHEET # 7

1) CURRENT OWNER Lowell School Department — OWNER OCCUPIED yes

2) HISTORIC NAME Lowell High School

3) CURRENT NAME same

4) PROPERTY TYPE school — 5) ZONING CLASSIFICATION B3

6) TAXES: PAYMENTS exempt — STATUS clear

7) WITHIN BOUNDARIES OF LNHP, LHPD, City Hall HD

HISTORICAL ABSTRACT

1) CONSTRUCTION DATE 1892-1922

SOURCE documented: cornerstone

2) ARCHITECT OR BUILDER F. W. Stickney & W. D. Austin 1917-1920 Henry Rourke

3) HISTORIC OWNER High School

4) ORIGINAL USE: GF school — UF school

5) PREVIOUS BLDGS ON PROPERTY yes — DATE ca. 1840-1922

SOURCE circumstantial: maps

DESCRIPTIVE DATA

1) ARCHITECTURAL STYLE
Renaissance Revival

2) PRESENT USE:
GF school
UF school

3) NO OF STORIES 3 w/base.

4) PROP SQ FT 100,627

5) PLAN w/projections rectangular

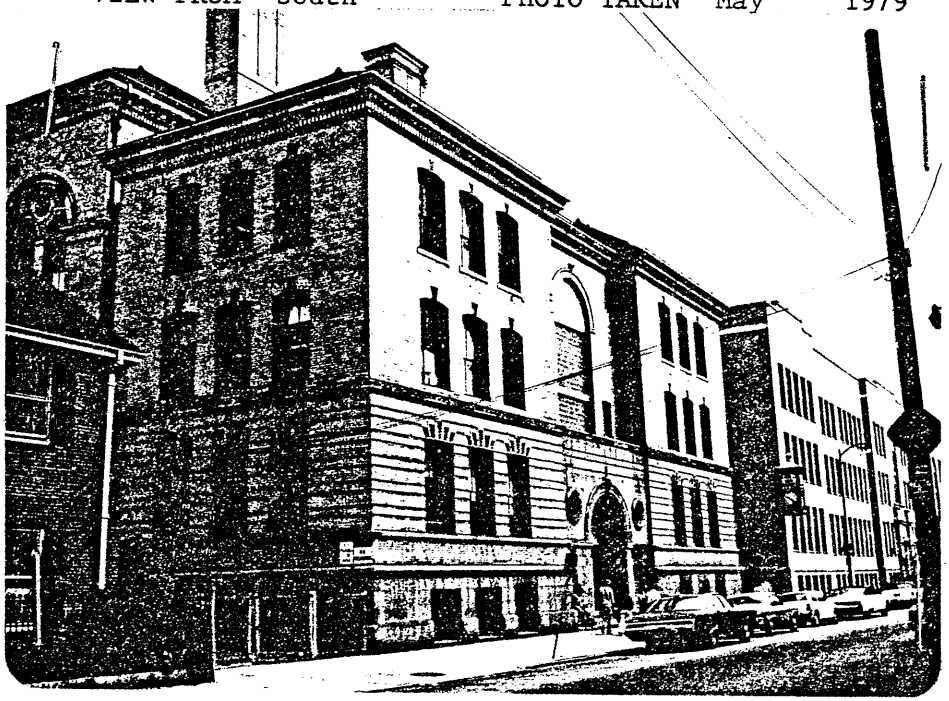
6) ROOF flat & hip

7) STRUCTURAL SYSTEM
load-bearing masonry

8) OUTBUILDINGS
none

9) MATERIALS:
FOUNDATION
granite

VIEW FROM south PHOTO TAKEN May 1979



FACADE all sides: yellow brick in stretcher bond (except north facade); basement granite

TRIM terra cotta

10) NOTABLE SURFACE & LANDSCAPE ELEMENTS benches; lawn to canal; mature trees; clocks

ADDRESS 30 KIRK STREET

VISUAL ASSESSMENT

1) CONDITION OF BUILDING FABRIC good

2) IF DETERIORATED, CAUSES n/a

3) INTEGRITY OF HISTORIC BLDG FABRIC: GF intact original fabric
UF intact with minor changes

4) SURROUNDING LAND USES canal frontage, commercial, residential, recreational, inst.

5) INTEGRITY OF PROP'S HIST SETTING intact with minor intrusions and or losses

6) IMPORTANCE OF PROP TO HIST SETTING focal point in area

ADDITIONAL DESCRIPTION

Lowell High School is three stories in height, over two blocks long, and one block wide. It is one of the largest complexes of connected buildings in the town other than the mills, and it stands out because it is faced in yellow brick, rather than the more familiar red brick of Lowell. (The north wall of the school, the least prominent side, is the exception, as it is faced in red brick.) The original building (at the southwest end of the present complex) rises like a pyramid to a central hip roof and is richly detailed in the Renaissance Revival style. Features include granite and terra cotta trim, symmetrical and identical east and west facades, and a lively complex of hipped and single-pitched roofs with four huge chimneys. The addition is approximately four times as long as the original building. A series of projecting and recessed blocks and stepped parapets relieve its seemingly endless span. The addition is compatible with the original in height, materials, scale, and style. Its simplicity repects the visual interest of the older building.

Main features of the Kirk Street and canal facades of the original building include the central entrance pavilion flanked by projecting end pavilions. The central entrance portico is one-story high with a round-headed arch and a bull's eye window to each side. Over the portico is another large round arch enframing the second and third floor windows. Each end pavilion has three bays of windows, square at the basement and first floor, and segmental-arched above.

The south facade is surprising in that it is at once the liveliest and the least visible. A one-story five-sided bay marks its center and is topped with an iron railing. On the second floor are segmental-arched windows. On the third floor of the central block are five very tall round-arched windows, beautifully framed in terra cotta tracery (which open to Colburn Hall). The end pavilions project south with three window bays each, and the central block rises above them.

The surface texture of the original building begins with a granite basement and rusticated banding on the first floor. First, second, and third floor windows have terra cotta keystones and voissoirs. All terra cotta trim is classical in design, bold and crisp, including the cornice and a stringcourse above the first floor.

The addition is joined to the original building by three-story passages along the Kirk and canal facades, each two bays long with round-arched doors and upper windows. The addition repeats the arch motif of each central pavilion of the original building, with two sets of arches on each long facade. The addition is 39 window and entrance bays long. Flat decoration is in brick and terra cotta. The north facade, on French, is red brick . It is symmetrical with a large central projecting one-story entrance block. Paved parking extends from the building to the sidewalk along French.

Other exterior features of the high school include two clocks, one a handsome three-faced projecting bronze and glass mechanism mounted on the Kirk wall. The other is a simple modern two-faced clock on the canal side. Lucy Larcom Park, which fronts Merrimack Canal from French to Merrimack streets, replaces an early street (Anne Street) and provides a welcome downtown greenbelt with benches and mature trees.

ADDITIONAL HISTORICAL INFORMATION

The first Lowell City High School opened in December 1831, acclaimed as the first permanent co-educational high school in Massachusetts. After various temporary locations, a permanent school was built at Kirk and Anne Streets in 1840, on the site of the old portion of the present high school. The first diplomas were given out in 1858. Before that, the institution was criticized for being little more than an extension of grammar school. The building was reconstructed in 1867.

The original part of the present high school bears an inscription on its granite base with the date 1892; F. W. Stickney and W. D. Austin, Architects; Richard Bray, Superintendent of Public Buildings; and the names of the mayor and Lands and Building Committee members. A 1900 history (Lowell, A City of Spindles) reports that the building had 20 rooms, 27 teachers, and approximately 800 students. A sketch printed in 1893 (Fig. 1) shows the artist's rendition of the building in the Victorian mode, perhaps from a preliminary design by the architects. The photo ca. 1911 (Fig.2) shows the high school as it was built. It appears much as now, although the classical balustrade over each main entrance has disappeared.

Frederick W. Stickney was a native of Lowell who studied at Massachusetts Institute of Technology and apprenticed with architects Hartwell and Swazey, H. H. Richardson, and Henry Van Brunt in Boston. He later maintained an office there as well as in Lowell. His other local work included the First National Bank, Swan Building, Cook and Taylor's Building, Hoyt and Shedd's on Church Street, and Lamson Cash Railway Company's "new mill." He also worked in the greater Boston area, in Syracuse, New York, Cincinnati, Topeka, and Chicago (1).

The addition took two-and-a-half years to build, according to the report in City Documents of 1922-1923, and was first occupied in September of that school year. The date 1920 appears on the first floor stringcourse. With the exception of some minor window modification in the arches, the large structure appears to have maintained its original design.

The old high school of 1840 appears to have been the first structure to occupy any of the present site all the way to French Street, but by 1850 the land was virtually all built up, reflecting Locks and Canals great land sale of the mid-1840s. Structures then included several row houses along Kirk, and houses on Anne Street owned by individuals such as G. H. Carleton, Dr. Pillsbury, J. M. Marston, and others. One structure on Anne Street near mid-block (presumably also a house) belonged to Lowell Machine Shop from 1850 through 1896. At the corner of Kirk and French Streets was the Kirk Street Congregational Church.

The Kirk Street Congregational Church was built in 1846 at a cost of almost $23,000 (Fig. 3). The prosperous church was organized in 1845, 14th among all churches and fourth among Congregational churches in Lowell. In 1872 a six-foot deep addition was built at the front. As enlarged, the building was in the modified classical temple form with an elegant front facade and refined detailing (Fig. 4 and 5). A fire in 1881 did some damage to the roof and interior, but repairs were made. The Kirk Street Church merged with the Eliot Church in 1919 to form the United Eliot Church which, by 1920, occupied a site at the corner of Summer and Favor streets facing South Common.

Footnote

1) Industries and Wealth of Middlesex County, 1889, p.194.

Other Sources

Annual Report of the Lowell Public Schools, 1920.

City documents of 1922-1923.

Lowell, A City of Spindles.

History of Middlesex County, Mass., v. II (Hurd).

Illustrated History of Lowell, Mass., (Courier-Citizen)

Lowell city maps and atlases.

Lowell city directories.

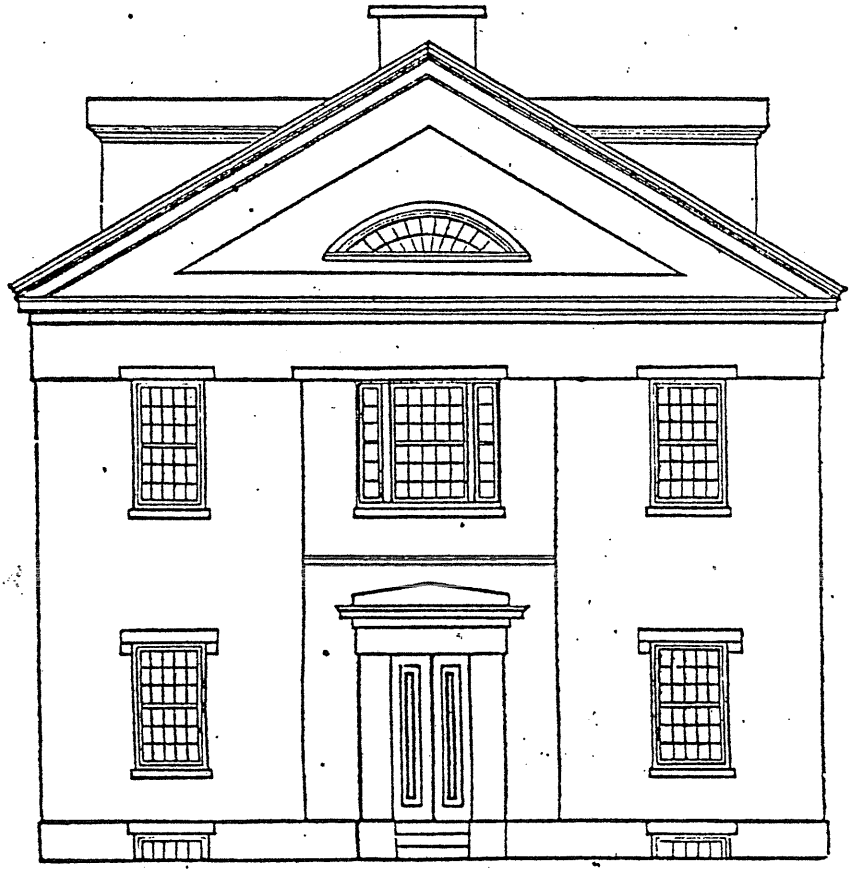
U. of Lowell photo files.

ARCHEOLOGICAL COMMENT

Lowell High School occupies most of its present site. Intact remains from previous buildings appear unlikely except, perhaps, along French Street where there is now a paved parking area.

Plans, &c. of High-School, Lowell.

Fig. 1.—End Elevation.



The house stands in the centre of a lot extending from Ann to Kirk street, furnishing separate entrances, yard, and play-ground for each sex.

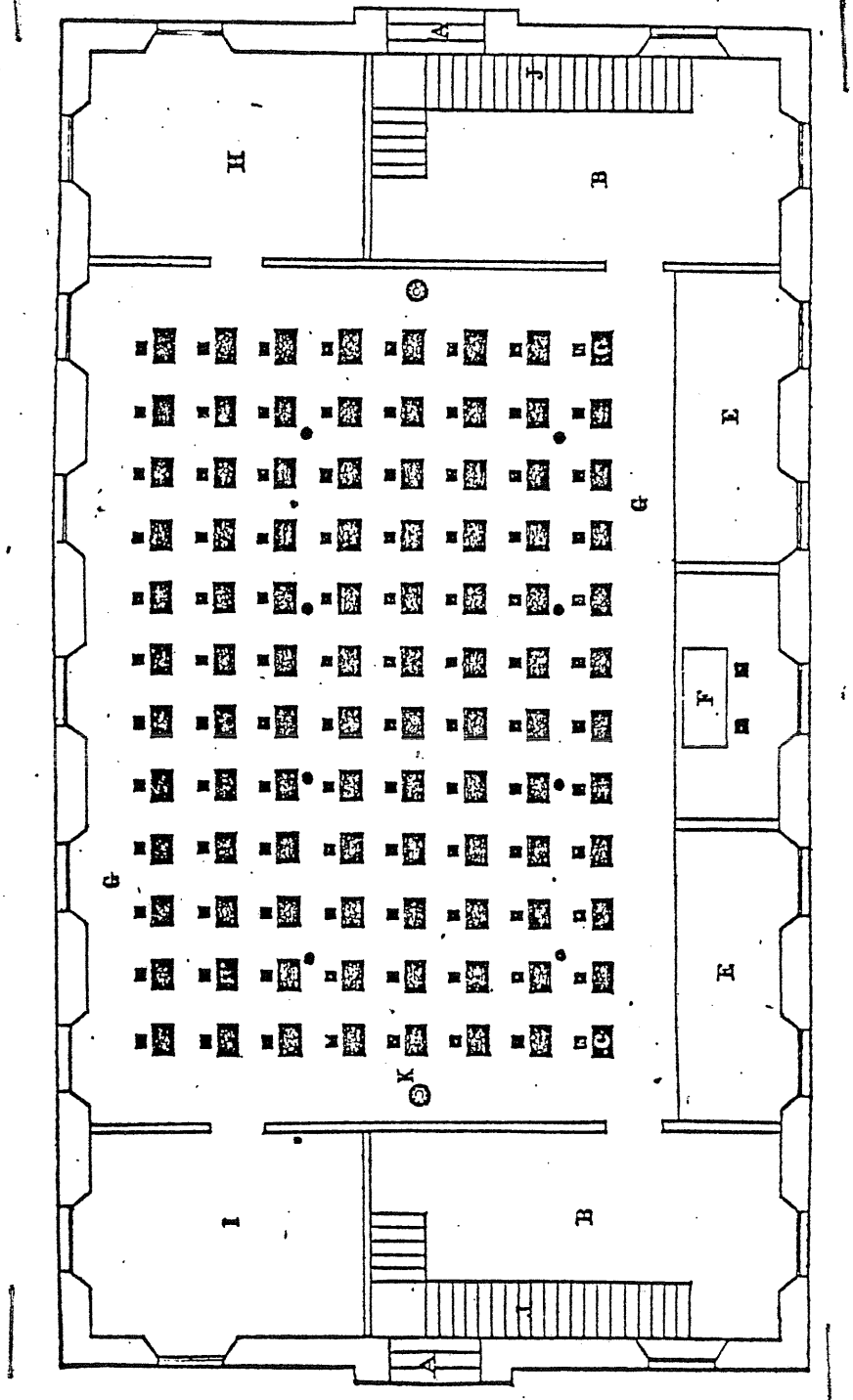
The house is of brick, 84 feet by 48, with two stories, each 14½ feet in the clear, one for the male and the other for the female department, and an attic, which is arched and fitted up for a writing department.

A, A, entrances at the ends. B, B, entries, provided with hooks, &c. for hats, bonnets, and outer garments. Cb, Cb, single desks and seats. E, E, Teacher's platform, 6½ feet wide, raised 6 inches above the floor. F, Teacher's desk. G, G, aisles, nearly 4 feet in width, all around the school-room. H, room for library, apparatus, &c., 18½ by 12½ feet. I, recitation-room, 18½ by 12½ feet. J, J, stairways to the second story. K, hot air pipe from furnace.

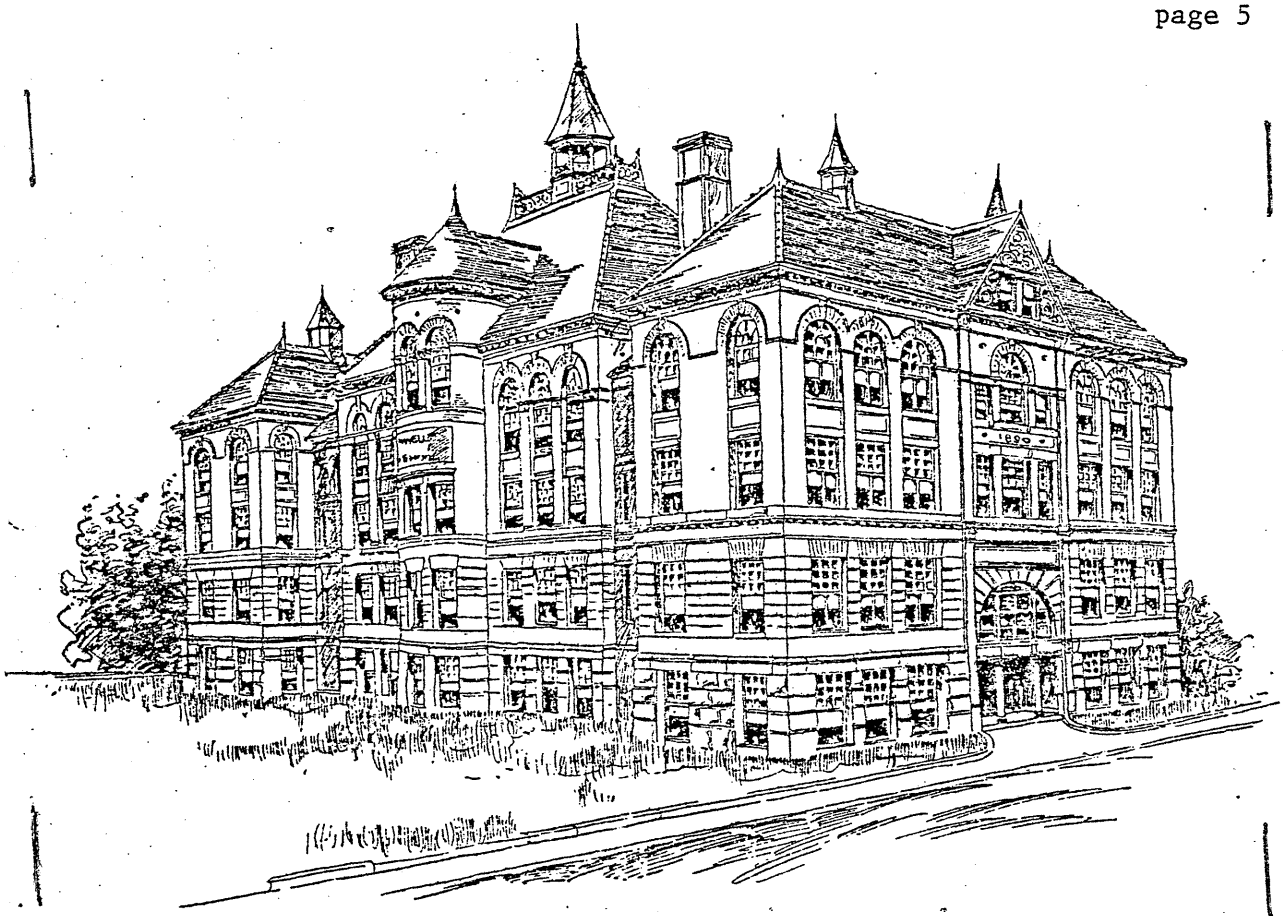
The rooms are heated by furnaces in the cellar, and ventilated by four openings in the ceiling, 8 inches by 16, which are carried out in flues built for this purpose in the chimneys. Each pupil has an area on the floor of more than 14 square feet.

Elevation of the original High School on the Kirk Street site, built 1840. From Henry Bernard's School Architecture, 3rd ed., 1849, p. 112.

Fig. 2.—Lower School Room.



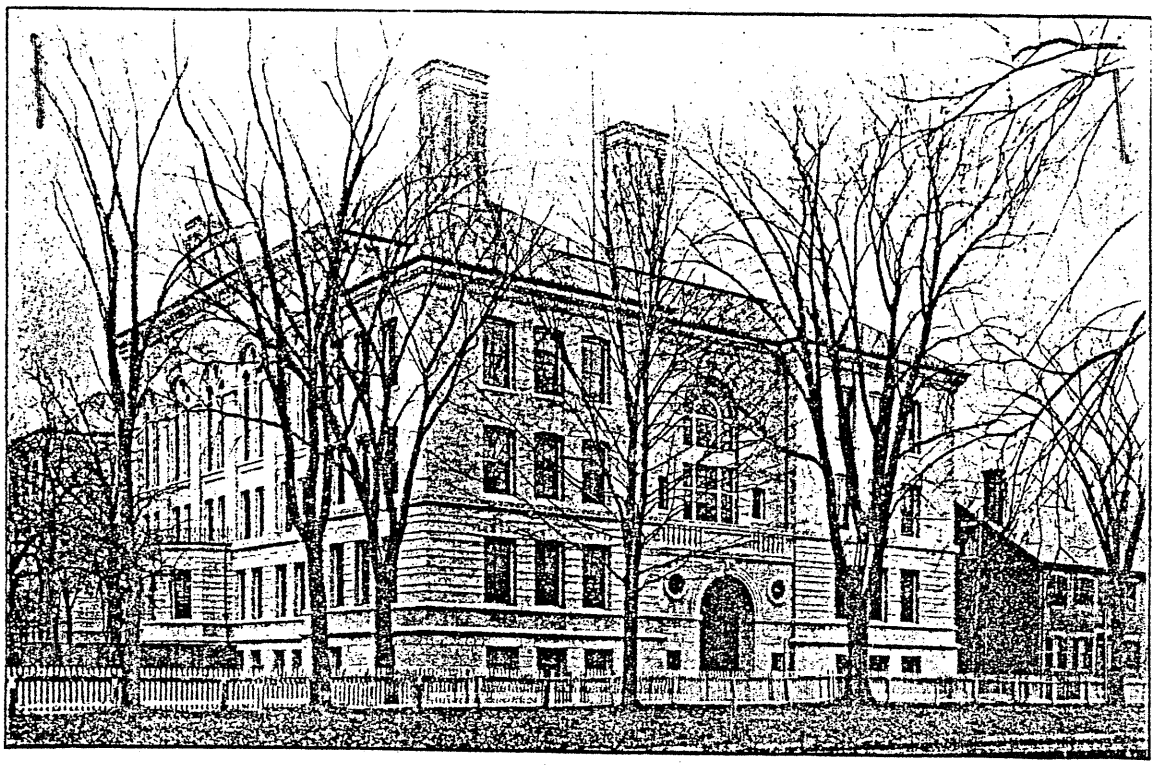
Ground floor plan of the original High School on Kirk Street, built 1840. From Bernard, School Architecture, 3rd ed., 1849, p. 113.



NEW HIGH SCHOOL BUILDING.

Figure 1

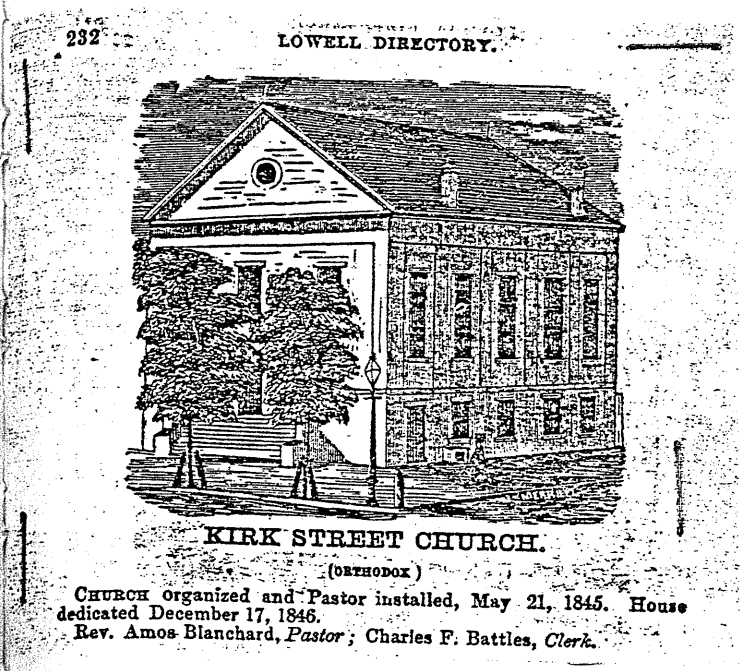
Lowell and Vicinity of Today, 1893.



LOWELL HIGH SCHOOL

Figure 2

Lowell Board of Trade Yearbooks, 1911-12, p.58.



232 LOWELL DIRECTORY.

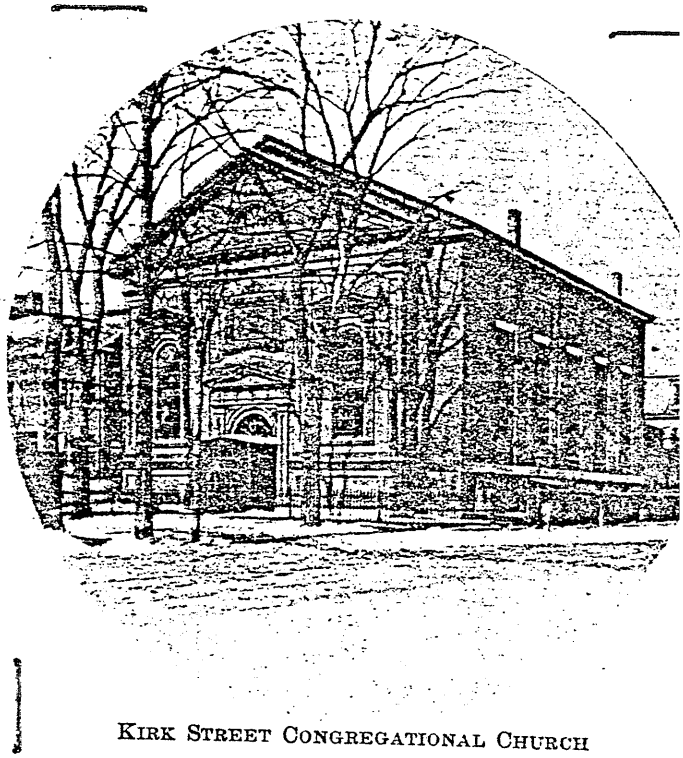
KIRK STREET CHURCH.

(ORTHODOX)

CHURCH organized and Pastor installed, May 21, 1845. House dedicated December 17, 1846.
Rev. Amos Blanchard, *Pastor*; Charles F. Battles, *Clerk*.

Figure 3

Lowell Directory, 1855, p. 232.



KIRK STREET CONGREGATIONAL CHURCH

Figure 4

Lowell Board of Trade Manual, 1905, opposite page 72.

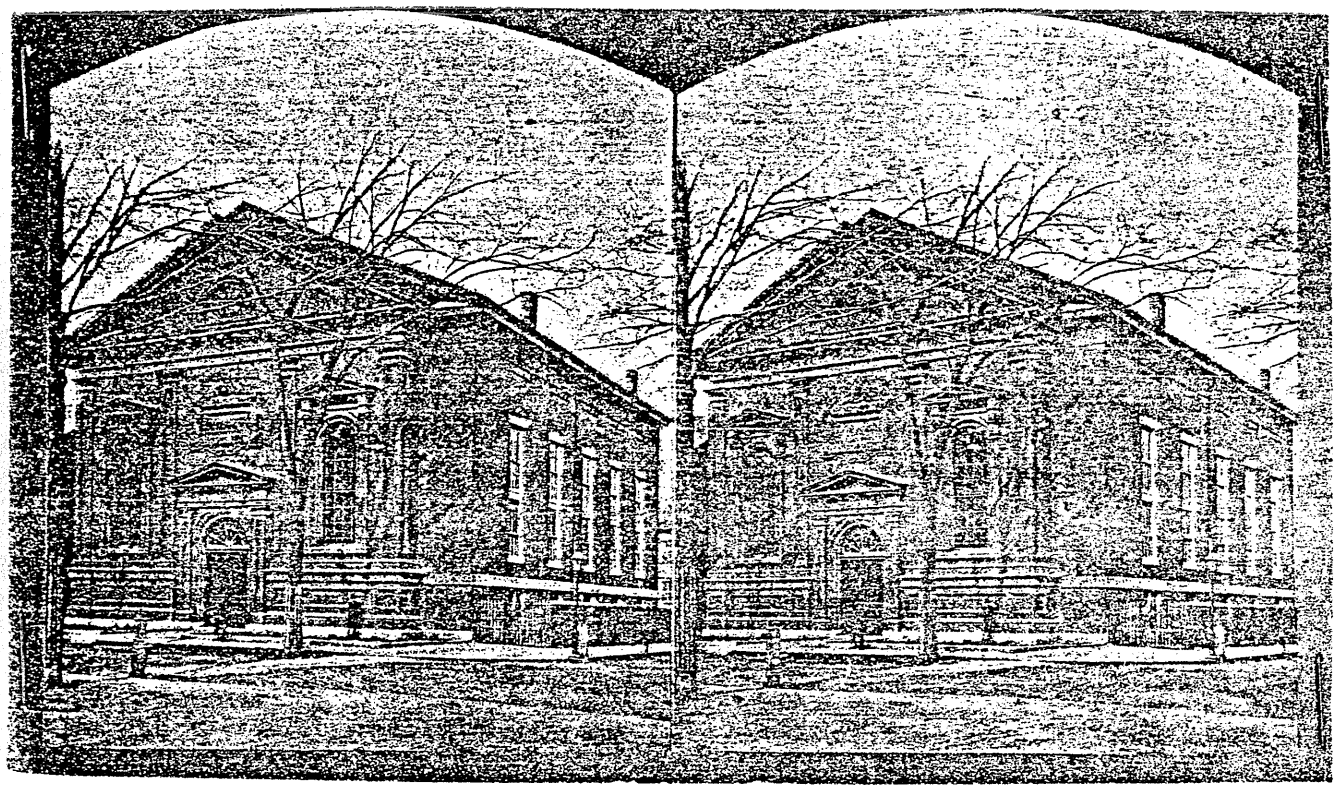


Figure 5

Photograph by L. C. Churchill, 245 Merrimack Street, Lowell.
U. of Lowell Library, Special Collections, photo file.

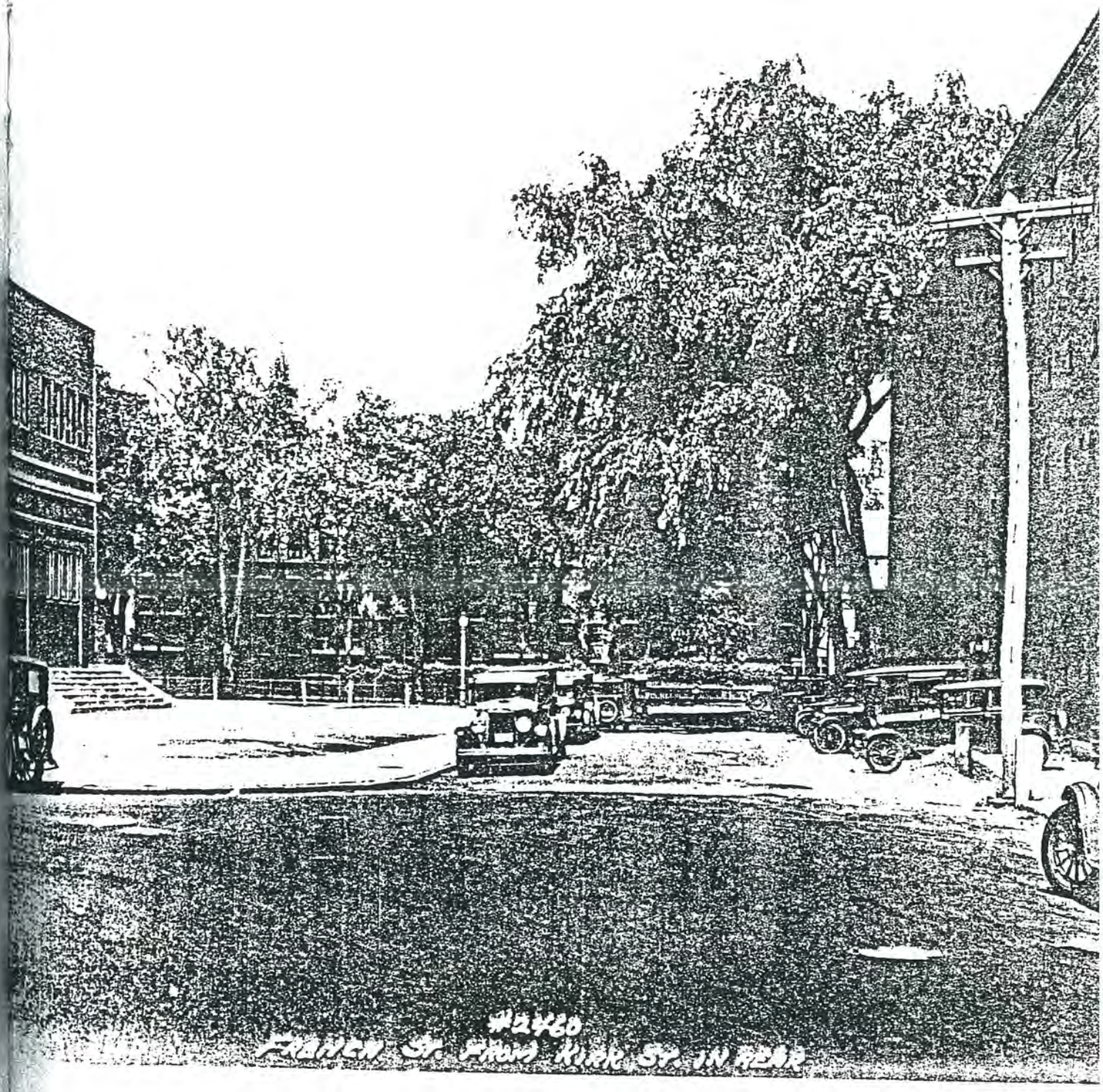


Figure 6

View from southeast along French Street, showing High School at left and a Merrimack Company storehouse at right.

U. of Lowell Library, Special Collections, Locks & Canals photo file #2460.

LOWELL CULTURAL RESOURCES INVENTORY

IDENTIFICATION 64 JOHN STREET MAP SHEET # 7

1) CURRENT OWNER City of Lowell OWNER OCCUPIED yes

2) HISTORIC NAME Lowell High School, Commercial and Manual Training Dept.

3) CURRENT NAME Lowell Trade High School

4) PROPERTY TYPE school 5) ZONING CLASSIFICATION B3

6) TAXES: PAYMENTS exempt STATUS clear

7) WITHIN BOUNDARIES OF LHPD

HISTORICAL ABSTRACT

1) CONSTRUCTION DATE 1900

SOURCE document: building plaque

2) ARCHITECT OR BUILDER Harry Prescott Groves

3) HISTORIC OWNER City of Lowell

4) ORIGINAL USE: GF school UF school

5) PREVIOUS BLDGS ON PROPERTY yes DATE ca. 1833-1879

SOURCE

DESCRIPTIVE DATA

1) ARCHITECTURAL STYLE
Renaissance Revival

2) PRESENT USE:
GF school
UF school

3) NO OF STORIES 3

4) PROP SQ FT 57,312

5) PLAN rectangular

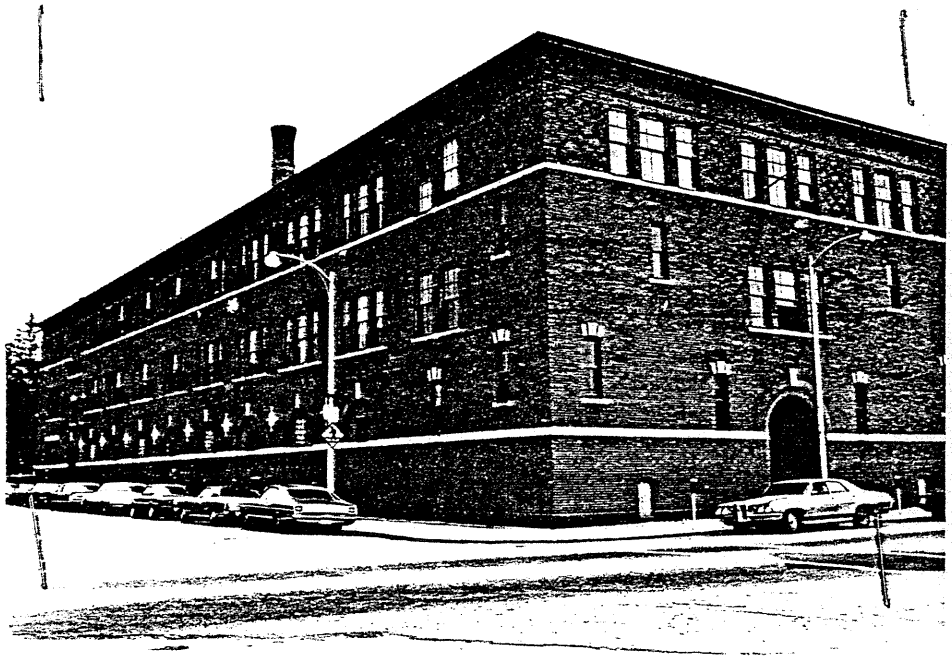
6) ROOF flat

7) STRUCTURAL SYSTEM
load-bearing masonry

8) OUTBUILDINGS
none

9) MATERIALS:
FOUNDATION
granite

VIEW FROM southwest PHOTO TAKEN May 1979



FACADE all sides: red brick common bond with Flemish variation (7/1)

TRIM metal cornice, granite sills and sill courses

10) NOTABLE SURFACE & LANDSCAPE ELEMENTS none

ADDRESS 64 JOHN STREET

VISUAL ASSESSMENT

1) CONDITION OF BUILDING FABRIC needs minor repair

2) IF DETERIORATED, CAUSES lack of maintenance

3) INTEGRITY OF HISTORIC BLDG FABRIC: GF intact original fabric

UF intact original fabric

4) SURROUNDING LAND USES commercial, industrial, residential, institutional

5) INTEGRITY OF PROP'S HIST SETTING severly disrupted historic setting

6) IMPORTANCE OF PROP TO HIST SETTING focal point in area

ADDITIONAL DESCRIPTION

See Research Report.

ADDITIONAL HISTORICAL INFORMATION

See Research Report.

ARCHEOLOGICAL COMMENT

The two high school buildings and the power plant cover large areas. Their masonry construction (with full basements in the school buildings) would make the possibility of finding in-place subsurface historical materials highly unlikely. Although there may be more likelihood of finds in the parking area, there is no surface indication of such materials.

LOWELL CULTURAL RESOURCES INVENTORY

IDENTIFICATION 76 JOHN STREET (AND 43 FRENCH STREET) MAP SHEET # 7

1) CURRENT OWNER City of Lowell OWNER OCCUPIED yes

2) HISTORIC NAME Lowell High School Annex

3) CURRENT NAME same

4) PROPERTY TYPE school 5) ZONING CLASSIFICATION B3

6) TAXES: PAYMENTS exempt STATUS clear

7) WITHIN BOUNDARIES OF LHPD, City Hall HD

HISTORICAL ABSTRACT

1) CONSTRUCTION DATE 1939

SOURCE document: plaque

2) ARCHITECT OR BUILDER Harry Prescott Groves (architect)

3) HISTORIC OWNER City of Lowell

4) ORIGINAL USE: GF school UF school

5) PREVIOUS BLDGS ON PROPERTY yes DATE ca. 1840-1935

SOURCE circumstantial: 1841 map; atlases

DESCRIPTIVE DATA

1) ARCHITECTURAL STYLE
Utilitarian

2) PRESENT USE:
GF school
UF school

3) NO OF STORIES 2

4) PROP SQ FT see 64 John

5) PLAN rectangular

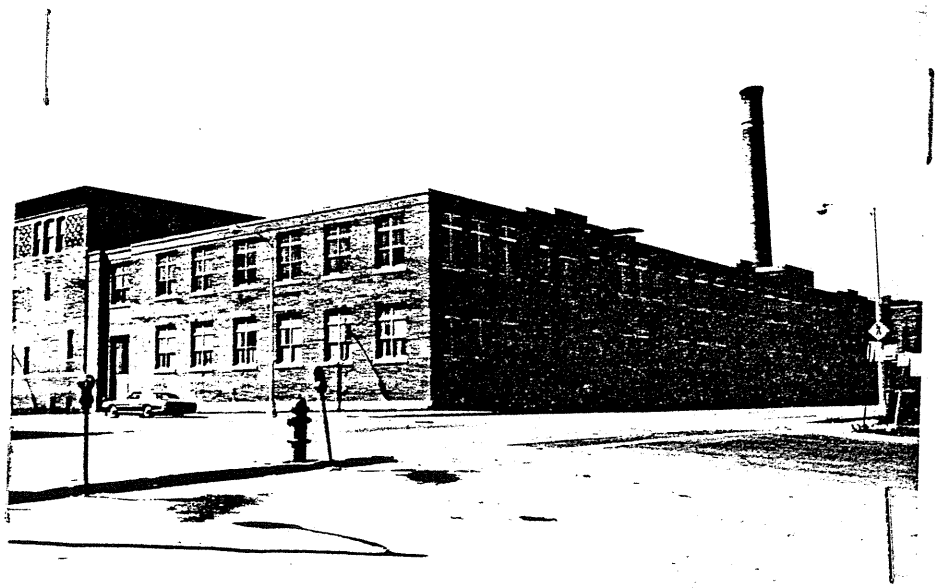
6) ROOF flat

7) STRUCTURAL SYSTEM
metal frame

8) OUTBUILDINGS
power house

9) MATERIALS:
FOUNDATION
not visible

VIEW FROM east PHOTO TAKEN Sept. 1979



FACADE all sides: red brick with common bond (5/1)

TRIM granite sills

10) NOTABLE SURFACE & LANDSCAPE ELEMENTS none

ADDRESS 76 JOHN STREET (AND 43 FRENCH STREET)

VISUAL ASSESSMENT

1) CONDITION OF BUILDING FABRIC needs minor repair
2) IF DETERIORATED, CAUSES lack of maintenance
3) INTEGRITY OF HISTORIC BLDG FABRIC: GF intact original fabric
   UF intact original fabric
4) SURROUNDING LAND USES commercial, industrial, residential, institutional
5) INTEGRITY OF PROP'S HIST SETTING moderately disrupted historic setting
6) IMPORTANCE OF PROP TO HIST SETTING compatible with character

ADDITIONAL DESCRIPTION

See Research Report.

ADDITIONAL HISTORICAL INFORMATION

See Research Report.

ARCHEOLOGICAL COMMENT

The two high school buildings and the power plant cover large areas. Their masonry construction (with full basements in the school buildings) would make the possibility of finding in-place subsurface historical materials highly unlikely. Although there may be more likelihood of finds in the parking area, there is no surface indication of such materials.

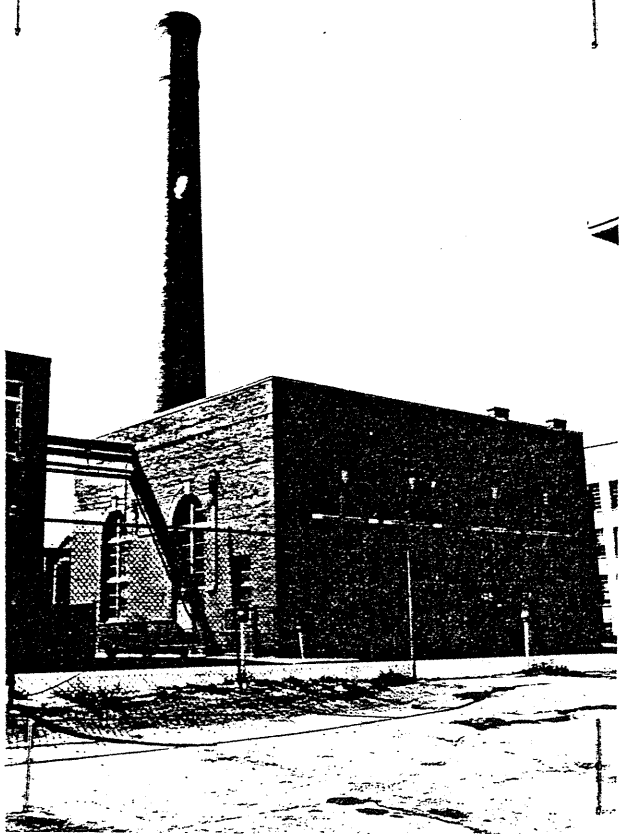


Photo taken: September, 1979

View from: northeast

LOWELL CULTURAL RESOURCES INVENTORY

IDENTIFICATION FRENCH STREET EXTENSION at ARCAND DRIVE MAP SHEET # 7

1) CURRENT OWNER City of Lowell OWNER OCCUPIED yes

2) HISTORIC NAME Site of Merrimack Manufacturing Co. housing

3) CURRENT NAME Lowell High School Annex (under construction)

4) PROPERTY TYPE school 5) ZONING CLASSIFICATION B2A

6) TAXES: PAYMENTS exempt STATUS clear

7) WITHIN BOUNDARIES OF LHPD - partially

HISTORICAL ABSTRACT

1) CONSTRUCTION DATE 1979

SOURCE under construction

2) ARCHITECT OR BUILDER Perley Gilbert Associates

3) HISTORIC OWNER City of Lowell (1960s)

4) ORIGINAL USE: GF under construction UF under construction

5) PREVIOUS BLDGS ON PROPERTY yes DATE ca. 1822 - ca. 1965

SOURCE documented: maps and atlases

DESCRIPTIVE DATA

1) ARCHITECTURAL STYLE
under construction

2) PRESENT USE:
GF school (under construction)
UF school (under construction)

3) NO OF STORIES 3

4) PROP SQ FT 143,248 partial

5) PLAN rectangular

6) ROOF flat

7) STRUCTURAL SYSTEM
metal frame

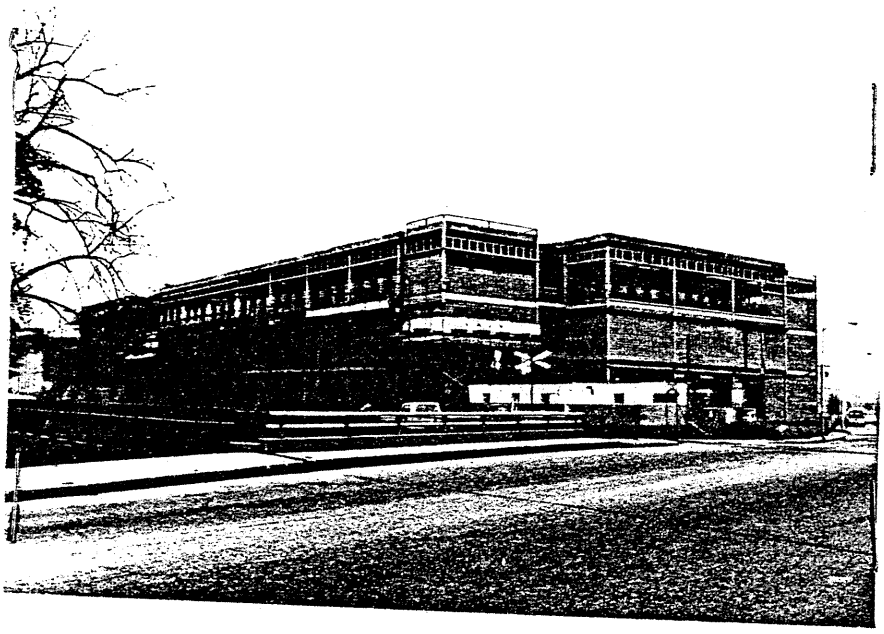
8) OUTBUILDINGS
none

9) MATERIALS:
FOUNDATION
concrete

FACADE under construction

TRIM under construction

VIEW FROM northeast PHOTO TAKEN Sept. 1979



10) NOTABLE SURFACE & LANDSCAPE ELEMENTS narrow park between school and canal.

ADDRESS FRENCH STREET EXTENSION at ARCAND DRIVE

VISUAL ASSESSMENT

1) CONDITION OF BUILDING FABRIC under construction

2) IF DETERIORATED, CAUSES n/a

3) INTEGRITY OF HISTORIC BLDG FABRIC: GF under construction

UF under construction

4) SURROUNDING LAND USES commercial, residential, institutional, railroad, expressway

5) INTEGRITY OF PROP'S HIST SETTING severely disrupted historic setting

6) IMPORTANCE OF PROP TO HIST SETTING character so disrupted, question not applicable

ADDITIONAL DESCRIPTION

See Photo.

ADDITIONAL HISTORICAL INFORMATION

The site of the new Lowell High School addition was occupied by boarding houses of the Merrimack Manufacturing Company from the early 1820s until the mid-1960s. Merrimack originally built both brick and wood frame houses, two-and-a-half stories tall. Most were double houses, though some contained four separate boarding-house units.

In the mid-1840s, several of these small houses were removed, and replaced along Dutton Street with the "New Block", a long, brick row house, three-and-a-half stories tall.

Much of the Merrimack's housing stood until the mid-1960s, when it was demolished in an urban renewal program. Only a portion of the housing site (in fact, only a portion of the new high school building) is included in the LHPD.

SOURCES

Maps and atlases.

John Coolidge, Mill and Mansion, 1942.

ADDRESS FRENCH STREET EXTENSION at ARCAND DRIVE

ARCHEOLOGICAL COMMENT

The large building under construction on this site must have eradicated any remains of previous structures or activities on the property. Robert Schuyler, an historical archeologist, now at the University of Pennsylvania, conducted excavations on part of this site a few years before the present construction began.

His findings, when published, will add to knowledge of the past use of this site, and enhance our understanding of Lowell boarding house life.

Research Report
64 John Street
Lowell Trade High School
1900
76 John St./43 French St
Lowell High School Annex
1939

The Trade High School and High School Annex are adjacent red brick rectangular boxes which, together, span the width of their block and two-thirds of its length.

The older building is three stories in height. It rests on a granite foundation. The basement windows have been blocked up. The first floor on Paige St. has a blind arcade, with small rectangular windows piercing the infill of most of the arches. The westmost (left) arch is open as an entryway. The arches have granite keystones, and a granite string-course extends along the whole arcade at the springline. The second and third story windows are segmentally arched and are grouped mainly in threes. Second story sills are granite, as are those on the third story. The latter are linked in a continuous sill course. Between the third floor windows the brick is laid in a raised latticework pattern.

The John Street facade repeats the round arch for its central entrance and the first floor stringcourse. There are scattered, but symmetrically placed, segmentally arched windows in the first and second stories. The third floor has the same sill course, latticework, and triplet windows that appear on Paige Street. The building has a dentilated brick cornice and a flat roof. A brownstone plaque in the John Street doorway reads:

AD MCM
Lowell High School
Commercial and Manual Training Department
Jeremiah Crowley, Mayor
Joseph S. Gillow
Superintendent of Public Buildings
Harry Prescott Groves, Architect

The Annex building on French Street is two stories in height, plus a set-back "penthouse" addition. Doors and windows are rectangular with granite sills set in regularly spaced bays. The long French Street facade has three entrance bays topped with stepped-up parapets. The end ones' entrances are emphasized with second story loft doors and projecting steel loft rigs. The structure has copper flashing and copper canopies on the roof, over skylights. Two bronze plaques on the French side explain that this building was constructed by the Federal Works Agency, in 1939, under President Franklin D. Roosevelt, for the City of Lowell. The architect for this second building also is listed as Harry Prescott Groves.

Pipes above the second floor of the Annex connect it to the power plant just west of the Annex. The plant, which supplies heat to the school, has four round-arched two-story bays on the north and south walls, three on the east and west walls. There is a separate free-standing chimney stack just south of the building. On the site east of the classroom buildings and south of the power plant is a paved parking lot surrounded by a chain link fence. There was a small building on the French Street side site by 1841, according to city maps. By 1850 the property belonged to the Boott and the Massachusetts Mills.

In the 1850's, Boott Mills erected a long boarding house row on the site now occupied by the High School Annex. Two 1929 photographs show the narrow John St. end (Fig.1) and the long French St. facade (Fig.2) of this brick structure.

The three story building faced the earlier Boott boarding houses across French St., and shared with them brick walls and granite trim, gable roofs set with dormers, and twin chimneys linked with parapets.

The Trade High School site apparently never contained any buildings more substantial than a large wooden shed, owned by Boott Mills. The shed is shown on the 1879 atlas. By 1896, the frame shed had been removed, and the site was designated for the school building.

According to the 1900 report of the Superintendent of Schools, construction began in 1899, originally for a one-story building. When it became clear that more space

was needed, the plans were altered, and the report of the Superintendent noted that the building suffered from the changes. The building was expected to be completed for full occupancy in 1901. The commercial program which it housed was introduced into the Lowell school system in 1900 (1).

Around the time the school building was completed, Boott Mills sold the adjacent boarding house to Saimen Sirk, a Boston realtor. That building stood until the High School Annex was constructed in the 1930s, as a Federal Works Agency project. The bronze plaque commemorating the 1930 Annex construction lists the same architect as the brownstone plaque on the 1900 Trade High School, Harry Prescott Groves.

The power house to the west of the Annex was built before 1939, for it is illustrated in a 1929 photograph of French Street (Fig. 2). Probably the power house was built along with the 1922 extension of the main High School building on Kirk Street.

None of these three buildings display major exterior changes, though some alterations to the oldest, the Trade High School, are apparent. Basement windows have been bricked up, first floor windows filled in to make smaller openings with glass blocks or ventilator screens. The recessed entrances also have been modified. On the west wall, a small one-story block has been added where the two school buildings meet. A 1973 article in the Lowell Sun announced that the physical education annex, in the basement of the girls' section of the Lowell Trade High School, would close as it was unable to comply with "minimum safety standards" (2).

The Trade High School, High School Annex, and High School power plant are handsome examples of functional institutional buildings. They form a link between the industrial buildings of Boott Mills, and the more richly decorated commercial structures of downtown Lowell. The schools also are representative of the city's efforts to teach skills useful to the students, and needed in the local economy.

Footnotes

1) Report of the Superintendent of Schools, Dec. 31, 1900 (Lowell, Mass.), pp. 37-38.

2) Lowell Sun, Feb. 26, 1973.

Other Sources

Lowell maps and atlases.

Lowell city directories.

U. of Lowell Library, Special Collections, Photo file.

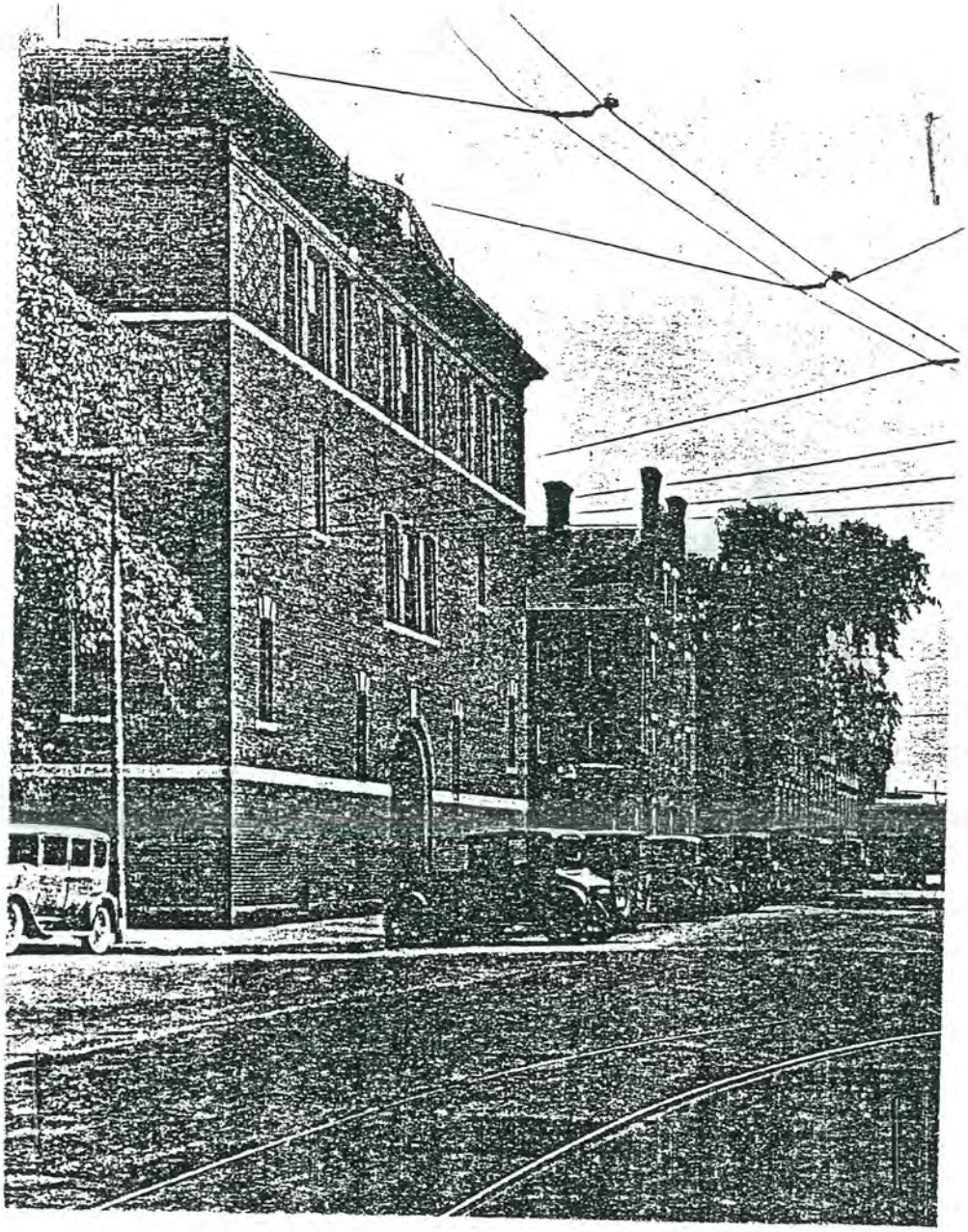


Figure 1

University of Lowell Library, Locks & Canals photo file, #2463.

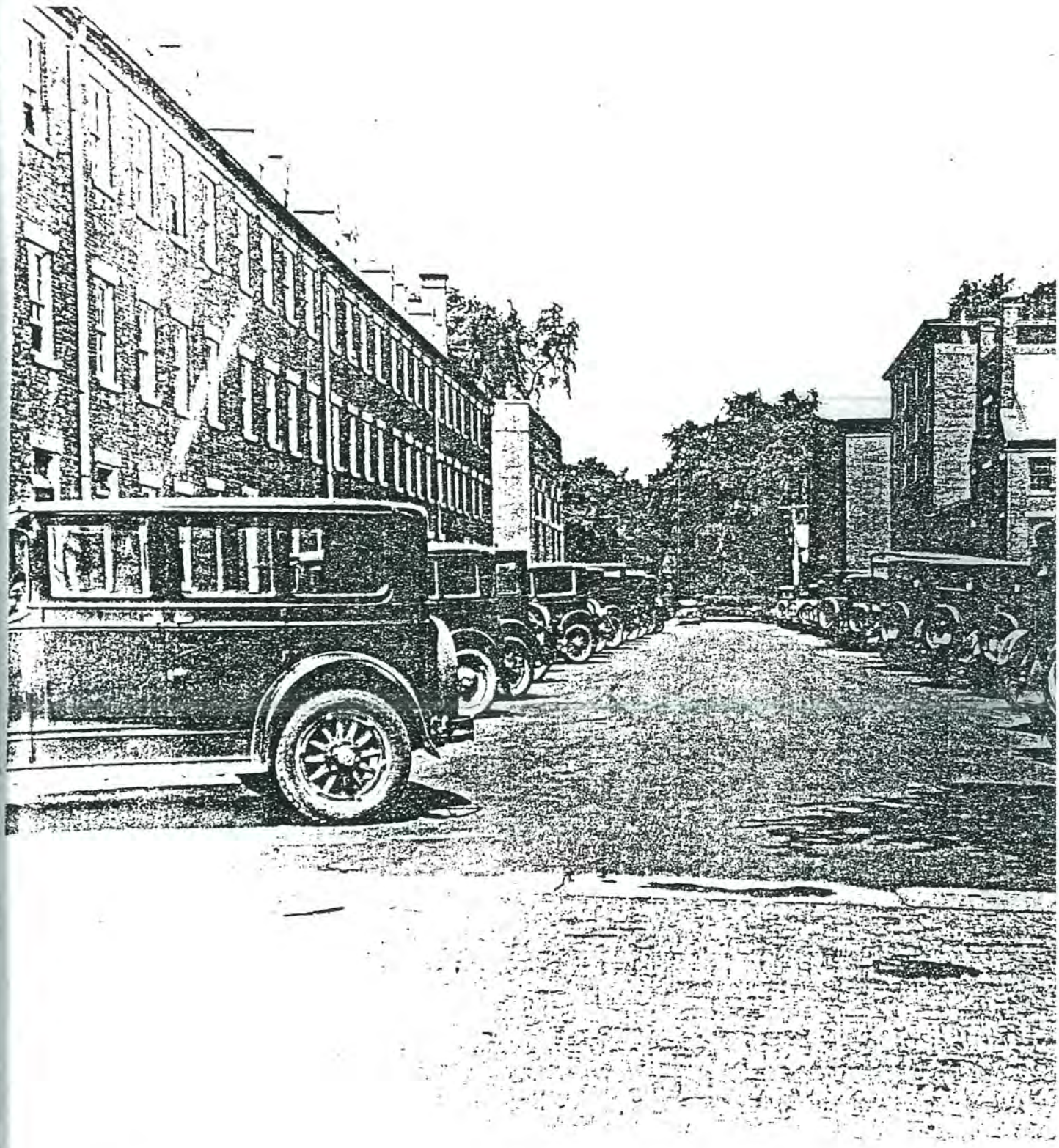


Figure 2

University of Lowell Library, Locks and Canals photo file, #2461.

LOWELL CULTURAL RESOURCES INVENTORY

IDENTIFICATION 75 ARCAND DRIVE MAP SHEET # 7

1) CURRENT OWNER Doctors Park Realty Trust OWNER OCCUPIED yes

2) HISTORIC NAME site of Merrimack Manufacturing Company housing

3) CURRENT NAME Professional Park

4) PROPERTY TYPE commercial 5) ZONING CLASSIFICATION B-1

6) TAXES: PAYMENTS current STATUS clear

7) WITHIN BOUNDARIES OF City Hall HD, LHPD

HISTORICAL ABSTRACT

1) CONSTRUCTION DATE ca. 1970s

SOURCE circumstantial: Construction date of J.F.K. Civic Center, 1973

2) ARCHITECT OR BUILDER unknown

3) HISTORIC OWNER (prior to present building)Merrimack Manufacturing Company

4) ORIGINAL USE: GF office UF office

5) PREVIOUS BLDGS ON PROPERTY yes DATE ca. 1825-1970

SOURCE circumstantial

DESCRIPTIVE DATA

1) ARCHITECTURAL STYLE
20th C. Modern

2) PRESENT USE:
GF office
UF office

3) NO OF STORIES 2

4) PROP SQ FT 62,293

5) PLAN rectangular

6) ROOF mansard

7) STRUCTURAL SYSTEM
metal frame

8) OUTBUILDINGS
none

9) MATERIALS:
FOUNDATION
concrete

VIEW FROM west PHOTO TAKEN May 1979



FACADE all sides: brown/tan brick in stretcher bond veneer

TRIM metal mansard

10) NOTABLE SURFACE & LANDSCAPE ELEMENTS none

ADDRESS 75 ARCAND DRIVE

VISUAL ASSESSMENT

1) CONDITION OF BUILDING FABRIC excellent

2) IF DETERIORATED, CAUSES n/a

3) INTEGRITY OF HISTORIC BLDG FABRIC: GF intact original fabric

UF intact original fabric

4) SURROUNDING LAND USES residential, institutional, railroad, canal frontage

5) INTEGRITY OF PROP'S HIST SETTING severely disrupted historic setting

6) IMPORTANCE OF PROP TO HIST SETTING character so disrupted, question not applicable

ADDITIONAL DESCRIPTION

See photo.

ADDITIONAL HISTORICAL INFORMATION

The current Professional Park building and its parking lot cover an area that once emcompassed two no longer existant streets: the northern extension of Worthen Street and an unnamed street between Worthen and Dutton Streets. The number of structures occupying this site has varied from six to ten.

Ten buildings owned by the Merrimack Manufacturing Company appear on this site on the 1832 map. Pairs of rectangular structures faced Dutton Street and the eastern and western sides of Worthen Street. Behind the rectangular structure in the center of the block bounded by Worthen, Dutton and Moody Streets were four small square structures. In 1841 the number of structures on this site had been reduced to six. The four small square structures have disappeared and an unnamed street is shown between Worthen and Dutton Streets. By 1850 six T-shaped structures occupy this site. The Merrimack Manufacturing Company is listed as the owner of these structures in both 1841 and 1850. The same configuration of streets and six T-shaped (frame) structures appears on the 1879, 1896, 1906, and 1924 atlases. Apparently these frame structures were used as boarding houses for the employees of the Merrimack Manufacturing Company, who is listed as owner of the property in the 1879, 1896 and 1924 atlases. The 1906 atlas lists Hiram Whitney and Saimen Sirk as owners. In the early twentieth century, Sirk had developed the largest apartment complex in Lowell, at the corner of Bridge and French Streets (Sirk had converted an 1830's brick boarding house into apartments with new additions).

Urban renewal of the early 1970s completely changed the scale of this area. The frame houses disappeared, as well as part of Worthen Street and an unnamed thoroughfare, and were replaced by the present, single structure on a wide parking lot.

Sources

1832, 1841, 1850 Lowell maps.

1879, 1896, 1906, 1924 Lowell atlases.

ARCHEOLOGICAL COMMENT

Domestic structures related to Lowell's first major industrial complex occupied this site continuously from the 1830s through the 1960s. The degree of subsurface disturbance occasioned by the removal of these structures and construction of the present building and parking lot is not known, but at least the parking lot portion of this property may cover archeological remains of potential significance.

City of Lowell - Lowell High School
French Street, Lowell, Masss.

Faber Burner- Tank Round -Cap. - 12,600 Gals.
Model - 12AF - Mass Approval - 812
Location - Below Grade - Tank
M'f'R. Faber Engerneering Co.

Inspected by:
Date:

APPENDIX C

APPENDIX D

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.2s
August 30, 2016

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Orphan Summary	1116
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GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

COORDINATES

Latitude (North):	42.6470970 - 42° 38' 49.54''
Longitude (West):	71.3104500 - 71° 18' 37.62''
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	310595.2
UTM Y (Meters):	4724000.0
Elevation:	89 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5644820 LOWELL, MA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140712
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	LOWELL HIGH SCHOOL	KIRK STREET	FINDS, ECHO		TP
A2	LOWELL HIGH SCHOOL	50 FRENCH MORISSETTE	US AIRS, FINDS, ECHO		TP
A3	LOWELL HIGH SCHOOL	50 FRENCH ST	RCRA-CESQG		TP
A4	LOWELL HIGH SCHOOL	50 FRENCH ST	AIRS, HW GEN		TP
A5	LOCATED AT SOUTHWEST	50 FRENCH STREET, LO	FINDS, ECHO		TP
B6	FORMER BOOTT COTTON	130 JOHN ST	SHWS, RELEASE, ENF, LEAD	Higher	1 ft.
B7	KONARKA TECHNOLOGIES	116 JOHN ST	RCRA-SQG, FINDS, ECHO	Higher	1 ft.
B8	B00T MILLS MUSEUM	115 JOHN ST	LUST, UST, RELEASE, ENF, Financial Assurance	Higher	12, 0.002, ESE
C9	RIVER PLACE TOWERS	115-145 POST OFFICE	SHWS, INST CONTROL, RELEASE	Lower	67, 0.013, NNW
B10	GASOLINE STATION FMR	70 FRENCH AMORY ST	SHWS, RELEASE, ENF	Lower	87, 0.016, East
C11	NO LOCATION AID	44 POST OFFICE SQ	SHWS, RELEASE, SPILLS	Lower	110, 0.021, North
C12	POST OFFICE SQ	44 POST OFFICE SQ	LUST, INST CONTROL, RELEASE	Lower	110, 0.021, North
C13	44 POST OFFICE PAUL	44 POST OFFICE ST	US BROWNFIELDS	Lower	110, 0.021, North
D14	LOWELL POLICE - FIRE	50 ARCAND DR	UST, Financial Assurance	Higher	118, 0.022, West
D15	LOWELL TOWN OF POLIC	50 ARCAND DR	SHWS, LUST, INST CONTROL, RELEASE, RCRA NonGen /...	Higher	118, 0.022, West
E16	HESS STATION 21509 F	253 MERRIMACK ST	LUST, RELEASE	Higher	214, 0.041, SW
17	FRED C CHURCH INSURA	1 MERRIMACK PLZ	SHWS, RELEASE	Lower	264, 0.050, NNE
E18	DAVIDSON STREET PROP	UNKNOWN	US BROWNFIELDS, FINDS, ECHO	Lower	270, 0.051, SW
F19	DUTTON STREET	DUTTON STREET	US BROWNFIELDS, FINDS, ECHO	Lower	280, 0.053, SW
E20	EAGLE STAMP CO INC	13 SHATTUCK ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	288, 0.055, SW
21	PAD-MOUNTED ELECTRIC	155 FATHER MORISSETT	SHWS, RELEASE	Lower	297, 0.056, WNW
G22	FORMER BOOTT COTTON	130 FOOT OF JOHN ST	SHWS, RELEASE	Lower	311, 0.059, ENE
F23	180 CHURCH STREET	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F24	171 LINCOLN STREET	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F25	28 LIVINGSTON STREET	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F26	1995 MIDDLESEX STREE	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F27	ASSETS BUILDINGS SIT	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F28	CITY PARCELS	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F29	33 E. MERRIMACK STRE	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F30	HOWARD AND ARCH STRE	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F31	10 DAVIDSON STREET	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F32	2011 MIDDLESEX STREE	296 MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	337, 0.064, WSW
F33	HESS STATION # 21509	300 MERRIMAC STREET	SHWS, LUST, RELEASE	Higher	346, 0.066, WSW
G34	NO LOCATION AID	300 FOOT OF JOHN ST	SHWS, RELEASE	Lower	363, 0.069, ENE
H35	CVS PHARMACY 1000	35 MERRIMACK ST	HW GEN	Lower	364, 0.069, SE
H36	CVS PHARMACY 1000	35 MERRIMACK ST	RCRA-LQG	Lower	364, 0.069, SE
G37	KONARKA TECHNOLOGIES	116 JOHN ST	RCRA NonGen / NLR, AIRS, HW GEN	Lower	370, 0.070, ENE
F38	GASOLINE STATION	300 MERRIMACK ST	SHWS, LUST, RELEASE, HW GEN	Lower	384, 0.073, SW
F39	HESS GAS STATION	300 MERRIMACK ST	RCRA-CESQG, UST, FINDS, Financial Assurance, ECHO	Lower	384, 0.073, SW

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
40	JOHN ST POWER HOUSE	JOHN ST	SHWS, RELEASE	Higher	394, 0.075, SSE
G41	LOWELL NATIONAL HIST	400 FOOT OF JOHN ST	HW GEN	Lower	394, 0.075, ENE
G42	LOWELL NATIONAL HIST	400 FOOT OF JOHN ST	RCRA-CESQG	Lower	394, 0.075, ENE
I43	LOWELL FIRE DEPARTME	99 MOODY ST	HW GEN	Higher	398, 0.075, West
I44	LOWELL FIRE DEPARTME	99 MOODY ST	RCRA-CESQG, FINDS, ECHO	Higher	398, 0.075, West
F45		338 MERRIMACK ST	EDR Hist Auto	Higher	445, 0.084, WSW
F46	GOODYEAR TIRE & AUTO	338 MERRIMACK ST	SHWS, RELEASE, HW GEN	Higher	445, 0.084, WSW
F47	GOODYEAR TIRE & AUTO	338 MERRIMACK ST	RCRA NonGen / NLR, FINDS, ECHO	Higher	445, 0.084, WSW
J48	NO LOCATION AID	150 FATHER MORISSETT	SHWS, RELEASE	Higher	465, 0.088, WNW
K49	158 & 176 MIDDLE STR	158 MIDDLE STREET	US BROWNFIELDS, FINDS, ECHO	Higher	513, 0.097, SSW
L50	LOWELL SHOE INC	95 BRIDGE ST	RCRA NonGen / NLR	Lower	516, 0.098, ESE
L51	ASSEMBLY SERVICES CO	95 BRIDGE ST	RCRA NonGen / NLR	Lower	516, 0.098, ESE
L52	LOWELL SHOE INC	95 BRIDGE ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	516, 0.098, ESE
L53	PARIS SHOE CO INC	95 BRIDGE ST	RCRA NonGen / NLR	Lower	516, 0.098, ESE
K54	OWL STAMP CO	142 MIDDLE ST	HW GEN	Higher	516, 0.098, SSW
H55	ROADWAY INCIDENT	1 KEARNEY SQUARE	SHWS, RELEASE	Lower	537, 0.102, SE
H56	LOWELL SUN PUBLISHIN	15 KEARNEY SQ	RCRA NonGen / NLR, US AIRS, FINDS, ECHO	Lower	564, 0.107, SE
L57	AUTOZONE 3749	114 BRIDGE ST	HW GEN	Lower	581, 0.110, East
L58	AUTOZONE 3749	114 BRIDGE ST	RCRA NonGen / NLR	Lower	581, 0.110, East
M59	COMFED SAVINGS BANK	44 MIDDLE ST PO BOX	RCRA NonGen / NLR, FINDS, ECHO	Lower	586, 0.111, SSE
M60	MIDDLESEX COMMUNITY	44 MIDDLE ST	HW GEN, LEAD	Lower	586, 0.111, SSE
N61		49 KEARNEY SQ	EDR Hist Cleaner	Lower	626, 0.119, SE
K62	LOWELL FAMILY DENTAL	133 MARKET ST	HW GEN	Lower	637, 0.121, SSW
J63	FMR TREMONT YARD PWR	257 FATHER MORISSETT	SHWS, RELEASE, ENF	Higher	638, 0.121, WNW
I64	NO LOCATION AID	445 MERRIMACK ST	SHWS, RELEASE	Higher	642, 0.122, West
K65	COMPO IND INC BRADFO	200 MARKET ST	RCRA NonGen / NLR, FINDS, ECHO	Higher	688, 0.130, SSW
K66	COMPO INDUSTRIES INC	200 MARKET ST	SHWS, LUST, BROWNFIELDS, RELEASE, RCRA NonGen /...	Higher	688, 0.130, SSW
O67	100 RIVER PLACE	100 RIVER PLACE	US BROWNFIELDS, FINDS, ECHO	Lower	694, 0.131, NNW
P68	INDUSTRIAL PROPERTY	661 SUFFOLK ST	SHWS, RELEASE, SPILLS	Lower	756, 0.143, NW
O69	152 RIVER PLACE	152 RIVER PLACE	US BROWNFIELDS	Lower	763, 0.145, NNW
O70	LOWELL POLICE GARAGE	152 RIVER PL	UST, Financial Assurance	Lower	763, 0.145, NNW
Q71	HAFFNER'S SERVICE ST	215 DUTTON ST	SHWS, RELEASE, TIER 2	Lower	775, 0.147, SW
Q72	HEG #107	215 DUTTON ST	UST, Financial Assurance	Lower	775, 0.147, SW
O73	174 RIVER PLACE	174 RIVER PLACE	US BROWNFIELDS, FINDS, ECHO	Lower	792, 0.150, North
M74	NO LOCATION AID	40 MARKET ST	SHWS, RELEASE	Lower	829, 0.157, SSE
75	RIVERWALK PROPERTY	179 BRIDGE STREET	SHWS, RELEASE	Lower	839, 0.159, East
76	LOWELL SUN PROPERTY	30 MARKET ST	SHWS, RELEASE	Lower	850, 0.161, SSE
N77	MIDDLESEX COMMUNITY	33 KEARNY SQ	UST, Financial Assurance	Lower	876, 0.166, SE
78	ACE EXPRESS CO	70 DUMMER	RCRA NonGen / NLR, FINDS, ECHO	Higher	910, 0.172, WSW

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
79	TREMONT MILLS SITE	FRENCH STREET EXT	SHWS, INST CONTROL, RELEASE, ENF	Lower	941, 0.178, ESE
P80	WANNALANCIT BUILDING	600 SUFFOLK ST	HW GEN	Higher	956, 0.181, WNW
P81	WANNALANCIT BUILDING	600 SUFFOLK ST	RCRA-SQG	Higher	956, 0.181, WNW
P82	WANNALANCIT OFFICE &	660 SUFFOLK ST	LUST, RELEASE	Lower	980, 0.186, NW
R83	NO LOCATION AID	250 WORTHEN ST	SHWS, RELEASE	Higher	1046, 0.198, SW
S84	NORTH AMERICAN DIREC	17 HALL ST	RCRA NonGen / NLR	Lower	1071, 0.203, NW
S85	AMES TEXTILE CORP	750 SUFFOLK ST	RCRA NonGen / NLR	Lower	1095, 0.207, NW
S86	MERRIMACK METAL RECL	750 SUFFOLK ST	RCRA NonGen / NLR, FINDS, ECHO	Lower	1095, 0.207, NW
S87	AMES PHOTONICS CENTE	720 SUFFOLK ST	RCRA-SQG	Lower	1097, 0.208, NW
S88	AMES PHOTONICS CENTE	720 SUFFOLK ST	HW GEN	Lower	1097, 0.208, NW
T89	PAD-MOUNTED ELECTRIC	650 SUFFOLK ST	SHWS, RELEASE, HW GEN	Lower	1134, 0.215, NW
U90	11 E. MERRIMACK STRE	11 EAST MERRIMACK ST	US BROWNFIELDS, FINDS, ECHO	Lower	1153, 0.218, ESE
91	HOLY TRINITY COMMUNI	BROADWAY DUMMER ST	LUST, RELEASE, ENF	Higher	1184, 0.224, WSW
V92	TOP END AUTOMOTIVE	78 LAKEVIEW AVE	HW GEN	Lower	1224, 0.232, NE
R93	HOLY TRINITY COMMUNI	41 BROADWAY ST	SHWS, RELEASE	Higher	1242, 0.235, SW
94	ELEMENT CARE INC	166 CENTRAL ST	HW GEN	Lower	1259, 0.238, SSE
V95	STARR REALTY PROPERT	43 LAKEVIEW AVE	SHWS, RELEASE, ENF	Lower	1306, 0.247, ENE
U96	ALONG DAVIDSON ST	33 EAST MERRIMACK ST	LUST, RELEASE	Lower	1317, 0.249, ESE
T97	METAL PRODUCTS FMR	199 CABOT ST	SHWS, RELEASE	Lower	1331, 0.252, NW
98	CONDOMINIUM APARTMEN	175 CABOT ST	SHWS, RELEASE	Lower	1351, 0.256, WNW
99	JOAN FABRICS CORP	19-27 JACKSON ST	SHWS, RELEASE	Lower	1437, 0.272, SSE
100	MACHEROS SERVICE MAR	66 BROADWAY ST	SHWS, LUST, RELEASE, SPILLS, ENF, HW GEN	Higher	1478, 0.280, SW
101	PAD MOUNTED TRANSFOR	39 FIRST ST	SHWS, RELEASE	Lower	1520, 0.288, ENE
W102	ADDEN FURNITURE INC	26 JACKSON ST	SHWS, INST CONTROL, RELEASE, AIRS	Lower	1523, 0.288, South
X103	68 JACKSON STREET	68 JACKSON STREET	US BROWNFIELDS, FINDS, ECHO	Lower	1580, 0.299, South
104	BRIDGE STREET SUNOCO	356 BRIDGE ST	SHWS, UST, RELEASE, ENF, Financial Assurance	Lower	1593, 0.302, ENE
W105	PENSTOCK IN HAMILTON	161 JACKSON STREET	SHWS, RELEASE, ENF	Lower	1615, 0.306, South
W106	APPLETON MILLS COMPL	193 JACKSON STREET	SHWS, RELEASE, ENF	Lower	1673, 0.317, South
Y107	UNIV OF LOWELL	600 SUFFOLK ST	SHWS, RELEASE	Lower	1675, 0.317, NW
Y108	U OF LOWELL PROPOSED	AIKEN AVE PERKINS ST	SHWS, LUST, INST CONTROL, RELEASE	Lower	1675, 0.317, NW
109	NO LOCATION AID	169-171 JACKSON ST	SHWS, RELEASE	Lower	1723, 0.326, SSW
110	NO LOCATION AID	365 DUTTON ST	SHWS, RELEASE	Lower	1739, 0.329, SW
W111	FORMER HAMILTON MILL	165 JACKSON ST	SHWS, RELEASE, LEAD	Higher	1741, 0.330, South
Z112	LOWELL SUN	24 HOWE ST	SHWS, LUST, RELEASE, SPILLS	Lower	1749, 0.331, ESE
X113	101 MIDDLESEX STREET	101 MIDDLESEX STREET	US BROWNFIELDS, FINDS, ECHO	Higher	1784, 0.338, South
114	MORKLAND SCHOOL	350 ADAMS ST	SHWS, RELEASE	Higher	1797, 0.340, West
AA115	JAM PARKING GARAGE	115 MIDDLESEX ST	LUST, RELEASE	Higher	1800, 0.341, South
AA116	115 MIDDLESEX STREET	115 MIDDLESEX STREET	US BROWNFIELDS, FINDS, ECHO	Higher	1800, 0.341, South
AA117	PROPERTIES	65-87 101 AND 115 MI	SHWS, INST CONTROL, RELEASE	Higher	1800, 0.341, South

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Z118	PARKING LOT	30 HOWE ST	SHWS, RELEASE	Lower	1824, 0.345, SE
AB119	ALBERT H NOTINI & SO	225 AIKEN ST	SHWS, UST, RELEASE, Financial Assurance	Higher	1846, 0.350, WNW
AC120	NO LOCATION AID	221 JACKSON ST	SHWS, LAST, INST CONTROL, RELEASE, SPILLS, AIRS	Lower	1853, 0.351, SSW
AD121	NO LOCATION AID	148 WARREN 242 CHURC	SHWS, RELEASE	Lower	1861, 0.352, SE
AD122	BAGSHAW MILLS	128-132 WARREN ST	SHWS, LUST, RELEASE	Lower	1897, 0.359, SE
AD123	PROPERTY	128 WARREN ST	LUST, RELEASE	Lower	1897, 0.359, SE
124	38 GORHAM STREET	38 GORHAM ST	LUST, UST, RELEASE, ENF, Financial Assurance	Higher	1918, 0.363, SSE
AB125	AUTO GARAGE FMR	220 AIKEN ST	SHWS, RELEASE, HW GEN	Higher	1964, 0.372, WNW
126	MOBIL @ 4TH & BRIDGE	443 BRIDGE ST	SHWS, LUST, INST CONTROL, RELEASE	Higher	1982, 0.375, NE
AE127	291 JACKSON STREET	291 JACKSON STREET	US BROWNFIELDS, FINDS, ECHO	Lower	2009, 0.380, SSW
AE128	NO LOCATION AID	291 JACKSON ST	SHWS, RELEASE	Lower	2009, 0.380, SSW
AD129	DICKS SERVICE	180 CHURCH ST	SHWS, RELEASE, RCRA NonGen / NLR, FINDS, ENF, ECHO	Lower	2056, 0.389, SE
AE130	NO LOCATION AID	307 JACKSON ST	SHWS, INST CONTROL, BROWNFIELDS, RELEASE, ENF	Lower	2058, 0.390, SSW
AE131	HAMILTON CANAL DISTR	291 AND 307 JACKSON	SHWS, RELEASE	Lower	2058, 0.390, SSW
AD132	ZAYRE STORE	125 CHURCH ST	SHWS, LUST, SPILLS, RELEASE, HW GEN	Lower	2059, 0.390, SE
AF133	UMASS LOWELL	333 AIKEN ST	SHWS, LUST, RELEASE	Lower	2090, 0.396, NW
134	INTERSEC OF E MERRIM	219 EAST MERRIMAC ST	LUST, RELEASE, ENF	Higher	2095, 0.397, ESE
AC135	NO LOCATION AID	225 MIDDLESEX ST	SHWS, LUST, RELEASE, ENF	Higher	2106, 0.399, SSW
AG136	CROSS ST AND FLETCHE	276 BROADWAY	SHWS, LUST, RELEASE	Higher	2109, 0.399, WSW
AG137	276 BROADWAY STREET	276 BROADWAY STREET	US BROWNFIELDS	Higher	2109, 0.399, WSW
AH138	COMP U TUNE FMR	205 CHURCH ST	SHWS, LUST, LAST, SPILLS, RELEASE, ENF, HW GEN	Lower	2177, 0.412, SE
AI139	351 JACKSON STREET	351 JACKSON STREET	US BROWNFIELDS, FINDS, ECHO	Higher	2181, 0.413, SSW
AI140	NO LOCATION AID	351 JACKSON ST	SHWS, RELEASE	Higher	2181, 0.413, SSW
AG141	GASOLINE STATION	FLETCHER STREET BROA	SHWS, RELEASE	Higher	2183, 0.413, WSW
AH142	CONSTRUCTION SITE	WARREN ST CHURCH ST	SHWS, LUST, RELEASE, ENF	Lower	2212, 0.419, SE
AJ143	LOWELL HOUSING AUTHO	ADAMS ST	LUST, RELEASE	Higher	2214, 0.419, SW
AF144	450 AIKEN ST LELACH	450 AIKEN STREET	US BROWNFIELDS, FINDS, ECHO	Lower	2220, 0.420, NW
AG145	CITY OF LOWELL DPW	261 AND 295 BROADWAY	SHWS, LUST, RELEASE	Higher	2222, 0.421, WSW
AG146	NO LOCATION AID	297-299 BROADWAY	SHWS, LUST, RELEASE	Higher	2226, 0.422, WSW
AI147	HAMILTON CANAL DISTR	JACKSON MIDDLESEX AN	SHWS, LUST, BROWNFIELDS, RELEASE	Higher	2245, 0.425, SSW
AJ148	NO LOCATION AID	36 ADAMS ST	SHWS, RELEASE	Higher	2260, 0.428, SW
AK149	ST JOHNS PROPERTY	EAST MERRIMAC ST NES	LUST, RELEASE	Lower	2273, 0.430, East
AK150	SAINTS MEMORIAL MEDI	HOSPITAL DR	LUST, RELEASE, ENF	Lower	2334, 0.442, East
AI151	NO LOCATION AID	6 KING ST	SHWS, RELEASE	Higher	2373, 0.449, SSW
152	NO LOCATION AID	323 MIDDLESEX ST	SHWS, RELEASE	Higher	2379, 0.451, SSW
153	LOWELL HOUSING AUTH	572-610 LAKEVIEW AVE	LUST, RELEASE	Lower	2403, 0.455, North
154	ADVANCED HEAT TREATM	1 CUSHING ST	SHWS, RELEASE	Higher	2405, 0.455, SW
155	CORNER OF WEST ST	163 WEST SIXTH ST	LUST, RELEASE	Lower	2432, 0.461, NNE
156	FORMER DEMERS SHELL	550 BRIDGE ST	SHWS, UST, RELEASE, Financial Assurance	Higher	2439, 0.462, NE

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
157	HUNT FALLS ROTARY	RTE 110 AND RTE 138	SHWS, RELEASE	Lower	2471, 0.468, East
158	CASASOLA CORP	37 CHARLES ST	LUST, RELEASE, HW GEN	Higher	2483, 0.470, SSE
159	NO LOCATION AID	179 CHARLES ST	SHWS, RELEASE	Higher	2512, 0.476, SSE
160	RESIDENCE	125 COBURN ST	SHWS, RELEASE	Lower	2525, 0.478, NNE
161	NO LOCATION AID	297 TO 299 BROADWAY	SHWS, RELEASE	Higher	2538, 0.481, WSW
162	UNIV MA LOWELL	86 PAWTUCKET ST	LUST, RELEASE	Lower	2601, 0.493, NW
163	NO LOCATION AID	14-16 PERRY ST	SHWS, RELEASE	Lower	2615, 0.495, SE
AL164	NO LOCATION AID	379 MIDDLESEX ST	SHWS, RELEASE	Higher	2630, 0.498, SSW
AL165	NO LOCATION AID	389 MIDDLESEX ST	SHWS, RELEASE	Higher	2657, 0.503, SSW
AM166	NO LOCATION AID	49-55 ROCK ST	SHWS, RELEASE	Higher	2674, 0.506, SW
AM167	COMMERCIAL PROPERTY	55 ROCK ST	SHWS, RELEASE	Higher	2709, 0.513, SW
168	JOAN FABRICS CORP	122 WESTERN AVE	SHWS, INST CONTROL, RELEASE, SPILLS	Higher	2743, 0.520, SW
169	PAVED AREA ALONG LAK	1 ENNELL ST	SHWS, INST CONTROL, RELEASE	Lower	2762, 0.523, NNW
AN170	NO LOCATION AID	236 SALEM STREET	SHWS, LUST, RELEASE	Higher	2859, 0.541, WNW
AN171	UMASS LOWELL LOT B	257 SALEM ST	SHWS, RELEASE	Higher	2912, 0.552, WNW
172	GETTY MART	276 HIGH ST	SHWS, LUST, RELEASE	Higher	2928, 0.555, SE
AO173	NO LOCATION AID	841 MERRIMACK ST	SHWS, INST CONTROL, RELEASE	Higher	2929, 0.555, WNW
174	NORTH CANAL	145 PAWTUCKET STREET	SHWS, LAST, SPILLS, RELEASE, HW GEN	Lower	2993, 0.567, WNW
AP175	MA ELECTRIC	163 CROSS ST	SHWS, RELEASE	Higher	2994, 0.567, WSW
AQ176	COMMERCIAL PROPERTY	700 AIKEN ST	SHWS, INST CONTROL, RELEASE, ENF	Lower	3046, 0.577, NNW
AQ177	CITGO STATION	745 AIKEN AVE	SHWS, INST CONTROL, RELEASE	Lower	3052, 0.578, NNW
AR178	MARTIN WELDING NORTH	731 DUTTON ST	SHWS, LUST, UST, RELEASE, Financial Assurance, HW...	Higher	3094, 0.586, SW
179	NO LOCATION AID	160 WESTERN AVE	SHWS, RELEASE, ENF	Higher	3095, 0.586, SW
AS180	NO LOCATION AID	498 BROADWAY	SHWS, LUST, RELEASE, ENF, HW GEN	Higher	3095, 0.586, WSW
AO181	COSTELLO GYM PARKING	1 UNIVERSITY AVE	SHWS, LUST, RELEASE, SPILLS, AIRS, ENF, HW GEN	Higher	3103, 0.588, WNW
182	NO LOCATION AID	68 ARCH ST	SHWS, RELEASE	Higher	3115, 0.590, SSW
AP183	NO LOCATION AID	176 CROSS ST	SHWS, RELEASE	Higher	3115, 0.590, WSW
AS184	NO LOCATION AID	234-266 MOUNT VERNON	SHWS, RELEASE, ENF	Higher	3121, 0.591, WSW
AS185	LOWELL, CITY OF	234-266 MT VERNON ST	SHWS, RELEASE, ENF	Higher	3121, 0.591, WSW
AT186	NO LOCATION AID	129 WILLIE ST	SHWS, RELEASE	Higher	3126, 0.592, WSW
AU187	PERRY STREET SUBSTA	53 PERRY ST	SHWS, RELEASE	Higher	3173, 0.601, SE
AU188	PERRY STREET SUBSTAT	53 PERRY STREET	SHWS, RELEASE	Higher	3173, 0.601, SE
AV189	PARCEL 9 FORMERLY 30	239.1 JACKSON ST	SHWS, RELEASE	Higher	3179, 0.602, East
AT190	137 WILLIE STREET	137 WILLIE ST	SHWS, RELEASE	Higher	3180, 0.602, WSW
191	WATER UTILITY	PAWTUCKET BLVD	SHWS, LAST, RELEASE	Higher	3188, 0.604, WNW
AR192	COLONIAL GAS CO	775 DUTTON ST	SHWS, UST, AST, RELEASE, Financial Assurance, HW...	Higher	3221, 0.610, SW
AS193	PROPOSED MIDDLE SCHO	225 MT VERNON ST	SHWS, INST CONTROL, RELEASE	Higher	3237, 0.613, WSW
194	SIDEWALK AREA (WEST	CRNR OF ROCK AND MOU	SHWS, RELEASE	Higher	3247, 0.615, WSW
AV195	BOOTT MILLS STEAM PL	246 1 MARKET ST	SHWS, LUST, RELEASE, ENF	Higher	3249, 0.615, East

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
AR196	COMMERCIAL PROPERTY	774 DUTTON ST	SHWS, INST CONTROL, RELEASE, ENF	Higher	3306, 0.626, SW
197	NO LOCATION AID	262 PAWTUCKET ST	SHWS, LUST, RELEASE, SPILLS	Higher	3356, 0.636, WNW
198	NO LOCATION AID	51 TO 53 MT WASHINGT	SHWS, RELEASE	Higher	3369, 0.638, West
199	NOKODE HOLDINGS LLC	585-607 MIDDLESEX ST	SHWS, RELEASE	Higher	3490, 0.661, SW
AW200	LOWELL GAS WORKS	ROCK STREET	EDR MGP	Higher	3504, 0.664, WSW
AW201	PROPOSED MIDDLE SCHO	294 SCHOOL ST	SHWS, LUST, INST CONTROL, BROWNFIELDS, RELEASE,...	Higher	3513, 0.665, WSW
202	OFF GRANT ST	8 MARSHALL ST	SHWS, RELEASE	Higher	3521, 0.667, SSW
AX203	COMFORT FURNITURE	155 THORNDIKE ST	SHWS, RELEASE	Higher	3532, 0.669, SSW
204	CRNR OF WESTFORD CHE	55 CHELMSFORD ST	SHWS, RELEASE, HW GEN	Higher	3537, 0.670, SSW
AY205	NO LOCATION AID	376 GORHAM ST	SHWS, LUST, RELEASE, SPILLS	Higher	3539, 0.670, South
206	GREENHALGE SCHOOL	149 ENNELL ST	SHWS, RELEASE	Lower	3551, 0.673, North
207	BROADWAY CONDOS	590 BROADWAY	SHWS, INST CONTROL, RELEASE	Higher	3567, 0.676, WSW
208	CENTENNIAL ISLAND	WAMESIT CANAL	SHWS, RELEASE	Higher	3609, 0.684, SSE
AW209	COLONIAL GAS CO	DUTTON ST	SHWS, RELEASE, ENF	Higher	3639, 0.689, WSW
210	MULDOON BROS INC	SCHOOL BUTTERFIELD S	SHWS, RELEASE	Higher	3669, 0.695, West
AX211	LOWELL REGIONAL TRAN	145 THORNDIKE ST	SHWS, INST CONTROL, RELEASE	Higher	3671, 0.695, SSW
212	MA0045	801 LAKEVIEW AVE	SHWS, LUST, UST, RELEASE, Financial Assurance	Lower	3677, 0.696, NNW
AY213	SOUTH OF WOBURN ST E	495 S	SHWS, RELEASE	Higher	3681, 0.697, South
214	NO LOCATION AID	282 WESTERN AVE	SHWS, RELEASE, SPILLS, AIRS, HW GEN	Higher	3698, 0.700, SW
215	NO LOCATION AID	54 AND 56 LILLEY AVE	SHWS, RELEASE	Higher	3720, 0.705, North
216	M A COM INC	100 CHELMSFORD ST	SHWS, INST CONTROL, SPILLS, RELEASE, AIRS, ENF, HW...	Higher	3861, 0.731, SSW
217	NO LOCATION AID	736 MIDDLESEX ST	SHWS, RELEASE	Higher	3975, 0.753, SW
218	LOWELL GAS LIGHT CO	SCHOOL STREET	EDR MGP	Higher	4053, 0.768, WSW
AZ219	NO LOCATION AID	15 KYAN STREET	SHWS, RELEASE, ENF	Higher	4094, 0.775, WSW
220	PROPERTY	BROADWAY	SHWS, RELEASE	Higher	4114, 0.779, WSW
221	LOWELL GAS LIGHT CO	PERRIN STREET	EDR MGP	Higher	4162, 0.788, WSW
222	PROPERTY	RIVERBY ST W SIXTH S	SHWS, RELEASE	Lower	4193, 0.794, NNW
AZ223	NO LOCATION AID	1 KYAN ST	SHWS, RELEASE, ENF, HW GEN	Higher	4260, 0.807, WSW
BA224	NO LOCATION AID	PEVEY ST @ ARLENE ST	SHWS, RELEASE	Higher	4541, 0.860, WSW
225	COMPO INDUSTRIES	75 ROGERS ST	SHWS, RELEASE, SPILLS, AIRS, ENF, HW GEN, TIER 2	Higher	4548, 0.861, SSE
226	PROPERTY	129 MARTIN ST FILL A	SHWS, RELEASE	Lower	4570, 0.866, NNW
227	UMASS LOWELL	293 RIVERSIDE STREET	SHWS, RELEASE	Higher	4605, 0.872, NW
228	PAWTUCKET CANAL	706 BROADWAY	SHWS, LAST, RELEASE	Higher	4659, 0.882, WSW
BA229	NO LOCATION AID	INTER OF ARLENE RD A	SHWS, RELEASE	Higher	4663, 0.883, WSW
230	PROPERTY	160 MARTIN ST	SHWS, RELEASE	Lower	4672, 0.885, NNW
231	ASTRO CIRCUIT CORP	100 HALE ST	SEMS, SHWS, LAST, INST CONTROL, BROWNFIELDS,...	Higher	4878, 0.924, SSW
BB232	NO LOCATION AID	662 GORHAM ST	SHWS, RELEASE	Higher	5027, 0.952, South
BC233	CENTENNIAL ISLAND AP	576 LAWRENCE STREET	SHWS, INST CONTROL, SPILLS, RELEASE, LEAD	Lower	5028, 0.952, SSE
BB234	VACANT LOT	686 GORHAM ST	SHWS, RELEASE	Higher	5065, 0.959, South

MAPPED SITES SUMMARY

Target Property Address:
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
BD235	ADJACENT TO #263 HOW	HOWARD ST	SHWS, RELEASE	Higher	5066, 0.959, South
236	NOTRE DAME DE LOURDE	100 SMITH ST	SHWS, BROWNFIELDS, RELEASE	Higher	5083, 0.963, SW
237	SPRAY TEC INC FMR	34 NEWHALL ST	SHWS, RELEASE, LEAD	Lower	5098, 0.966, SSE
238	NATIONAL GRID CENTRA	175 BARKER AVE	SHWS, RELEASE	Higher	5111, 0.968, NNE
BD239	POLE MOUNTED TRANSFO	TANNER STREET AT HOW	SHWS, RELEASE	Higher	5123, 0.970, South
BD240	TRIUMVIRATE ENVIRONM	263 HOWARD ST	SHWS, INST CONTROL, RELEASE, HW GEN	Higher	5124, 0.970, South
BD241	TRIUMVIRATE ENVIRONM	263 HOWARD ST	CORRACTS, RCRA-TSDF, RCRA-LQG, US FIN ASSUR, 2020..	Higher	5124, 0.970, South
242	ELECTRO CIRCUITS INC	176 WALKER STREET	SEMS-ARCHIVE, SHWS, RELEASE, RCRA NonGen / NLR,...	Higher	5137, 0.973, WSW
243	NO LOCATION AID	IRVING ST @ PINE HIL	SHWS, RELEASE	Higher	5150, 0.975, South
244	NO LOCATION AID	38 CARRIAGE DR	SHWS, LAST, RELEASE	Higher	5202, 0.985, ESE
245	NO LOCATION AID	207 WALKER ST	SHWS, RELEASE	Higher	5219, 0.988, WSW
BC246	DEWIRE FABRICATING	633 LAWRENCE ST	SHWS, RELEASE	Higher	5266, 0.997, SSE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
LOWELL HIGH SCHOOL KIRK STREET LOWELL, MA 01852	FINDS Registry ID:: 110020943611 ECHO	N/A
LOWELL HIGH SCHOOL 50 FRENCH MORISSETTE LOWELL, MA 01854	US AIRS Database: US AIRS MINOR, Date of Government Version: 10/20/2015 EPA plant ID:: 110021357048 FINDS Registry ID:: 110021357048 ECHO	N/A
LOWELL HIGH SCHOOL 50 FRENCH ST LOWELL, MA 01854	RCRA-CESQG EPA ID:: MAR000010918	MAR000010918
LOWELL HIGH SCHOOL 50 FRENCH ST LOWELL, MA 01854	AIRS Facility Status: APPROV Date Closed: 08/13/1996 HW GEN EPA Id: MAR000010918	N/A
LOCATED AT SOUTHWEST 50 FRENCH STREET, LO LOWELL, MA 01852	FINDS Registry ID:: 110020851327 ECHO	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL---------- National Priority List

Proposed NPL---------- Proposed National Priority List Sites
NPL LIENS---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY---------- Federal Facility Site Information listing
SEMS---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE---------- Superfund Enterprise Management System Archive

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF---------- RCRA - Treatment, Storage and Disposal

Federal institutional controls / engineering controls registries

LUCIS---------- Land Use Control Information System
US ENG CONTROLS---------- Engineering Controls Sites List
US INST CONTROL---------- Sites with Institutional Controls

Federal ERNS list

ERNS---------- Emergency Response Notification System

State and tribal landfill and/or solid waste disposal site lists

SWF/LF---------- Solid Waste Facility Database/Transfer Stations

State and tribal leaking storage tank lists

INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST---------- Underground Storage Tank Listing
AST---------- Aboveground Storage Tank Database
INDIAN UST---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP---------- Voluntary Cleanup Priority Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI---------- Report on the Status of Open Dumps on Indian Lands
ODI---------- Open Dump Inventory

EXECUTIVE SUMMARY

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
US CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS ---------- Liens Information Listing
LIENS 2 ---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
SPILLS ---------- Historical Spill List
RELEASE ---------- Reportable Releases Database
SPILLS 90 ---------- SPILLS 90 data from FirstSearch
SPILLS 80 ---------- SPILLS 80 data from FirstSearch

Other Ascertainable Records

FUDS ---------- Formerly Used Defense Sites
DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---------- Financial Assurance Information
EPA WATCH LIST ---------- EPA WATCH LIST
2020 COR ACTION ---------- 2020 Corrective Action Program List
TSCA ---------- Toxic Substances Control Act
TRIS ---------- Toxic Chemical Release Inventory System
SSTS ---------- Section 7 Tracking Systems
ROD ---------- Records Of Decision
RMP ---------- Risk Management Plans
RAATS ---------- RCRA Administrative Action Tracking System
PRP ---------- Potentially Responsible Parties
PADS ---------- PCB Activity Database System
ICIS ---------- Integrated Compliance Information System
FTTS ---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---------- Material Licensing Tracking System
COAL ASH DOE ---------- Steam-Electric Plant Operation Data
COAL ASH EPA ---------- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---------- PCB Transformer Registration Database
RADINFO ---------- Radiation Information Database
HIST FTTS ---------- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---------- Incident and Accident Data
CONSENT ---------- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---------- Indian Reservations
FUSRAP ---------- Formerly Utilized Sites Remedial Action Program
UMTRA ---------- Uranium Mill Tailings Sites
LEAD SMELTERS ---------- Lead Smelter Sites
US MINES ---------- Mines Master Index File
UXO ---------- Unexploded Ordnance Sites
DOCKET HWC ---------- Hazardous Waste Compliance Docket Listing
DRYCLEANERS ---------- Regulated Drycleaning Facilities

ENF Enforcement Action Cases
Financial Assurance Financial Assurance Information Listing
GWDP Ground Water Discharge Permits
LEAD Lead Inspection Database
MERCURY Mercury Product Recyling Drop-Off Locations Listing
NPDES NPDES Permit Listing
TIER 2 Tier 2 Information Listing
TSD TSD Facility
FUELS PROGRAM EPA Fuels Program Registered Listing

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS Recovered Government Archive State Hazardous Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 12/09/2015 has revealed that there is 1 CORRACTS site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TRIUMVIRATE ENVIRONM	***263 HOWARD ST***	***S 1/2 - 1 (0.970 mi.)***	***BD241***	***871***

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA)

of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/09/2015 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CVS PHARMACY 1000	35 MERRIMACK ST	SE 0 - 1/8 (0.069 mi.)	H36	102

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/09/2015 has revealed that there are 3 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KONARKA TECHNOLOGIES	***116 JOHN ST***	***0 - 1/8 (0.000 mi.)***	***B7***	***24***
WANNALANCIT BUILDING	600 SUFFOLK ST	WNW 1/8 - 1/4 (0.181 mi.)	P81	229

Lower Elevation	Address	Direction / Distance	Map ID	Page
AMES PHOTONICS CENTE	720 SUFFOLK ST	NW 1/8 - 1/4 (0.208 mi.)	S87	241

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 12/09/2015 has revealed that there are 3 RCRA-CESQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOWELL FIRE DEPARTME	***99 MOODY ST***	***W 0 - 1/8 (0.075 mi.)***	***I44***	***144***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HESS GAS STATION	***300 MERRIMACK ST***	***SW 0 - 1/8 (0.073 mi.)***	***F39***	***134***
LOWELL NATIONAL HIST	400 FOOT OF JOHN ST	ENE 0 - 1/8 (0.075 mi.)	G42	141

State- and tribal - equivalent CERCLIS

SHWS: Contains information on releases of oil and hazardous materials that have been reported to DEP.

A review of the SHWS list, as provided by EDR, and dated 06/28/2016 has revealed that there are 156 SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FORMER BOOTT COTTON	***130 JOHN ST***	***0 - 1/8 (0.000 mi.)***	***B6***	***14***
Release Tracking Number / Current Status: 3-0026688 / TIERII				
Release Tracking Number / Current Status: 3-0027777 / RAO				
LOWELL TOWN OF POLIC	***50 ARCAND DR***	***W 0 - 1/8 (0.022 mi.)***	***D15***	***47***
Release Tracking Number / Current Status: 3-0013029 / RAO				
HESS STATION # 21509	***300 MERRIMAC STREET***	***WSW 0 - 1/8 (0.066 mi.)***	***F33***	***98***
Release Tracking Number / Current Status: 3-0032808 / PSNC				
JOHN ST POWER HOUSE	***JOHN ST***	***SSE 0 - 1/8 (0.075 mi.)***	***40***	***139***
Release Tracking Number / Current Status: 3-0011011 / RAO				
GOODYEAR TIRE & AUTO	***338 MERRIMACK ST***	***WSW 0 - 1/8 (0.084 mi.)***	***F46***	***146***
Release Tracking Number / Current Status: 3-0030347 / RAO				
NO LOCATION AID	***150 FATHER MORISSETT***	***WNW 0 - 1/8 (0.088 mi.)***	***J48***	***151***
Release Tracking Number / Current Status: 3-0030077 / RAO				
FMR TREMONT YARD PWR	***257 FATHER MORISSETT***	***WNW 0 - 1/8 (0.121 mi.)***	***J63***	***169***
Release Tracking Number / Current Status: 3-0027828 / RAO				
Release Tracking Number / Current Status: 3-0027821 / RAONR				
Release Tracking Number / Current Status: 3-0027830 / RAO				
NO LOCATION AID	***445 MERRIMACK ST***	***W 0 - 1/8 (0.122 mi.)***	***I64***	***180***
Release Tracking Number / Current Status: 3-0028297 / RAO				
COMPO INDUSTRIES INC	***200 MARKET ST***	***SSW 1/8 - 1/4 (0.130 mi.)***	***K66***	***183***
Release Tracking Number / Current Status: 3-0014200 / RAO				
NO LOCATION AID	***250 WORTHEN ST***	***SW 1/8 - 1/4 (0.198 mi.)***	***R83***	***235***
Release Tracking Number / Current Status: 3-0029298 / RAO				
HOLY TRINITY COMMUNI	***41 BROADWAY ST***	***SW 1/8 - 1/4 (0.235 mi.)***	***R93***	***252***
Release Tracking Number / Current Status: 3-0031218 / PSC				
MACHEROS SERVICE MAR	***66 BROADWAY ST***	***SW 1/4 - 1/2 (0.280 mi.)***	***100***	***262***
Release Tracking Number / Current Status: 3-0031034 / RAONR				
Release Tracking Number / Current Status: 3-0031840 / RAONR				
Release Tracking Number / Current Status: 3-0001620 / PSNC				
Release Tracking Number / Current Status: 3-0010974 / RAONR				
FORMER HAMILTON MILL	***165 JACKSON ST***	***S 1/4 - 1/2 (0.330 mi.)***	***W111***	***325***
Release Tracking Number / Current Status: 3-0026673 / RAO				
Release Tracking Number / Current Status: 3-0026030 / RAO				
Release Tracking Number / Current Status: 3-0032607 / URAM				
MORKLAND SCHOOL	***350 ADAMS ST***	***W 1/4 - 1/2 (0.340 mi.)***	***114***	***339***
Release Tracking Number / Current Status: 3-0016661 / RAO				
PROPERTIES	***65-87 101 AND 115 MI***	***S 1/4 - 1/2 (0.341 mi.)***	***AA117***	***346***
Release Tracking Number / Current Status: 3-0025403 / RAO				
Release Tracking Number / Current Status: 3-0026530 / RAONR				
ALBERT H NOTINI & SO	***225 AIKEN ST***	***WNW 1/4 - 1/2 (0.350 mi.)***	***AB119***	***355***

Release Tracking Number / Current Status: 3-0033517 / UNCLSS

AUTO GARAGE FMR	***220 AIKEN ST***	***WNW 1/4 - 1/2 (0.372 mi.)***	***AB125***	***389***
Release Tracking Number / Current Status: 3-0002153 / DEPNFA				
Release Tracking Number / Current Status: 3-0018429 / RAO				
MOBIL @ 4TH & BRIDGE	***443 BRIDGE ST***	***NE 1/4 - 1/2 (0.375 mi.)***	***126***	***391***
Release Tracking Number / Current Status: 3-0015387 / RAO				
NO LOCATION AID	***225 MIDDLESEX ST***	***SSW 1/4 - 1/2 (0.399 mi.)***	***AC135***	***451***
Release Tracking Number / Current Status: 3-0029573 / RAONR				
CROSS ST AND FLETCHE	***276 BROADWAY***	***WSW 1/4 - 1/2 (0.399 mi.)***	***AG136***	***457***
Release Tracking Number / Current Status: 3-0020993 / RAO				
NO LOCATION AID	***351 JACKSON ST***	***SSW 1/4 - 1/2 (0.413 mi.)***	***AI140***	***480***
Release Tracking Number / Current Status: 3-0026421 / RAO				
GASOLINE STATION	***FLETCHER STREET BROA***	***WSW 1/4 - 1/2 (0.413 mi.)***	***AG141***	***482***
Release Tracking Number / Current Status: 3-0001143 / RAO				
CITY OF LOWELL DPW	***261 AND 295 BROADWAY***	***WSW 1/4 - 1/2 (0.421 mi.)***	***AG145***	***499***
Release Tracking Number / Current Status: 3-0013249 / RAO				
NO LOCATION AID	***297-299 BROADWAY***	***WSW 1/4 - 1/2 (0.422 mi.)***	***AG146***	***507***
Release Tracking Number / Current Status: 3-0011986 / RAO				
HAMILTON CANAL DISTR	***JACKSON MIDDLESEX AN***	***SSW 1/4 - 1/2 (0.425 mi.)***	***AI147***	***512***
Release Tracking Number / Current Status: 3-0027400 / RAO				
NO LOCATION AID	***36 ADAMS ST***	***SW 1/4 - 1/2 (0.428 mi.)***	***AJ148***	***517***
Release Tracking Number / Current Status: 3-0025796 / RAO				
NO LOCATION AID	***6 KING ST***	***SSW 1/4 - 1/2 (0.449 mi.)***	***AI151***	***524***
Release Tracking Number / Current Status: 3-0026844 / RAO				
NO LOCATION AID	***323 MIDDLESEX ST***	***SSW 1/4 - 1/2 (0.451 mi.)***	***152***	***526***
Release Tracking Number / Current Status: 3-0020780 / RAO				
ADVANCED HEAT TREATM	***1 CUSHING ST***	***SW 1/4 - 1/2 (0.455 mi.)***	***154***	***528***
Release Tracking Number / Current Status: 3-0024198 / RAO				
FORMER DEMERS SHELL	***550 BRIDGE ST***	***NE 1/4 - 1/2 (0.462 mi.)***	***156***	***531***
Release Tracking Number / Current Status: 3-0011238 / RAO				
NO LOCATION AID	***179 CHARLES ST***	***SSE 1/4 - 1/2 (0.476 mi.)***	***159***	***544***
Release Tracking Number / Current Status: 3-0026979 / RAO				
NO LOCATION AID	***297 TO 299 BROADWAY***	***WSW 1/4 - 1/2 (0.481 mi.)***	***161***	***548***
Release Tracking Number / Current Status: 3-0018409 / RAONR				
NO LOCATION AID	***379 MIDDLESEX ST***	***SSW 1/4 - 1/2 (0.498 mi.)***	***AL164***	***552***
Release Tracking Number / Current Status: 3-0026426 / RAO				
NO LOCATION AID	***389 MIDDLESEX ST***	***SSW 1/2 - 1 (0.503 mi.)***	***AL165***	***554***
Release Tracking Number / Current Status: 3-0026425 / RAO				
NO LOCATION AID	***49-55 ROCK ST***	***SW 1/2 - 1 (0.506 mi.)***	***AM166***	***556***
Release Tracking Number / Current Status: 3-0030533 / RAO				
COMMERCIAL PROPERTY	***55 ROCK ST***	***SW 1/2 - 1 (0.513 mi.)***	***AM167***	***557***
Release Tracking Number / Current Status: 3-0001951 / DEPNDS				
JOAN FABRICS CORP	***122 WESTERN AVE***	***SW 1/2 - 1 (0.520 mi.)***	***168***	***558***
Release Tracking Number / Current Status: 3-0001840 / PENNFA				
NO LOCATION AID	***236 SALEM STREET***	***WNW 1/2 - 1 (0.541 mi.)***	***AN170***	***563***
Release Tracking Number / Current Status: 3-0031585 / RAO				
UMASS LOWELL LOT B	***257 SALEM ST***	***WNW 1/2 - 1 (0.552 mi.)***	***AN171***	***567***

Release Tracking Number / Current Status: 3-0031577 / RAO

GETTY MART	***276 HIGH ST***	***SE 1/2 - 1 (0.555 mi.)***	***172***	***568***

Release Tracking Number / Current Status: 3-0022121 / REMOPS
Release Tracking Number / Current Status: 3-0032435 / RAONR
Release Tracking Number / Current Status: 3-0019133 / RAO
Release Tracking Number / Current Status: 3-0032465 / RAONR

NO LOCATION AID	***841 MERRIMACK ST***	***WNW 1/2 - 1 (0.555 mi.)***	***AO173***	***588***

Release Tracking Number / Current Status: 3-0015547 / RAO

MA ELECTRIC	***163 CROSS ST***	***WSW 1/2 - 1 (0.567 mi.)***	***AP175***	***599***

Release Tracking Number / Current Status: 3-0017074 / RAO

MARTIN WELDING NORTH	***731 DUTTON ST***	***SW 1/2 - 1 (0.586 mi.)***	***AR178***	***609***

Release Tracking Number / Current Status: 3-0004815 / WCSPRM

NO LOCATION AID	***160 WESTERN AVE***	***SW 1/2 - 1 (0.586 mi.)***	***179***	***614***

Release Tracking Number / Current Status: 3-0031824 / RAONR

NO LOCATION AID	***498 BROADWAY***	***WSW 1/2 - 1 (0.586 mi.)***	***AS180***	***618***

Release Tracking Number / Current Status: 3-0026666 / RAONR

COSTELLO GYM PARKING	***1 UNIVERSITY AVE***	***WNW 1/2 - 1 (0.588 mi.)***	***AO181***	***631***

Release Tracking Number / Current Status: 3-0017984 / RAO
Release Tracking Number / Current Status: 3-0024534 / RAO

NO LOCATION AID	***68 ARCH ST***	***SSW 1/2 - 1 (0.590 mi.)***	***182***	***643***

Release Tracking Number / Current Status: 3-0017756 / RAO

NO LOCATION AID	***176 CROSS ST***	***WSW 1/2 - 1 (0.590 mi.)***	***AP183***	***644***

Release Tracking Number / Current Status: 3-0022348 / RAO

NO LOCATION AID	***234-266 MOUNT VERNON***	***WSW 1/2 - 1 (0.591 mi.)***	***AS184***	***646***

Release Tracking Number / Current Status: 3-0025790 / DPS

LOWELL, CITY OF	***234-266 MT VERNON ST***	***WSW 1/2 - 1 (0.591 mi.)***	***AS185***	***648***

Release Tracking Number / Current Status: 3-0028679 / RAONR
Release Tracking Number / Current Status: 3-0029098 / RAO

NO LOCATION AID	***129 WILLIE ST***	***WSW 1/2 - 1 (0.592 mi.)***	***AT186***	***653***

Release Tracking Number / Current Status: 3-0027843 / RAO

PERRY STREET SUBSTA	***53 PERRY ST***	***SE 1/2 - 1 (0.601 mi.)***	***AU187***	***655***

Release Tracking Number / Current Status: 3-0027669 / TMPS

PERRY STREET SUBSTAT	***53 PERRY STREET***	***SE 1/2 - 1 (0.601 mi.)***	***AU188***	***660***

Release Tracking Number / Current Status: 3-0031174 / RAONR

PARCEL 9 FORMERLY 30	***239.1 JACKSON ST***	***E 1/2 - 1 (0.602 mi.)***	***AV189***	***663***

Release Tracking Number / Current Status: 3-0029781 / TIERII

137 WILLIE STREET	***137 WILLIE ST***	***WSW 1/2 - 1 (0.602 mi.)***	***AT190***	***666***

Release Tracking Number / Current Status: 3-0030390 / RAO

WATER UTILITY	***PAWTUCKET BLVD***	***WNW 1/2 - 1 (0.604 mi.)***	***191***	***668***

Release Tracking Number / Current Status: 3-0014265 / RAO

COLONIAL GAS CO	***775 DUTTON ST***	***SW 1/2 - 1 (0.610 mi.)***	***AR192***	***670***

Release Tracking Number / Current Status: 3-0029807 / URAM
Release Tracking Number / Current Status: 3-0010486 / RAONR

PROPOSED MIDDLE SCHO	***225 MT VERNON ST***	***WSW 1/2 - 1 (0.613 mi.)***	***AS193***	***677***

Release Tracking Number / Current Status: 3-0021464 / RAO

SIDEWALK AREA (WEST	***CRNR OF ROCK AND MOU***	***WSW 1/2 - 1 (0.615 mi.)***	***194***	***681***

Release Tracking Number / Current Status: 3-0025025 / RAO

BOOTT MILLS STEAM PL	***246 1 MARKET ST***	***E 1/2 - 1 (0.615 mi.)***	***AV195***	***683***

Release Tracking Number / Current Status: 3-0025438 / RAO

COMMERCIAL PROPERTY ***774 DUTTON ST*** ***SW 1/2 - 1 (0.626 mi.)*** ***AR196*** ***689***
Release Tracking Number / Current Status: 3-0002629 / RAO

NO LOCATION AID ***262 PAWTUCKET ST*** ***WNW 1/2 - 1 (0.636 mi.)*** ***197*** ***694***
Release Tracking Number / Current Status: 3-0002609 / PSC

NO LOCATION AID ***51 TO 53 MT WASHINGT*** ***W 1/2 - 1 (0.638 mi.)*** ***198*** ***711***
Release Tracking Number / Current Status: 3-0019119 / RAO

NOKODE HOLDINGS LLC ***585-607 MIDDLESEX ST*** ***SW 1/2 - 1 (0.661 mi.)*** ***199*** ***712***
Release Tracking Number / Current Status: 3-0027367 / RAO

PROPOSED MIDDLE SCHO ***294 SCHOOL ST*** ***WSW 1/2 - 1 (0.665 mi.)*** ***AW201*** ***714***
Release Tracking Number / Current Status: 3-0020861 / RAO
Release Tracking Number / Current Status: 3-0021570 / RAO

OFF GRANT ST ***8 MARSHALL ST*** ***SSW 1/2 - 1 (0.667 mi.)*** ***202*** ***728***
Release Tracking Number / Current Status: 3-0012558 / RAO

COMFORT FURNITURE ***155 THORNDIKE ST*** ***SSW 1/2 - 1 (0.669 mi.)*** ***AX203*** ***729***
Release Tracking Number / Current Status: 3-0027324 / RAO

CRNR OF WESTFORD CHE ***55 CHELMSFORD ST*** ***SSW 1/2 - 1 (0.670 mi.)*** ***204*** ***731***
Release Tracking Number / Current Status: 3-0022488 / RAONR
Release Tracking Number / Current Status: 3-0022192 / RAO

NO LOCATION AID ***376 GORHAM ST*** ***S 1/2 - 1 (0.670 mi.)*** ***AY205*** ***735***
Release Tracking Number / Current Status: 3-0023039 / RAO

BROADWAY CONDOS ***590 BROADWAY*** ***WSW 1/2 - 1 (0.676 mi.)*** ***207*** ***745***
Release Tracking Number / Current Status: 3-0002102 / RAO

CENTENNIAL ISLAND ***WAMESIT CANAL*** ***SSE 1/2 - 1 (0.684 mi.)*** ***208*** ***748***
Release Tracking Number / Current Status: 3-0001549 / PENNFA

COLONIAL GAS CO ***DUTTON ST*** ***WSW 1/2 - 1 (0.689 mi.)*** ***AW209*** ***749***
Release Tracking Number / Current Status: 3-0000348 / TMPS

MULDOON BROS INC ***SCHOOL BUTTERFIELD S*** ***W 1/2 - 1 (0.695 mi.)*** ***210*** ***758***
Release Tracking Number / Current Status: 3-0014737 / RAO

LOWELL REGIONAL TRAN ***145 THORNDIKE ST*** ***SSW 1/2 - 1 (0.695 mi.)*** ***AX211*** ***760***
Release Tracking Number / Current Status: 3-0024236 / RAO

SOUTH OF WOBURN ST E ***495 S*** ***S 1/2 - 1 (0.697 mi.)*** ***AY213*** ***773***
Release Tracking Number / Current Status: 3-0010772 / RAO

NO LOCATION AID ***282 WESTERN AVE*** ***SW 1/2 - 1 (0.700 mi.)*** ***214*** ***774***
Release Tracking Number / Current Status: 3-0012042 / RAO
Release Tracking Number / Current Status: 3-0023512 / RAO

NO LOCATION AID ***54 AND 56 LILLEY AVE*** ***N 1/2 - 1 (0.705 mi.)*** ***215*** ***779***
Release Tracking Number / Current Status: 3-0015637 / RAO

M A COM INC ***100 CHELMSFORD ST*** ***SSW 1/2 - 1 (0.731 mi.)*** ***216*** ***781***
Release Tracking Number / Current Status: 3-0004796 / RAO
Release Tracking Number / Current Status: 3-0010720 / RAO
Release Tracking Number / Current Status: 3-0026816 / RAO
Release Tracking Number / Current Status: 3-0027315 / RAO

NO LOCATION AID ***736 MIDDLESEX ST*** ***SW 1/2 - 1 (0.753 mi.)*** ***217*** ***792***
Release Tracking Number / Current Status: 3-0017367 / RAO

NO LOCATION AID ***15 KYAN STREET*** ***WSW 1/2 - 1 (0.775 mi.)*** ***AZ219*** ***794***
Release Tracking Number / Current Status: 3-0032335 / RAONR

Release Tracking Number / Current Status: 3-0029748 / RAONR
Release Tracking Number / Current Status: 3-0030923 / TIERII
Release Tracking Number / Current Status: 3-0031817 / RAONR

PROPERTY	***BROADWAY***	***WSW 1/2 - 1 (0.779 mi.)***	***220***	***806***

Release Tracking Number / Current Status: 3-0001607 / WCSPRM

NO LOCATION AID	***1 KYAN ST***	***WSW 1/2 - 1 (0.807 mi.)***	***AZ223***	***809***

Release Tracking Number / Current Status: 3-0012789 / RAONR
Release Tracking Number / Current Status: 3-0016531 / RAONR
Release Tracking Number / Current Status: 3-0000347 / STMRET

NO LOCATION AID	***PEVEY ST @ ARLENE ST***	***WSW 1/2 - 1 (0.860 mi.)***	***BA224***	***818***

Release Tracking Number / Current Status: 3-0014250 / URAM

COMPO INDUSTRIES	***75 ROGERS ST***	***SSE 1/2 - 1 (0.861 mi.)***	***225***	***820***

Release Tracking Number / Current Status: 3-0029907 / TIERII
Release Tracking Number / Current Status: 3-0001154 / PENNFA

UMASS LOWELL	***293 RIVERSIDE STREET***	***NW 1/2 - 1 (0.872 mi.)***	***227***	***829***

Release Tracking Number / Current Status: 3-0030455 / URAM
Release Tracking Number / Current Status: 3-0030487 / PSC

PAWTUCKET CANAL	***706 BROADWAY***	***WSW 1/2 - 1 (0.882 mi.)***	***228***	***833***

Release Tracking Number / Current Status: 3-0013026 / RAO

NO LOCATION AID	***INTER OF ARLENE RD A***	***WSW 1/2 - 1 (0.883 mi.)***	***BA229***	***836***

Release Tracking Number / Current Status: 3-0025059 / URAM

ASTRO CIRCUIT CORP	***100 HALE ST***	***SSW 1/2 - 1 (0.924 mi.)***	***231***	***839***

Release Tracking Number / Current Status: 3-0000905 / RAO

NO LOCATION AID	***662 GORHAM ST***	***S 1/2 - 1 (0.952 mi.)***	***BB232***	***847***

Release Tracking Number / Current Status: 3-0025522 / RAO

VACANT LOT	***686 GORHAM ST***	***S 1/2 - 1 (0.959 mi.)***	***BB234***	***853***

Release Tracking Number / Current Status: 3-0023169 / RAO

ADJACENT TO #263 HOW	***HOWARD ST***	***S 1/2 - 1 (0.959 mi.)***	***BD235***	***855***

Release Tracking Number / Current Status: 3-0024869 / RAO

NOTRE DAME DE LOURDE	***100 SMITH ST***	***SW 1/2 - 1 (0.963 mi.)***	***236***	***856***

Release Tracking Number / Current Status: 3-0025780 / RAO

NATIONAL GRID CENTRA	***175 BARKER AVE***	***NNE 1/2 - 1 (0.968 mi.)***	***238***	***860***

Release Tracking Number / Current Status: 3-0026969 / RAO

POLE MOUNTED TRANSFO	***TANNER STREET AT HOW***	***S 1/2 - 1 (0.970 mi.)***	***BD239***	***862***

Release Tracking Number / Current Status: 3-0027580 / RAO

TRIUMVIRATE ENVIRONM	***263 HOWARD ST***	***S 1/2 - 1 (0.970 mi.)***	***BD240***	***863***

Release Tracking Number / Current Status: 3-0033348 / PSNC
Release Tracking Number / Current Status: 3-0025833 / RAO
Release Tracking Number / Current Status: 3-0032698 / PSNC
Release Tracking Number / Current Status: 3-0000601 / RAO

ELECTRO CIRCUITS INC	***176 WALKER STREET***	***WSW 1/2 - 1 (0.973 mi.)***	***242***	***1101***

Release Tracking Number / Current Status: 3-0011640 / RAO

NO LOCATION AID	***IRVING ST @ PINE HIL***	***S 1/2 - 1 (0.975 mi.)***	***243***	***1107***

Release Tracking Number / Current Status: 3-0015277 / RAO

NO LOCATION AID	***38 CARRIAGE DR***	***ESE 1/2 - 1 (0.985 mi.)***	***244***	***1108***

Release Tracking Number / Current Status: 3-0019216 / RAO

NO LOCATION AID	***207 WALKER ST***	***WSW 1/2 - 1 (0.988 mi.)***	***245***	***1113***

Release Tracking Number / Current Status: 3-0020178 / RAO

DEWIRE FABRICATING	***633 LAWRENCE ST***	***SSE 1/2 - 1 (0.997 mi.)***	***BC246***	***1115***

Release Tracking Number / Current Status: 3-0000139 / DEPNDS

Lower Elevation	Address	Direction / Distance	Map ID	Page
RIVER PLACE TOWERS	***115-145 POST OFFICE***	***NNW 0 - 1/8 (0.013 mi.)***	***C9***	***30***
Release Tracking Number / Current Status: 3-0014505 / RAO				
GASOLINE STATION FMR	***70 FRENCH AMORY ST***	***E 0 - 1/8 (0.016 mi.)***	***B10***	***34***
Release Tracking Number / Current Status: 3-0001975 / TIER1D				
NO LOCATION AID	***44 POST OFFICE SQ***	***N 0 - 1/8 (0.021 mi.)***	***C11***	***37***
Release Tracking Number / Current Status: 3-0015465 / RAONR				
FRED C CHURCH INSURA	***1 MERRIMACK PLZ***	***NNE 0 - 1/8 (0.050 mi.)***	***17***	***60***
Release Tracking Number / Current Status: 3-0024691 / RAO				
PAD-MOUNTED ELECTRIC	***155 FATHER MORISSETT***	***WNW 0 - 1/8 (0.056 mi.)***	***21***	***68***
Release Tracking Number / Current Status: 3-0029789 / RAO				
FORMER BOOTT COTTON	***130 FOOT OF JOHN ST***	***ENE 0 - 1/8 (0.059 mi.)***	***G22***	***71***
Release Tracking Number / Current Status: 3-0030667 / RAONR				
NO LOCATION AID	***300 FOOT OF JOHN ST***	***ENE 0 - 1/8 (0.069 mi.)***	***G34***	***100***
Release Tracking Number / Current Status: 3-0025037 / RAO				
GASOLINE STATION	***300 MERRIMACK ST***	***SW 0 - 1/8 (0.073 mi.)***	***F38***	***114***
Release Tracking Number / Current Status: 3-0028784 / RAO				
Release Tracking Number / Current Status: 3-0015400 / RAONR				
Release Tracking Number / Current Status: 3-0017484 / RAONR				
ROADWAY INCIDENT	***1 KEARNEY SQUARE***	***SE 0 - 1/8 (0.102 mi.)***	***H55***	***160***
Release Tracking Number / Current Status: 3-0030719 / RAO				
INDUSTRIAL PROPERTY	***661 SUFFOLK ST***	***NW 1/8 - 1/4 (0.143 mi.)***	***P68***	***193***
Release Tracking Number / Current Status: 3-0004196 / RAO				
HAFFNER'S SERVICE ST	***215 DUTTON ST***	***SW 1/8 - 1/4 (0.147 mi.)***	***Q71***	***201***
Release Tracking Number / Current Status: 3-0024693 / RAO				
NO LOCATION AID	***40 MARKET ST***	***SSE 1/8 - 1/4 (0.157 mi.)***	***M74***	***215***
Release Tracking Number / Current Status: 3-0024978 / RAO				
Release Tracking Number / Current Status: 3-0024852 / RAO				
RIVERWALK PROPERTY	***179 BRIDGE STREET***	***E 1/8 - 1/4 (0.159 mi.)***	***75***	***218***
Release Tracking Number / Current Status: 3-0032312 / TIERII				
LOWELL SUN PROPERTY	***30 MARKET ST***	***SSE 1/8 - 1/4 (0.161 mi.)***	***76***	***220***
Release Tracking Number / Current Status: 3-0001060 / DEPNFA				
TREMONT MILLS SITE	***FRENCH STREET EXT***	***ESE 1/8 - 1/4 (0.178 mi.)***	***79***	***224***
Release Tracking Number / Current Status: 3-0019880 / RAO				
PAD-MOUNTED ELECTRIC	***650 SUFFOLK ST***	***NW 1/8 - 1/4 (0.215 mi.)***	***T89***	***245***
Release Tracking Number / Current Status: 3-0030361 / RAO				
STARR REALTY PROPERT	***43 LAKEVIEW AVE***	***ENE 1/8 - 1/4 (0.247 mi.)***	***V95***	***254***
Release Tracking Number / Current Status: 3-0000852 / DPS				
METAL PRODUCTS FMR	***199 CABOT ST***	***NW 1/4 - 1/2 (0.252 mi.)***	***T97***	***258***
Release Tracking Number / Current Status: 3-0000712 / RAO				
CONDOMINIUM APARTMEN	***175 CABOT ST***	***WNW 1/4 - 1/2 (0.256 mi.)***	***98***	***259***
Release Tracking Number / Current Status: 3-0028468 / RAO				
JOAN FABRICS CORP	***19-27 JACKSON ST***	***SSE 1/4 - 1/2 (0.272 mi.)***	***99***	***261***
Release Tracking Number / Current Status: 3-0001839 / LSPNFA				
PAD MOUNTED TRANSFOR	***39 FIRST ST***	***ENE 1/4 - 1/2 (0.288 mi.)***	***101***	***282***

Release Tracking Number / Current Status: 3-0023993 / RAO

ADDEN FURNITURE INC	***26 JACKSON ST***	***S 1/4 - 1/2 (0.288 mi.)***	***W102***	***284***
Release Tracking Number / Current Status: 3-0026924 / RAO				
BRIDGE STREET SUNOCO	***356 BRIDGE ST***	***ENE 1/4 - 1/2 (0.302 mi.)***	***104***	***292***
Release Tracking Number / Current Status: 3-0001328 / RAO				
PENSTOCK IN HAMILTON	***161 JACKSON STREET***	***S 1/4 - 1/2 (0.306 mi.)***	***W105***	***299***
Release Tracking Number / Current Status: 3-0031862 / RAO				
APPLETON MILLS COMPL	***193 JACKSON STREET***	***S 1/4 - 1/2 (0.317 mi.)***	***W106***	***302***
Release Tracking Number / Current Status: 3-0030781 / RAONR				
UNIV OF LOWELL	***600 SUFFOLK ST***	***NW 1/4 - 1/2 (0.317 mi.)***	***Y107***	***306***
Release Tracking Number / Current Status: 3-0019314 / RAO				
U OF LOWELL PROPOSED	***AIKEN AVE PERKINS ST***	***NW 1/4 - 1/2 (0.317 mi.)***	***Y108***	***308***
Release Tracking Number / Current Status: 3-0000535 / RAO				
NO LOCATION AID	***169-171 JACKSON ST***	***SSW 1/4 - 1/2 (0.326 mi.)***	***109***	***321***
Release Tracking Number / Current Status: 3-0026422 / RAO				
NO LOCATION AID	***365 DUTTON ST***	***SW 1/4 - 1/2 (0.329 mi.)***	***110***	***323***
Release Tracking Number / Current Status: 3-0012739 / RAO				
Release Tracking Number / Current Status: 3-0013263 / RAO				
LOWELL SUN	***24 HOWE ST***	***ESE 1/4 - 1/2 (0.331 mi.)***	***Z112***	***329***
Release Tracking Number / Current Status: 3-0032350 / TIERII				
PARKING LOT	***30 HOWE ST***	***SE 1/4 - 1/2 (0.345 mi.)***	***Z118***	***352***
Release Tracking Number / Current Status: 3-0021465 / RAO				
NO LOCATION AID	***221 JACKSON ST***	***SSW 1/4 - 1/2 (0.351 mi.)***	***AC120***	***358***
Release Tracking Number / Current Status: 3-0013252 / RAO				
Release Tracking Number / Current Status: 3-0025687 / RAO				
Release Tracking Number / Current Status: 3-0011305 / RAO				
Release Tracking Number / Current Status: 3-0022865 / RAO				
NO LOCATION AID	***148 WARREN 242 CHURC***	***SE 1/4 - 1/2 (0.352 mi.)***	***AD121***	***370***
Release Tracking Number / Current Status: 3-0025738 / RAO				
BAGSHAW MILLS	***128-132 WARREN ST***	***SE 1/4 - 1/2 (0.359 mi.)***	***AD122***	***372***
Release Tracking Number / Current Status: 3-0012428 / RAONR				
NO LOCATION AID	***291 JACKSON ST***	***SSW 1/4 - 1/2 (0.380 mi.)***	***AE128***	***406***
Release Tracking Number / Current Status: 3-0027421 / RAO				
Release Tracking Number / Current Status: 3-0026423 / RAO				
DICKS SERVICE	***180 CHURCH ST***	***SE 1/4 - 1/2 (0.389 mi.)***	***AD129***	***410***
Release Tracking Number / Current Status: 3-0017036 / REMOPS				
Release Tracking Number / Current Status: 3-0028739 / RAONR				
NO LOCATION AID	***307 JACKSON ST***	***SSW 1/4 - 1/2 (0.390 mi.)***	***AE130***	***421***
Release Tracking Number / Current Status: 3-0026095 / RAO				
Release Tracking Number / Current Status: 3-0026424 / RAONR				
Release Tracking Number / Current Status: 3-0020636 / RAO				
HAMILTON CANAL DISTR	***291 AND 307 JACKSON***	***SSW 1/4 - 1/2 (0.390 mi.)***	***AE131***	***436***
Release Tracking Number / Current Status: 3-0027420 / RAONR				
ZAYRE STORE	***125 CHURCH ST***	***SE 1/4 - 1/2 (0.390 mi.)***	***AD132***	***438***
Release Tracking Number / Current Status: 3-0002798 / RAO				
UMASS LOWELL	***333 AIKEN ST***	***NW 1/4 - 1/2 (0.396 mi.)***	***AF133***	***440***
Release Tracking Number / Current Status: 3-0030594 / RAO				
COMP U TUNE FMR	***205 CHURCH ST***	***SE 1/4 - 1/2 (0.412 mi.)***	***AH138***	***464***

Release Tracking Number / Current Status: 3-0004664 / RAO

CONSTRUCTION SITE	***WARREN ST CHURCH ST***	***SE 1/4 - 1/2 (0.419 mi.)***	***AH142***	***483***
Release Tracking Number / Current Status: 3-0000356 / RAO				
Release Tracking Number / Current Status: 3-0000070 / DEPNDS				
HUNT FALLS ROTARY	***RTE 110 AND RTE 138***	***E 1/4 - 1/2 (0.468 mi.)***	***157***	***540***
Release Tracking Number / Current Status: 3-0024080 / RAO				
RESIDENCE	***125 COBURN ST***	***NNE 1/4 - 1/2 (0.478 mi.)***	***160***	***545***
Release Tracking Number / Current Status: 3-0017577 / RAO				
NO LOCATION AID	***14-16 PERRY ST***	***SE 1/4 - 1/2 (0.495 mi.)***	***163***	***551***
Release Tracking Number / Current Status: 3-0027273 / RAO				
PAVED AREA ALONG LAK	***1 ENNELL ST***	***NNW 1/2 - 1 (0.523 mi.)***	***169***	***560***
Release Tracking Number / Current Status: 3-0030766 / RAO				
NORTH CANAL	***145 PAWTUCKET STREET***	***WNW 1/2 - 1 (0.567 mi.)***	***174***	***592***
Release Tracking Number / Current Status: 3-0026174 / RAO				
Release Tracking Number / Current Status: 3-0024979 / RAO				
Release Tracking Number / Current Status: 3-0031876 / RAO				
COMMERCIAL PROPERTY	***700 AIKEN ST***	***NNW 1/2 - 1 (0.577 mi.)***	***AQ176***	***601***
Release Tracking Number / Current Status: 3-0031287 / RAO				
Release Tracking Number / Current Status: 3-0031602 / RAO				
CITGO STATION	***745 AIKEN AVE***	***NNW 1/2 - 1 (0.578 mi.)***	***AQ177***	***606***
Release Tracking Number / Current Status: 3-0000487 / RAO				
GREENHALGE SCHOOL	***149 ENNELL ST***	***N 1/2 - 1 (0.673 mi.)***	***206***	***744***
Release Tracking Number / Current Status: 3-0026159 / RAO				
MA0045	***801 LAKEVIEW AVE***	***NNW 1/2 - 1 (0.696 mi.)***	***212***	***764***
Release Tracking Number / Current Status: 3-0023912 / RAO				
Release Tracking Number / Current Status: 3-0010386 / RAO				
PROPERTY	***RIVERBY ST W SIXTH S***	***NNW 1/2 - 1 (0.794 mi.)***	***222***	***808***
Release Tracking Number / Current Status: 3-0001610 / WCSPRM				
PROPERTY	***129 MARTIN ST FILL A***	***NNW 1/2 - 1 (0.866 mi.)***	***226***	***826***
Release Tracking Number / Current Status: 3-0001609 / RAO				
PROPERTY	***160 MARTIN ST***	***NNW 1/2 - 1 (0.885 mi.)***	***230***	***838***
Release Tracking Number / Current Status: 3-0002086 / WCSPRM				
CENTENNIAL ISLAND AP	***576 LAWRENCE STREET***	***SSE 1/2 - 1 (0.952 mi.)***	***BC233***	***848***
Release Tracking Number / Current Status: 3-0031616 / PSC				
SPRAY TEC INC FMR	***34 NEWHALL ST***	***SSE 1/2 - 1 (0.966 mi.)***	***237***	***859***
Release Tracking Number / Current Status: 3-0000353 / DEPNDS				

State and tribal leaking storage tank lists

LUST: Sites within the Releases Database that have a UST listed as its source.

A review of the LUST list, as provided by EDR, and dated 06/28/2016 has revealed that there are 35 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
B00T MILLS MUSEUM	***115 JOHN ST***	***ESE 0 - 1/8 (0.002 mi.)***	***B8***	***27***

Release Tracking Number / Current Status: 3-0031857 / PSNC

LOWELL TOWN OF POLIC	***50 ARCAND DR***	***W 0 - 1/8 (0.022 mi.)***	***D15***	***47***
Release Tracking Number / Current Status: 3-0018004 / RAO				
HESS STATION 21509 F	***253 MERRIMACK ST***	***SW 0 - 1/8 (0.041 mi.)***	***E16***	***55***
Release Tracking Number / Current Status: 3-0004509 / RAO				
HESS STATION # 21509	***300 MERRIMAC STREET***	***WSW 0 - 1/8 (0.066 mi.)***	***F33***	***98***
Release Tracking Number / Current Status: 3-0032808 / PSNC				
COMPO INDUSTRIES INC	***200 MARKET ST***	***SSW 1/8 - 1/4 (0.130 mi.)***	***K66***	***183***
Release Tracking Number / Current Status: 3-0000041 / RAO				
HOLY TRINITY COMMUNI	***BROADWAY DUMMER ST***	***WSW 1/8 - 1/4 (0.224 mi.)***	***91***	***249***
Release Tracking Number / Current Status: 3-0000355 / DPSTRM				
MACHEROS SERVICE MAR	***66 BROADWAY ST***	***SW 1/4 - 1/2 (0.280 mi.)***	***100***	***262***
Release Tracking Number / Current Status: 3-0015257 / RAONR				
Release Tracking Number / Current Status: 3-0024276 / RAONR				
JAM PARKING GARAGE	***115 MIDDLESEX ST***	***S 1/4 - 1/2 (0.341 mi.)***	***AA115***	***340***
Release Tracking Number / Current Status: 3-0026258 / RAONR				
38 GORHAM STREET	***38 GORHAM ST***	***SSE 1/4 - 1/2 (0.363 mi.)***	***124***	***380***
Release Tracking Number / Current Status: 3-0023698 / PSC				
Release Tracking Number / Current Status: 3-0023852 / PSC				
MOBIL @ 4TH & BRIDGE	***443 BRIDGE ST***	***NE 1/4 - 1/2 (0.375 mi.)***	***126***	***391***
Release Tracking Number / Current Status: 3-0002593 / RAO				
Release Tracking Number / Current Status: 3-0015387 / RAO				
INTERSEC OF E MERRIM	***219 EAST MERRIMAC ST***	***ESE 1/4 - 1/2 (0.397 mi.)***	***134***	***447***
Release Tracking Number / Current Status: 3-0018128 / RAO				
NO LOCATION AID	***225 MIDDLESEX ST***	***SSW 1/4 - 1/2 (0.399 mi.)***	***AC135***	***451***
Release Tracking Number / Current Status: 3-0028616 / RAO				
CROSS ST AND FLETCHE	***276 BROADWAY***	***WSW 1/4 - 1/2 (0.399 mi.)***	***AG136***	***457***
Release Tracking Number / Current Status: 3-0020995 / RAO				
Release Tracking Number / Current Status: 3-0021274 / RAO				
LOWELL HOUSING AUTHO	***ADAMS ST***	***SW 1/4 - 1/2 (0.419 mi.)***	***AJ143***	***495***
Release Tracking Number / Current Status: 3-0000573 / PENNFA				
CITY OF LOWELL DPW	***261 AND 295 BROADWAY***	***WSW 1/4 - 1/2 (0.421 mi.)***	***AG145***	***499***
Release Tracking Number / Current Status: 3-0018083 / DEPNFA				
NO LOCATION AID	***297-299 BROADWAY***	***WSW 1/4 - 1/2 (0.422 mi.)***	***AG146***	***507***
Release Tracking Number / Current Status: 3-0011986 / RAO				
HAMILTON CANAL DISTR	***JACKSON MIDDLESEX AN***	***SSW 1/4 - 1/2 (0.425 mi.)***	***AI147***	***512***
Release Tracking Number / Current Status: 3-0027400 / RAO				
CASASOLA CORP	***37 CHARLES ST***	***SSE 1/4 - 1/2 (0.470 mi.)***	***158***	***542***
Release Tracking Number / Current Status: 3-0022355 / RAO				

Lower Elevation	Address	Direction / Distance	Map ID	Page
POST OFFICE SQ	***44 POST OFFICE SQ***	***N 0 - 1/8 (0.021 mi.)***	***C12***	***39***
Release Tracking Number / Current Status: 3-0000354 / RAO				
GASOLINE STATION	***300 MERRIMACK ST***	***SW 0 - 1/8 (0.073 mi.)***	***F38***	***114***
Release Tracking Number / Current Status: 3-0028784 / RAO				
WANNALANCIT OFFICE &	***660 SUFFOLK ST***	***NW 1/8 - 1/4 (0.186 mi.)***	***P82***	***233***
Release Tracking Number / Current Status: 3-0014272 / RAO				
ALONG DAVIDSON ST	***33 EAST MERRIMACK ST***	***ESE 1/8 - 1/4 (0.249 mi.)***	***U96***	***256***

Release Tracking Number / Current Status: 3-0025921 / RAO

U OF LOWELL PROPOSED	***AIKEN AVE PERKINS ST***	***NW 1/4 - 1/2 (0.317 mi.)***	***Y108***	***308***
Release Tracking Number / Current Status: 3-0000535 / RAO				
LOWELL SUN	***24 HOWE ST***	***ESE 1/4 - 1/2 (0.331 mi.)***	***Z112***	***329***
Release Tracking Number / Current Status: 3-0010673 / RAO				
BAGSHAW MILLS	***128-132 WARREN ST***	***SE 1/4 - 1/2 (0.359 mi.)***	***AD122***	***372***
Release Tracking Number / Current Status: 3-0012428 / RAONR				
PROPERTY	***128 WARREN ST***	***SE 1/4 - 1/2 (0.359 mi.)***	***AD123***	***376***
Release Tracking Number / Current Status: 3-0003213 / RAO				
ZAYRE STORE	***125 CHURCH ST***	***SE 1/4 - 1/2 (0.390 mi.)***	***AD132***	***438***
Release Tracking Number / Current Status: 3-0002798 / RAO				
UMASS LOWELL	***333 AIKEN ST***	***NW 1/4 - 1/2 (0.396 mi.)***	***AF133***	***440***
Release Tracking Number / Current Status: 3-0030594 / RAO				
Release Tracking Number / Current Status: 3-0030712 / RAO				
COMP U TUNE FMR	***205 CHURCH ST***	***SE 1/4 - 1/2 (0.412 mi.)***	***AH138***	***464***
Release Tracking Number / Current Status: 3-0004664 / RAO				
CONSTRUCTION SITE	***WARREN ST CHURCH ST***	***SE 1/4 - 1/2 (0.419 mi.)***	***AH142***	***483***
Release Tracking Number / Current Status: 3-0000356 / RAO				
ST JOHNS PROPERTY	***EAST MERRIMAC ST NES***	***E 1/4 - 1/2 (0.430 mi.)***	***AK149***	***519***
Release Tracking Number / Current Status: 3-0002928 / RAO				
SAINTS MEMORIAL MEDI	***HOSPITAL DR***	***E 1/4 - 1/2 (0.442 mi.)***	***AK150***	***520***
Release Tracking Number / Current Status: 3-0013635 / RAO				
LOWELL HOUSING AUTH	***572-610 LAKEVIEW AVE***	***N 1/4 - 1/2 (0.455 mi.)***	***153***	***527***
Release Tracking Number / Current Status: 3-0016801 / RAO				
CORNER OF WEST ST	***163 WEST SIXTH ST***	***NNE 1/4 - 1/2 (0.461 mi.)***	***155***	***530***
Release Tracking Number / Current Status: 3-0017256 / RAO				
UNIV MA LOWELL	***86 PAWTUCKET ST***	***NW 1/4 - 1/2 (0.493 mi.)***	***162***	***549***
Release Tracking Number / Current Status: 3-0015717 / RAO				

LAST: The Leaking Aboveground Storage Tanks database

A review of the LAST list, as provided by EDR, and dated 06/28/2016 has revealed that there are 2 LAST sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
NO LOCATION AID	***221 JACKSON ST***	***SSW 1/4 - 1/2 (0.351 mi.)***	***AC120***	***358***
Release Tracking Number / Current Status: 3-0011305 / RAO				
COMP U TUNE FMR	***205 CHURCH ST***	***SE 1/4 - 1/2 (0.412 mi.)***	***AH138***	***464***
Release Tracking Number / Current Status: 3-0011311 / RAO				

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Summary Listing of all the Tanks Registered in the State of Massachusetts.

A review of the UST list, as provided by EDR, and dated 05/18/2016 has revealed that there are 6 UST

sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
B00T MILLS MUSEUM Tank Status: In Use Facility Id: 22777	***115 JOHN ST***	***ESE 0 - 1/8 (0.002 mi.)***	***B8***	***27***
LOWELL POLICE - FIRE Tank Status: In Use Facility Id: 22728	***50 ARCAND DR***	***W 0 - 1/8 (0.022 mi.)***	***D14***	***45***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HESS GAS STATION Tank Status: In Use Tank Status: Tank Removed Facility Id: 19530	***300 MERRIMACK ST***	***SW 0 - 1/8 (0.073 mi.)***	***F39***	***134***
LOWELL POLICE GARAGE Tank Status: Tank Removed Tank Status: Tank Temporarily Out Facility Id: 19528	***152 RIVER PL***	***NNW 1/8 - 1/4 (0.145 mi.)***	***O70***	***197***
HEG #107 Tank Status: In Use Facility Id: 40139	***215 DUTTON ST***	***SW 1/8 - 1/4 (0.147 mi.)***	***Q72***	***208***
MIDDLESEX COMMUNITY Tank Status: In Use Facility Id: 22757	***33 KEARNY SQ***	***SE 1/8 - 1/4 (0.166 mi.)***	***N77***	***221***

State and tribal institutional control / engineering control registries

INST CONTROL: Activity and Use Limitations establish limits and conditions on the future use of contaminated property, and therefore allow cleanups to be tailored to these uses.

A review of the INST CONTROL list, as provided by EDR, and dated 06/28/2016 has revealed that there are 10 INST CONTROL sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOWELL TOWN OF POLIC Release Tracking Number: 3-0018004	***50 ARCAND DR***	***W 0 - 1/8 (0.022 mi.)***	***D15***	***47***
PROPERTIES Release Tracking Number: 3-0025403	***65-87 101 AND 115 MI***	***S 1/4 - 1/2 (0.341 mi.)***	***AA117***	***346***
MOBIL @ 4TH & BRIDGE Release Tracking Number: 3-0002593 Release Tracking Number: 3-0015387	***443 BRIDGE ST***	***NE 1/4 - 1/2 (0.375 mi.)***	***126***	***391***

Lower Elevation	Address	Direction / Distance	Map ID	Page
RIVER PLACE TOWERS Release Tracking Number: 3-0014505	***115-145 POST OFFICE***	***NNW 0 - 1/8 (0.013 mi.)***	***C9***	***30***
POST OFFICE SQ	***44 POST OFFICE SQ***	***N 0 - 1/8 (0.021 mi.)***	***C12***	***39***

Release Tracking Number: 3-0000354

TREMONT MILLS SITE	***FRENCH STREET EXT***	***ESE 1/8 - 1/4 (0.178 mi.)***	***79***	***224***
Release Tracking Number: 3-0019880				
ADDEN FURNITURE INC	***26 JACKSON ST***	***S 1/4 - 1/2 (0.288 mi.)***	***W102***	***284***
Release Tracking Number: 3-0026924				
U OF LOWELL PROPOSED	***AIKEN AVE PERKINS ST***	***NW 1/4 - 1/2 (0.317 mi.)***	***Y108***	***308***
Release Tracking Number: 3-0000535				
NO LOCATION AID	***221 JACKSON ST***	***SSW 1/4 - 1/2 (0.351 mi.)***	***AC120***	***358***
Release Tracking Number: 3-0025687				
NO LOCATION AID	***307 JACKSON ST***	***SSW 1/4 - 1/2 (0.390 mi.)***	***AE130***	***421***
Release Tracking Number: 3-0026095				

State and tribal Brownfields sites

BROWNFIELDS: Under Massachusetts law, M.G.L. c. 21E is the statute that governs the cleanup of releases of oil and/or hazardous material to the environment. The Brownfields Act of 1998 amended M.G.L. c. 21E by establishing significant liability relief and financial incentives to spur the redevelopment of brownfields, while ensuring that the Commonwealth's environmental standards are met. Most brownfields are redeveloped with the benefit of liability protections that operate automatically under M.G.L. c. 21E.

A review of the BROWNFIELDS list, as provided by EDR, has revealed that there are 3 BROWNFIELDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COMPO INDUSTRIES INC	***200 MARKET ST***	***SSW 1/8 - 1/4 (0.130 mi.)***	***K66***	***183***
Database: BROWNFIELDS 2, Date of Government Version: 05/13/2016				
MCP Status: RAO				
RTN: 3-0000041				
HAMILTON CANAL DISTR	***JACKSON MIDDLESEX AN***	***SSW 1/4 - 1/2 (0.425 mi.)***	***AI147***	***512***
Database: BROWNFIELDS 2, Date of Government Version: 05/13/2016				
MCP Status: RAO				
RTN: 3-0027400				

Lower Elevation	Address	Direction / Distance	Map ID	Page
NO LOCATION AID	***307 JACKSON ST***	***SSW 1/4 - 1/2 (0.390 mi.)***	***AE130***	***421***
Database: BROWNFIELDS, Date of Government Version: 12/31/2015				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 03/21/2016 has revealed that there

are 25 US BROWNFIELDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
158 & 176 MIDDLE STR	***158 MIDDLE STREET***	***SSW 0 - 1/8 (0.097 mi.)***	***K49***	***153***
101 MIDDLESEX STREET	***101 MIDDLESEX STREET***	***S 1/4 - 1/2 (0.338 mi.)***	***X113***	***334***
115 MIDDLESEX STREET	***115 MIDDLESEX STREET***	***S 1/4 - 1/2 (0.341 mi.)***	***AA116***	***342***
276 BROADWAY STREET	276 BROADWAY STREET	WSW 1/4 - 1/2 (0.399 mi.)	AG137	462
351 JACKSON STREET	***351 JACKSON STREET***	***SSW 1/4 - 1/2 (0.413 mi.)***	***AI139***	***473***

Lower Elevation	Address	Direction / Distance	Map ID	Page
44 POST OFFICE PAUL	44 POST OFFICE ST	N 0 - 1/8 (0.021 mi.)	C13	43
DAVIDSON STREET PROP	***UNKNOWN***	***SW 0 - 1/8 (0.051 mi.)***	***E18***	***61***
DUTTON STREET	***DUTTON STREET***	***SW 0 - 1/8 (0.053 mi.)***	***F19***	***64***
180 CHURCH STREET	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F23***	***72***
171 LINCOLN STREET	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F24***	***75***
28 LIVINGSTON STREET	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F25***	***77***
1995 MIDDLESEX STREE	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F26***	***80***
ASSETS BUILDINGS SIT	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F27***	***82***
CITY PARCELS	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F28***	***85***
33 E. MERRIMACK STRE	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F29***	***87***
HOWARD AND ARCH STRE	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F30***	***90***
10 DAVIDSON STREET	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F31***	***93***
2011 MIDDLESEX STREE	***296 MERRIMACK ST***	***WSW 0 - 1/8 (0.064 mi.)***	***F32***	***95***
100 RIVER PLACE	***100 RIVER PLACE***	***NNW 1/8 - 1/4 (0.131 mi.)***	***O67***	***191***
152 RIVER PLACE	152 RIVER PLACE	NNW 1/8 - 1/4 (0.145 mi.)	O69	195
174 RIVER PLACE	***174 RIVER PLACE***	***N 1/8 - 1/4 (0.150 mi.)***	***O73***	***212***
11 E. MERRIMACK STRE	***11 EAST MERRIMACK ST***	***ESE 1/8 - 1/4 (0.218 mi.)***	***U90***	***246***
68 JACKSON STREET	***68 JACKSON STREET***	***S 1/4 - 1/2 (0.299 mi.)***	***X103***	***289***
291 JACKSON STREET	***291 JACKSON STREET***	***SSW 1/4 - 1/2 (0.380 mi.)***	***AE127***	***399***
450 AIKEN ST LELACH	***450 AIKEN STREET***	***NW 1/4 - 1/2 (0.420 mi.)***	***AF144***	***496***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/09/2015 has revealed that there are 17 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOWELL TOWN OF POLIC	***50 ARCAND DR***	***W 0 - 1/8 (0.022 mi.)***	***D15***	***47***
GOODYEAR TIRE & AUTO	***338 MERRIMACK ST***	***WSW 0 - 1/8 (0.084 mi.)***	***F47***	***149***
COMPO IND INC BRADFO	***200 MARKET ST***	***SSW 1/8 - 1/4 (0.130 mi.)***	***K65***	***181***
COMPO INDUSTRIES INC	***200 MARKET ST***	***SSW 1/8 - 1/4 (0.130 mi.)***	***K66***	***183***
ACE EXPRESS CO	***70 DUMMER***	***WSW 1/8 - 1/4 (0.172 mi.)***	***78***	***222***

Lower Elevation	Address	Direction / Distance	Map ID	Page
EAGLE STAMP CO INC	***13 SHATTUCK ST***	***SW 0 - 1/8 (0.055 mi.)***	***E20***	***66***
KONARKA TECHNOLOGIES	***116 JOHN ST***	***ENE 0 - 1/8 (0.070 mi.)***	***G37***	***108***
LOWELL SHOE INC	95 BRIDGE ST	ESE 0 - 1/8 (0.098 mi.)	L50	155

Lower Elevation	Address	Direction / Distance	Map ID	Page
ASSEMBLY SERVICES CO	95 BRIDGE ST	ESE 0 - 1/8 (0.098 mi.)	L51	156
LOWELL SHOE INC	***95 BRIDGE ST***	***ESE 0 - 1/8 (0.098 mi.)***	***L52***	***157***
PARIS SHOE CO INC	95 BRIDGE ST	ESE 0 - 1/8 (0.098 mi.)	L53	159
LOWELL SUN PUBLISHIN	***15 KEARNEY SQ***	***SE 0 - 1/8 (0.107 mi.)***	***H56***	***162***
AUTOZONE 3749	114 BRIDGE ST	E 0 - 1/8 (0.110 mi.)	L58	166
COMFED SAVINGS BANK	***44 MIDDLE ST PO BOX***	***SSE 0 - 1/8 (0.111 mi.)***	***M59***	***167***
NORTH AMERICAN DIREC	17 HALL ST	NW 1/8 - 1/4 (0.203 mi.)	S84	237
AMES TEXTILE CORP	750 SUFFOLK ST	NW 1/8 - 1/4 (0.207 mi.)	S85	238
MERRIMACK METAL RECL	***750 SUFFOLK ST***	***NW 1/8 - 1/4 (0.207 mi.)***	***S86***	***240***

HW GEN: Permanent generator identification numbers for all Massachusetts generators of hazardous waste and waste oil that have registered with or notified MassDEP of their hazardous waste activities.

A review of the HW GEN list, as provided by EDR, and dated 06/21/2016 has revealed that there are 15 HW GEN sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOWELL FIRE DEPARTME State Generator Status: SQG-MA EPA Id: MAD982197725	99 MOODY ST	W 0 - 1/8 (0.075 mi.)	I43	143
GOODYEAR TIRE & AUTO State Generator Status: LQG-MA EPA Id: MAD149981524	***338 MERRIMACK ST***	***WSW 0 - 1/8 (0.084 mi.)***	***F46***	***146***
OWL STAMP CO State Generator Status: VQG-MA EPA Id: MV9784524541	142 MIDDLE ST	SSW 0 - 1/8 (0.098 mi.)	K54	160
WANNALANCIT BUILDING State Generator Status: LQG-MA EPA Id: MAC300001153	600 SUFFOLK ST	WNW 1/8 - 1/4 (0.181 mi.)	P80	229

Lower Elevation	Address	Direction / Distance	Map ID	Page
CVS PHARMACY 1000 EPA Id: MAC300019775	35 MERRIMACK ST	SE 0 - 1/8 (0.069 mi.)	H35	102
KONARKA TECHNOLOGIES State Generator Status: VQG-MA EPA Id: MV9784592030 EPA Id: MAC300015864	***116 JOHN ST***	***ENE 0 - 1/8 (0.070 mi.)***	***G37***	***108***
GASOLINE STATION EPA Id: MAD982197410	***300 MERRIMACK ST***	***SW 0 - 1/8 (0.073 mi.)***	***F38***	***114***
LOWELL NATIONAL HIST State Generator Status: VQG-MA EPA Id: MAC300001161	400 FOOT OF JOHN ST	ENE 0 - 1/8 (0.075 mi.)	G41	141
AUTOZONE 3749 State Generator Status: LQG-MA EPA Id: MAC300017787	114 BRIDGE ST	E 0 - 1/8 (0.110 mi.)	L57	165
MIDDLESEX COMMUNITY EPA Id: MV9788563206	***44 MIDDLE ST***	***SSE 0 - 1/8 (0.111 mi.)***	***M60***	***168***
LOWELL FAMILY DENTAL	133 MARKET ST	SSW 0 - 1/8 (0.121 mi.)	K62	169

EPA Id: MV9784581179				
AMES PHOTONICS CENTE State Generator Status: LQG-MA EPA Id: MAC300017340	720 SUFFOLK ST	NW 1/8 - 1/4 (0.208 mi.)	S88	245
PAD-MOUNTED ELECTRIC State Generator Status: VQG-MA EPA Id: MV9784411117	***650 SUFFOLK ST***	***NW 1/8 - 1/4 (0.215 mi.)***	***T89***	***245***
TOP END AUTOMOTIVE State Generator Status: VQG-MA EPA Id: MV9789375155	78 LAKEVIEW AVE	NE 1/8 - 1/4 (0.232 mi.)	V92	252
ELEMENT CARE INC EPA Id: MAC300101078	166 CENTRAL ST	SSE 1/8 - 1/4 (0.238 mi.)	94	254

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

A review of the EDR MGP list, as provided by EDR, has revealed that there are 3 EDR MGP sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOWELL GAS WORKS	ROCK STREET	WSW 1/2 - 1 (0.664 mi.)	AW200	714
LOWELL GAS LIGHT CO	SCHOOL STREET	WSW 1/2 - 1 (0.768 mi.)	218	794
LOWELL GAS LIGHT CO	PERRIN STREET	WSW 1/2 - 1 (0.788 mi.)	221	807

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	338 MERRIMACK ST	WSW 0 - 1/8 (0.084 mi.)	F45	146

EXECUTIVE SUMMARY

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there is 1 EDR Hist Cleaner site within approximately 0.125 miles of the target property.

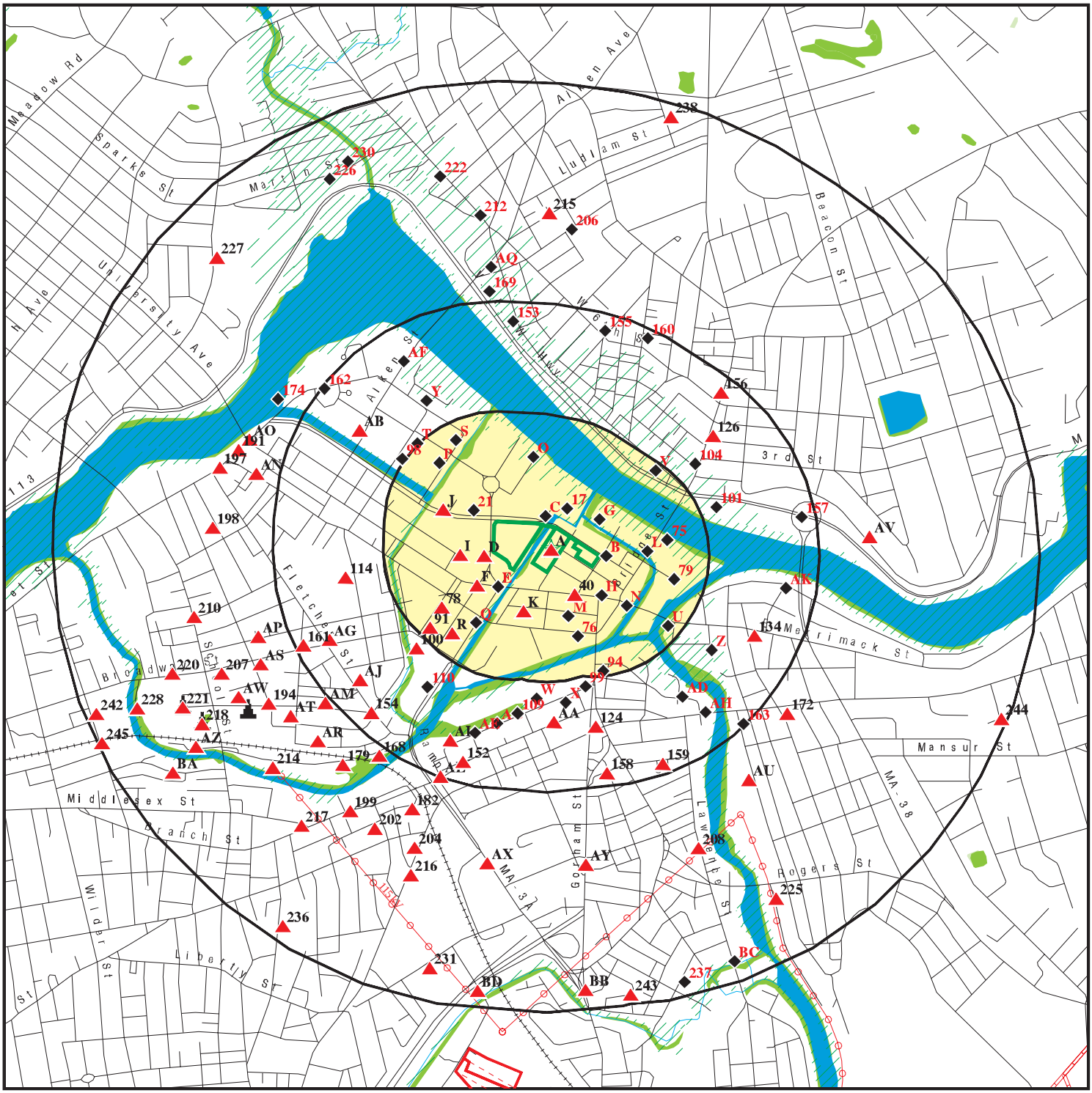
Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	49 KEARNEY SQ	SE 0 - 1/8 (0.119 mi.)	N61	169

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 25 records.

Site Name	Database(s)
UTILITY POLE NUMBER 38	SHWS, RELEASE
POLE 98	SHWS, RELEASE
1/4 EAST OF QUARRY GATE	SHWS, RELEASE
EAST SIDE UTILITY POLE 20	SHWS, RELEASE
NO LOCATION AID	SHWS, RELEASE
MASSACHUSETTS MILL III	SHWS, RELEASE
NO LOCATION AID	SHWS, RELEASE
PROPRIETORS OF THE LOWELL CEMETERY	SHWS, RELEASE, ENF
NO LOCATION AID	SHWS, RELEASE
MASS MILLS III LIMITED PARTNERSHIP	SHWS, RELEASE
NATIONAL GRID	SHWS, RELEASE, ENF
MASS ELECTRIC	SHWS, RELEASE
UTILITY POLE NO 14	SHWS, RELEASE
POLE NO 61	SHWS, RELEASE
ROGERS STREET	SHWS, RELEASE
ROADWAY	SHWS, RELEASE
UNIVERSITY AVE BRIDGE	SHWS, RELEASE, ENF
UMASS LOWELL CAMPUS	SHWS, RELEASE
NO LOCATION AID	SHWS, RELEASE
RAILROAD TRACKS NEAR WESTERN AVENU	SHWS, RELEASE
G MILL	SHWS, RELEASE
KEATING MATERIALS CORP	SEMS-ARCHIVE
PEARSON-PALM	SEMS-ARCHIVE
US POSTAL SERVICE	SEMS-ARCHIVE, RCRA-CESQG
GORHAM STREET LANDFILL	SWF/LF

OVERVIEW MAP - 4714118.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Critical Environmental Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Lowell High School	CLIENT:	Nobis Engineering, Inc.
ADDRESS:	50 FATHER MORISSETTE BLVD LOWELL MA 01852	CONTACT:	Evan Rudomen
LAT/LONG:	42.647097 / 71.31045	INQUIRY #:	4714118.2s
		DATE:	August 30, 2016 3:05 pm

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DETAIL MAP - 4714118.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Critical Environmental Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Lowell High School	CLIENT:	Nobis Engineering, Inc.
ADDRESS:	50 FATHER MORISSETTE BLVD LOWELL MA 01852	CONTACT:	Evan Rudomen
LAT/LONG:	42.647097 / 71.31045	INQUIRY #:	4714118.2s
		DATE:	August 30, 2016 3:06 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	1	NR	1
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		1	0	NR	NR	NR	1
RCRA-SQG	0.250		1	2	NR	NR	NR	3
RCRA-CESQG	0.250	1	3	0	NR	NR	NR	4
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		17	11	50	78	NR	156
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		6	4	25	NR	NR	35
LAST	0.500		0	0	2	NR	NR	2
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		3	3	NR	NR	NR	6
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
INST CONTROL	0.500		3	1	6	NR	NR	10
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	1	2	NR	NR	3
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		14	4	7	NR	NR	25
Local Lists of Landfill / Solid Waste Disposal Sites								
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
RELEASE	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		11	6	NR	NR	NR	17
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP	1	NR	NR	NR	NR	NR	1
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	3	NR	NR	NR	NR	NR	3
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
AIRS	TP	1	NR	NR	NR	NR	NR	1
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
GWDP	TP		NR	NR	NR	NR	NR	0
HW GEN	0.250	1	10	5	NR	NR	NR	16
LEAD	TP		NR	NR	NR	NR	NR	0
MERCURY	0.500		0	0	0	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
TSD	0.500		0	0	0	NR	NR	0
ECHO	TP	3	NR	NR	NR	NR	NR	3
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	3	NR	3
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		1	NR	NR	NR	NR	1
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		10	71	37	92	82	0	292

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **LOWELL HIGH SCHOOL** **FINDS** **1008227123**
Target **KIRK STREET** **ECHO** **N/A**
Property **LOWELL, MA 01852**

Site 1 of 5 in cluster A

Actual:
89 ft.

FINDS:

Registry ID: 110020943611

Environmental Interest/Information System
US EPA Air Quality System (AQS) contains ambient air pollution data collected by EPA, State, Local, and Tribal air pollution control agencies from thousands of monitoring stations.

ECHO:
Envid: 1008227123
Registry ID: 110020943611
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110020943611

A2 **LOWELL HIGH SCHOOL** **US AIRS** **1008248024**
Target **50 FRENCH MORISSETTE BLVD** **FINDS** **N/A**
Property **LOWELL, MA 01854** **ECHO**

Site 2 of 5 in cluster A

Actual:
89 ft.

US AIRS MINOR:
Envid: 1008248024
Region Code: 01
Programmatic ID: AIR MA0000002512100421
Facility Registry ID: 110021357048
D and B Number: Not reported
Primary SIC Code: Not reported
NAICS Code: 611110
Default Air Classification Code: MIN
Facility Type of Ownership Code: CTG
Air CMS Category Code: Not reported
HPV Status: Not reported

US AIRS MINOR:
Region Code: 01
Programmatic ID: AIR MA0000002512100421
Facility Registry ID: 110021357048
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2005-03-23 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100421
Facility Registry ID: 110021357048
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-01-26 00:00:00

LOWELL HIGH SCHOOL (Continued) **1008248024**

Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100421
Facility Registry ID: 110021357048
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2013-02-01 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100421
Facility Registry ID: 110021357048
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-03-06 00:00:00
Activity Status Date: 2012-03-06 00:00:00
Activity Group: Enforcement Action
Activity Type: Administrative - Informal
Activity Status: Achieved

FINDS:

Registry ID: 110021357048

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

AIR MINOR

LOWELL HIGH SCHOOL (Continued) **1008248024**

ECHO:
Envid: 1008248024
Registry ID: 110021357048
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110021357048

A3 Target Property **LOWELL HIGH SCHOOL** **RCRA-CESQG** **1001228532**
50 FRENCH ST **MAR000010918**
LOWELL, MA 01854

Site 3 of 5 in cluster A

Actual: 89 ft.

RCRA-CESQG:
Date form received by agency: 06/26/1998
Facility name: LOWELL HIGH SCHOOL
Facility address: 50 FRENCH ST
LOWELL, MA 01854
EPA ID: MAR000010918
Mailing address: 50 FRENCH STREET
LOWELL, MA 018540000
Contact: ENVR ENGINEER
Contact address: 50 FRENCH ST
LOWELL, MA 01854
Contact country: US
Contact telephone: (999) 999-9999
Contact email: Not reported
EPA Region: 01
Land type: Municipal
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: CITY OF LOWELL
Owner/operator address: 50 FRENCH ST
LOWELL, MA 01854
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Municipal
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Owner/operator name: LOWELL HIGH SCHOOL
Owner/operator address: 50 FRENCH ST
LOWELL, MA 01854

LOWELL HIGH SCHOOL (Continued) **1001228532**

Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 07/29/1996
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Not reported
Date violation determined: Not reported
Date achieved compliance: Not reported
Violation lead agency: Not reported
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 01/26/2012
Date achieved compliance: 02/21/2013
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/06/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Universal Waste - Small Quantity Handlers
Date violation determined: 01/26/2012

LOWELL HIGH SCHOOL (Continued) **1001228532**

Date achieved compliance: 02/01/2013
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/06/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 01/26/2012
Date achieved compliance: 02/01/2013
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/06/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/01/2013
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/26/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 02/01/2013
Evaluation lead agency: State

Evaluation date: 01/26/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/21/2013
Evaluation lead agency: State

Evaluation date: 01/26/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Universal Waste - Small Quantity Handlers
Date achieved compliance: 02/01/2013
Evaluation lead agency: State

Evaluation date: 01/09/2004
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/26/1998

LOWELL HIGH SCHOOL (Continued) **1001228532**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

A4 Target Property **LOWELL HIGH SCHOOL** **AIRS S108034144**
50 FRENCH ST **HW GEN N/A**
LOWELL, MA 01854

Site 4 of 5 in cluster A

Actual: 89 ft.

AIRS:
Facility Status: APPROV
Permit Code: AQ02
Permit Name: Plan Application Non-Major Comprehensive
DEP Region: NE
Application Tracking Number: 110760
Date Closed: 08/13/1996
Applicant Name: CITY OF LOWELL
Applicant Address: 50 CHEEVER ST
Applicant City,St,Zip: DRACUT, MA 01826
Applicant Telephone: 9789704248

HW GEN:
EPA Id: MAR000010918
RCRA Generator Status: VSQG
State Generator Status: Not reported

A5 Target Property **LOCATED AT SOUTHWEST CORNER OF LOWELL HIGH SCHOOL ROOF** **FINDS 1008208741**
50 FRENCH STREET, LOWELL **ECHO N/A**
LOWELL, MA 01852

Site 5 of 5 in cluster A

Actual: 89 ft.

FINDS:

Registry ID: 110020851327

Environmental Interest/Information System
AIR EMISSIONS CLASSIFICATION UNKNOWN

US EPA Air Quality System (AQS) contains ambient air pollution data collected by EPA, State, Local, and Tribal air pollution control agencies from thousands of monitoring stations.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1008208741
Registry ID: 110020851327
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110020851327

B6 **FORMER BOOTT COTTON MILL** **SHWS** **S109157455**
130 JOHN ST **RELEASE** **N/A**
< 1/8 **LOWELL, MA 01852** **ENF**
1 ft. **LEAD**

Site 1 of 4 in cluster B

Relative: Higher

Actual: 91 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026688 / TIERII
Release Town:	LOWELL
Notification Date:	03/20/2007
Category:	120 DY
Associated ID:	3-0026688
Current Status:	**Tier II, A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.**
Status Date:	04/11/2012
Phase:	PHASE IV
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Source:	UNKNOWN
Source:	TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	TOTAL POLYCHLORINATED BIPHENYL CMPDS
Quantity:	22.73 parts per million

Actions:

Action Type:	FTLI
Action Status:	Action Status or AUL Terminated
Action Date:	1/12/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	1/17/2008
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/19/2011
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	10/28/2011
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	12/16/2013
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/18/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 2/10/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 2/5/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 3/10/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/10/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 3/20/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/20/2007
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/20/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 3/20/2007
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 3/20/2012

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 3/25/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/25/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 3/28/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Partial RAO for this RTN
Action Status: PSNRCD
Action Date: 4/14/2015
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 4/14/2015
Response Action Outcome: Not reported

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/17/2007
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	4/23/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	4/24/2012
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Completion Statement Received
Action Date:	4/25/2016
Response Action Outcome:	Not reported
Action Type:	Phase 4
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	4/25/2016
Response Action Outcome:	Not reported
Action Type:	FTLI
Action Status:	APPACC
Action Date:	5/12/2010
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	5/3/2007
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	6/7/2013
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	7/17/2008
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	8/2/2012
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Modified Revised or Updated Plan Received
Action Date:	8/30/2013
Response Action Outcome:	Not reported
Action Type:	FTLI
Action Status:	APPREC

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Action Date: 8/4/2008
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/1/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 9/10/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 9/10/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/18/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/3/2013
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0027777 / RAO
Release Town: LOWELL
Notification Date: 06/22/2008
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/21/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC OIL
Quantity: 1.4 gallons
Chemical: HYDRAULIC FLUID
Quantity: 30 gallons

Actions:
Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 1/5/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

FORMER BOOTT COTTON MILL (Continued) **S109157455**

to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 1/5/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDDO
Action Date: 6/22/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/22/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/22/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/21/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 8/21/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/21/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0026688 / TIERII
Primary ID: 3-0026688
Official City: LOWELL
Notification: 03/20/2007
Category: 120 DY

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Status Date: 04/11/2012
Phase: PHASE IV
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0027777 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/22/2008
Category: TWO HR
Status Date: 08/21/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3A
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0026688
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 07/17/2008
ENF #: NON-NE-08-3A067
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

Region: NERO
DEP Region: NERO
DEP Program: 3A
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0026688

FORMER BOOTT COTTON MILL (Continued) **S109157455**

High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	10/28/2011
ENF #:	NON-NE-11-3A066
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0026688
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	03/20/2012
ENF #:	ACOP-NE-12-3A001
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	07/30/2012
ACOP $:	5000
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	25000
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3E
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0027777
High Or Low Level Enforcement:	LLE

FORMER BOOTT COTTON MILL (Continued) **S109157455**

FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	01/05/2009
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

LEAD:

Community:	Lowell
Unit:	101
Inspector Name:	Jeffery Harris
Inspector License Number:	3708
Activity Type:	INSPECT
Activity Date:	10/15/2007
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

Community:	Lowell
Unit:	102
Inspector Name:	Jeffery Harris
Inspector License Number:	3708
Activity Type:	INSPECT
Activity Date:	10/15/2007
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

Community:	Lowell
Unit:	103
Inspector Name:	Jeffery Harris
Inspector License Number:	3708
Activity Type:	INSPECT
Activity Date:	10/15/2007
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

Community:	Lowell
Unit:	104
Inspector Name:	Jeffery Harris
Inspector License Number:	3708
Activity Type:	INSPECT

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Activity Date: 10/19/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 105
Inspector Name: Jeffery Harris
Inspector License Number: 3708
Activity Type: INSPECT
Activity Date: 10/15/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 107
Inspector Name: Jeffery Harris
Inspector License Number: 3708
Activity Type: INSPECT
Activity Date: 10/16/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 108
Inspector Name: Jeffery Harris
Inspector License Number: 3708
Activity Type: INSPECT
Activity Date: 10/19/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 109
Inspector Name: Jeffery Harris
Inspector License Number: 3708
Activity Type: INSPECT
Activity Date: 10/19/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 110
Inspector Name: Jeffery Harris
Inspector License Number: 3708
Activity Type: INSPECT
Activity Date: 10/22/2007
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 111

FORMER BOOTT COTTON MILL (Continued) **S109157455**

Inspector Name:	Jeffery Harris
Inspector License Number:	3708
Activity Type:	INSPECT
Activity Date:	10/22/2007
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

Click this hyperlink while viewing on your computer to access
265 additional MA LEAD: record(s) in the EDR Site Report.

B7 **KONARKA TECHNOLOGIES** **RCRA-SQG 1014916973**
116 JOHN ST **FINDS MAC300015864**
< 1/8 **LOWELL, MA 01852** **ECHO**
1 ft.

Site 2 of 4 in cluster B

Relative: Higher

Actual: 91 ft.

RCRA-SQG:

Date form received by agency:	05/04/2011
Facility name:	PERFORMANCE INDICATOR LLC
Facility address:	116 JOHN ST LOWELL, MA 01852
EPA ID:	MAC300015864
Contact:	ALAN SCHULER
Contact address:	116 JOHN ST LOWELL, MA 018520000
Contact country:	US
Contact telephone:	(978) 459-4500
Contact email:	ALAN@PERFORMANCEINDICATOR.COM
EPA Region:	01
Land type:	Private
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	DANIEL SMITH CEO
Owner/operator address:	116 JOHN ST LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	10/01/2010
Owner/Op end date:	Not reported
Owner/operator name:	NOMIST REALTY/BBOT/LOWELL LLC
Owner/operator address:	116 JOHN ST LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	09/01/2005

KONARKA TECHNOLOGIES (Continued) **1014916973**

Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: MA01
. Waste name: WASTE OIL

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 03/14/2012
Date achieved compliance: 07/27/2012
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/05/2012

KONARKA TECHNOLOGIES (Continued) **1014916973**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: State Statute or Regulation
Date violation determined: 03/14/2012
Date achieved compliance: 07/27/2012
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/05/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 07/27/2012
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/14/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: State Statute or Regulation
Date achieved compliance: 07/27/2012
Evaluation lead agency: State

Evaluation date: 03/14/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 07/27/2012
Evaluation lead agency: State

FINDS:

Registry ID: 110018894268

Environmental Interest/Information System
AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

KONARKA TECHNOLOGIES (Continued) **1014916973**

AIR EMISSIONS CLASSIFICATION UNKNOWN

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

AIR MINOR

ECHO:
Envid: 1014916973
Registry ID: 110018894268
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110018894268

B8 **B00T MILLS MUSEUM** **LUST U004179937**
ESE **115 JOHN ST** **UST N/A**
< 1/8 **LOWELL, MA 01852** **RELEASE**
0.002 mi. **ENF**
12 ft. **Site 3 of 4 in cluster B** **Financial Assurance**

Relative: Higher

Actual: 91 ft.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0031857 / PSNC
Status Date: 08/26/2014
Source Type: USTPIPE
Release Town: LOWELL
Notification Date: 11/08/2013
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: FEDERAL
Source: USTPIPE
Source: USTOTHER
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: .05 gallons per hour

Actions:
Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/14/2016
Response Action Outcome: Not reported

B00T MILLS MUSEUM (Continued) **U004179937**

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 1/7/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/8/2014
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 11/22/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/22/2013
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/8/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 11/8/2013
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 8/26/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 8/26/2014
Response Action Outcome: Not reported

UST:

Facility:
Facility ID: 22777
Owner Id: 10416
Owner: LOWELL NATIONAL HISTORICAL PARK
Owner Address: 67 KIRK ST
Owner City,St,Zip: LOWELL, MA 01852
Telephone: Not reported
Description: Government Entity
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.64730
Longitude: -71.30669
Contact name: Not reported
Contact address1: Not reported

B00T MILLS MUSEUM (Continued) **U004179937**

Contact address2: Not reported
Contact city: Not reported
Contact state: Not reported
Contact zip: Not reported
Contact email: Not reported
Update: 2014-05-13 00:00:00
Update by: Not reported
Fac status: OPEN

Tank ID: 1
Tank Status: In Use
Status Date: Not reported
Date Installed: Not reported
Capacity: 550.00000
Contents: Diesel
Tank Usage: Not reported
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Quarterly visual inspection and annual product line tightness test
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0031857 / PSNC
Primary ID: Not reported
Official City: LOWELL
Notification: 11/08/2013
Category: 72 HR
Status Date: 08/26/2014
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

B00T MILLS MUSEUM (Continued) **U004179937**

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0031857
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	11/22/2013
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Federally Owned

MA Financial Assurance 2:

Facility Id:	22777
Description:	Federal / Non-Military
Work Phone:	(508) 275-1721

C9 **RIVER PLACE TOWERS** **SHWS** **S102403996**
NNW **115-145 POST OFFICE SQ** **INST CONTROL** **N/A**
< 1/8 **LOWELL, MA 01851** **RELEASE**
0.013 mi.
67 ft. **Site 1 of 4 in cluster C**

Relative:
Lower

Actual:
87 ft.

SHWS:

Release Tracking Number/Current Status:	3-0014505 / RAO
Release Town:	LOWELL
Notification Date:	11/15/1996
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/14/1997
Phase:	Not reported
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

RIVER PLACE TOWERS (Continued) **S102403996**

Chemicals:
Chemical: TPH
Quantity: 1100 parts per million

Actions:
Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 1/24/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 1/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/29/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 11/10/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/15/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/15/1996

RIVER PLACE TOWERS (Continued) **S102403996**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 12/21/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: Audit Follow-up Completion Statement Received
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: FOLCD
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/30/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 6/6/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 7/14/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 7/24/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

RIVER PLACE TOWERS (Continued) **S102403996**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 7/25/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 8/3/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0014505
Action Type: AUL
Action Stat: AMEND
Action Date: 12/21/2001
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0014505
Action Type: AUL
Action Stat: RECPT
Action Date: 11/14/1997
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0014505 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/15/1996
Category: 120 DY
Status Date: 11/14/1997
Phase: Not reported
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

B10 **GASOLINE STATION FMR** **SHWS** **S105199455**
East **70 FRENCH AMORY ST** **RELEASE** **N/A**
< 1/8 **LOWELL, MA 01850** **ENF**
0.016 mi.
87 ft. **Site 4 of 4 in cluster B**

Relative:
Lower

Actual:
85 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001975 / TIER1D
Release Town:	LOWELL
Notification Date:	01/15/1989
Category:	NONE
Associated ID:	Not reported
Current Status:	**Tier 1D, a release where the responsible party fails to provide a required submittal to DEP by a specified deadline.**
Status Date:	08/09/1995
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	FEDERAL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	FTLI
Action Status:	Action Status or AUL Terminated
Action Date:	1/12/2012
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1989
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/21/2011
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	10/28/2011
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	12/29/2009
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	2/11/2003
Response Action Outcome:	Not reported
Action Type:	FTLI

GASOLINE STATION FMR (Continued) **S105199455**

Action Status: APPACC
Action Date: 5/12/2010
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 5/24/2012
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 7/20/2005
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 8/4/2008
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/2008
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001975 / TIER1D
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1989
Category: NONE
Status Date: 08/09/1995
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3A
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0001975
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 05/24/2012
ENF #: NON-NE-12-3A036
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y

GASOLINE STATION FMR (Continued) **S105199455**

Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Individually Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0001975
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	10/28/2011
ENF #:	NON-NE-11-3A072
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0001975
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	05/24/2012
ENF #:	NON-NE-12-3A034
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported

GASOLINE STATION FMR (Continued) **S105199455**

Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0001975
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	12/29/2009
ENF #:	NON-NE-09-3A109
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

C11 **NO LOCATION AID** **SHWS** **S101046816**
North **44 POST OFFICE SQ** **RELEASE** **N/A**
< 1/8 **LOWELL, MA** **SPILLS**
0.021 mi.
110 ft. **Site 2 of 4 in cluster C**

Relative:
Lower

Actual:
88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0015465 / RAONR
Release Town:	LOWELL
Notification Date:	08/23/1997
Category:	TWO HR
Associated ID:	3-0000354
Current Status:	**Response Action Outcome Not Required**
Status Date:	12/16/1997
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	CONCRETE

NO LOCATION AID (Continued) **S101046816**

Source: UNKNOWN
Source: VAULT

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: OIL
Quantity: 10 gallons
Chemical: FUEL OIL #6
Quantity: 10 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 10/31/1997
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/5/1997
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 12/16/1997
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 12/16/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/16/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/14/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 3/14/1997
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/23/1997
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/23/1997
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101046816**

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	9/19/1997
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0015465 / RAONR
Primary ID:	3-0000354
Official City:	LOWELL
Notification:	08/23/1997
Category:	TWO HR
Status Date:	12/16/1997
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N93-0528
Staff Lead:	GORRASI, M	Date Entered:	Not reported
Last Entered:	19930608	First Response:	19930427
Spill Date:	19930426	Spill Time:	Not reported
Report Date:	19930427	Report Time:	09:15AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported
Qty Reported:	----------	Qty Actual:	----------
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	U.S.T.	Other Source:	Not reported
Incident:	TEST FAILURE	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	YES
Report Prep:	Not reported	Category:	Not reported
Notifier:	MIKE ROSTOWSKI/WEHRAN		
Notif Tel:	Not reported		
Days/Close:	0		

C12 **POST OFFICE SQ** **LUST** **S100831654**
North **44 POST OFFICE SQ** **INST CONTROL** **N/A**
< 1/8 **LOWELL, MA 01850** **RELEASE**
0.021 mi.
110 ft. **Site 3 of 4 in cluster C**

Relative: Lower

Actual: 88 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0000354 / RAO
Status Date:	03/04/1999
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE

POST OFFICE SQ (Continued) **S100831654**

Associated ID: 3-0000354
Phase: PHASE II
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Not reported

Location Type: VACANT
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1987
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 10/31/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/16/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/18/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: LSPFA
Action Date: 2/18/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/14/1997

POST OFFICE SQ (Continued) **S100831654**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 3/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 3/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/23/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/4/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/29/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/14/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: NORA
Action Date: 6/14/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

POST OFFICE SQ (Continued) **S100831654**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 6/27/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 6/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 6/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 9/26/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0000354
Action Type: AUL
Action Stat: RECPT
Action Date: 12/18/1998
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000354
Action Type: AUL
Action Stat: SNAUDI
Action Date: 06/08/2006
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0000354 / RAO
Primary ID: 3-0000354
Official City: LOWELL
Notification: 01/15/1987
Category: NONE
Status Date: 03/04/1999

POST OFFICE SQ (Continued) **S100831654**

Phase:	PHASE II
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

C13 **44 POST OFFICE PAUL TSONGAS ARENA** **US BROWNFIELDS** **1016139259**
North **44 POST OFFICE ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.021 mi.
110 ft. **Site 4 of 4 in cluster C**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	44 POST OFFICE [PAUL TSONGAS ARENA]
Property #:	Not reported
Parcel size:	.69
Property Description:	Mill Complex
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12896
Start date:	12/31/1997 00:00:00
Completed date:	12/31/1997 00:00:00
Acres cleaned up:	Not reported
Cleanup funding:	1000000
Cleanup funding source:	Private/Other Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	28700000
Redev. funding source:	State/Tribal Funding (non-section 128(a))
Redev. funding entity name:	state, local, USMASS Lowell
Redevelopment start date:	12/31/1997 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported

44 POST OFFICE PAUL TSONGAS ARENA (Continued) **1016139259**

IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Y
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Y
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	341
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported

44 POST OFFICE PAUL TSONGAS ARENA (Continued) **1016139259**

Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

D14 **LOWELL POLICE - FIRE DEPARTMENTS** **UST** **U004156914**
West **50 ARCAND DR** **Financial Assurance** **N/A**
< 1/8 **LOWELL, MA 01852**
0.022 mi.
118 ft. **Site 1 of 2 in cluster D**

Relative: Higher

Actual: 91 ft.

UST:

Facility:

Facility ID:	22728
Owner Id:	9500
Owner:	CITY OF LOWELL
Owner Address:	50 ARCAND DRIVE
Owner City,St,Zip:	LOWELL, MA 01852
Telephone:	Not reported
Description:	Government Entity
Facility address 2:	Not reported
Owner address 2:	Not reported
Latitude:	42.64698
Longitude:	-71.31395
Contact name:	Not reported
Contact address1:	Not reported
Contact address2:	Not reported
Contact city:	Not reported
Contact state:	Not reported
Contact zip:	Not reported
Contact email:	Not reported
Update:	2013-05-08 00:00:00
Update by:	Not reported
Fac status:	OPEN

Tank ID:	1
Tank Status:	**In Use**
Status Date:	Not reported

LOWELL POLICE - FIRE DEPARTMENTS (Continued) **U004156914**

Date Installed: Not reported
Capacity: 6100.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: In Use
Status Date: Not reported
Date Installed: Not reported
Capacity: 6100.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported

LOWELL POLICE - FIRE DEPARTMENTS (Continued) **U004156914**

Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: In Use
Status Date: Not reported
Date Installed: Not reported
Capacity: 6100.00000
Contents: Diesel
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

MA Financial Assurance 2:
Facility Id: 22728
Description: Municipal
Work Phone: (978) 937-3246

D15 **LOWELL TOWN OF POLICE DEPT** **SHWS 1000204578**
West **50 ARCAND DR** **LUST MAD172174575**
< 1/8 **LOWELL, MA 01852** **INST CONTROL**
0.022 mi. **RELEASE**
118 ft. **Site 2 of 2 in cluster D** **RCRA NonGen / NLR**
FINDS
Relative: **ENF**
Higher **ECHO**

Actual: **91 ft.**

SHWS:
Release Tracking Number/Current Status: 3-0013029 / RAO
Release Town: LOWELL
Notification Date: 10/13/1995
Category: TWO HR
Associated ID: Not reported
Current Status: Response Action Outcome
Status Date: 11/02/1995

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: MUNICIPAL
Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN CHEMICAL OF TYPE - OIL
Quantity: 20 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/13/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/13/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/20/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/2/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/2/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0018004 / RAO
Status Date: 08/25/2009
Source Type: UST
Release Town: LOWELL
Notification Date: 02/18/1999
Category: 72 HR
Associated ID: Not reported
Phase: Not reported

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Oil

Location Type: MUNICIPAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 500 parts per million

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 10/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 11/17/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 12/22/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Amendment Received or Issued
Action Date: 12/6/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 12/9/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 12/9/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 2/12/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 2/18/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/18/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/24/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 4/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/22/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 5/29/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 5/29/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 7/20/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 8/15/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/25/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/25/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 9/9/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0018004
Action Type: AUL
Action Stat: LEGNOT
Action Date: 08/15/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0018004
Action Type: AUL
Action Stat: RECPT
Action Date: 08/25/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0018004
Action Type: AUL
Action Stat: SNAUDI
Action Date: 12/09/2010
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0013029 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/13/1995
Category: TWO HR
Status Date: 11/02/1995
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0018004 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 02/18/1999
Category: 72 HR
Status Date: 08/25/2009
Phase: Not reported
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

RCRA NonGen / NLR:
Date form received by agency: 04/20/2007
Facility name: LOWELL TOWN OF POLICE DEPT
Facility address: 50 ARCAND DR
LOWELL, MA 01852
EPA ID: MAD172174575
Contact: KYRIAKOULIS TSOUPRAKOS
Contact address: 50 ARCAND DR
LOWELL, MA 018520000
Contact country: US
Contact telephone: (978) 937-3225
Contact email: Not reported
EPA Region: 01
Land type: Municipal
Classification: Non-Generator

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: LOWELL POLICE DEPARTMENT
Owner/operator address: 50 ARCAND DR
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Municipal
Owner/Operator Type: Owner
Owner/Op start date: 12/08/1991
Owner/Op end date: Not reported

Owner/operator name: LOWELL POLICE DEPARTMENT
Owner/operator address: 50 ARCAND DR
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Municipal
Owner/Operator Type: Operator
Owner/Op start date: 12/08/1991
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 05/28/2004
Site name: LOWELL TOWN OF POLICE DEPT
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 08/04/1987
Site name: LOWELL TOWN OF POLICE DEPT
Classification: Small Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 04/20/2007
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported

LOWELL TOWN OF POLICE DEPT (Continued) **1000204578**

Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110003453469

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0018004
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	12/06/2006
ENF #:	ACOP-NE-05-3A022A
Document Type:	Amend
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Municipally Owned

ECHO:

Envid:	1000204578
Registry ID:	110003453469
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110003453469

E16
SW
< 1/8
0.041 mi.
214 ft.

HESS STATION 21509 FMR MERIT OIL
253 MERRIMACK ST
LOWELL, MA

Site 1 of 3 in cluster E

LUST RELEASE | **S105199817** | **N/A**

Relative: Higher

Actual: 89 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0004509 / RAO
Status Date:	02/05/2007
Source Type:	UST
Release Town:	LOWELL
Notification Date:	12/16/1988
Category:	NONE
Associated ID:	3-0004509
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	GASSTATION
Location Type:	COMMERCIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	Not reported
Chemical:	PETROLEUM
Quantity:	Not reported

Actions:

Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	11/14/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	12/16/1988
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	12/16/1988
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	FLDISS
Action Date:	12/16/1988
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

HESS STATION 21509 FMR MERIT OIL (Continued) **S105199817**

Action Type:	Tier Classification
Action Status:	Permit Effective Date
Action Date:	12/6/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	2/12/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	2/18/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Inspection and Monitoring Report Received
Action Date:	2/2/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	2/5/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	RMRFIN
Action Date:	2/5/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Completion Statement Received
Action Date:	2/5/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	2/6/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	3/22/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Permit Transfer Received
Action Date:	3/22/2001

HESS STATION 21509 FMR MERIT OIL (Continued) **S105199817**

Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Enforcement Conference
Action Date:	3/30/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/28/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	5/14/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	As-Built Construction Report Received
Action Date:	5/19/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Completion Statement Received
Action Date:	5/19/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Inspection and Monitoring Report Received
Action Date:	7/19/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	7/28/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Remedy Operation Status Submittal Received
Action Date:	7/28/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	7/28/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

HESS STATION 21509 FMR MERIT OIL (Continued) **S105199817**

Action Type:	Phase 2
Action Status:	Completion Statement Received
Action Date:	7/5/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 3
Action Status:	Completion Statement Received
Action Date:	7/5/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Permit Effective Date
Action Date:	7/9/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	8/12/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Remedy Operation Status Submittal Received
Action Date:	8/28/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	8/4/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	TREGS
Action Status:	LSPFA
Action Date:	8/4/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	8/4/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Written Plan Received
Action Date:	8/7/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	8/9/1999

HESS STATION 21509 FMR MERIT OIL (Continued) **S105199817**

Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 1C Classification
Action Date:	8/9/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	8/9/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	9/11/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	BWS03
Action Status:	APPROV
Action Date:	Not reported
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	BWS30
Action Status:	APPROV
Action Date:	Not reported
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0004509 / RAO
Primary ID:	3-0004509
Official City:	LOWELL
Notification:	12/16/1988
Category:	NONE
Status Date:	02/05/2007
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

17
NNE
< 1/8
0.050 mi.
264 ft.

FRED C CHURCH INSURANCE
1 MERRIMACK PLZ
LOWELL, MA 01852

SHWS RELEASE

S106863482
N/A

Relative:
Lower

Actual:
81 ft.

SHWS:

Release Tracking Number/Current Status:	3-0024691 / RAO
Release Town:	LOWELL
Notification Date:	03/11/2005
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	05/20/2005
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNIDENTIFIED HYDROCARBONS
Quantity:	27000 parts per million

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	3/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Fee Received - FMCRA Use Only
Action Date:	3/14/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	5/20/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.

FRED C CHURCH INSURANCE (Continued) **S106863482**

Action Date: 5/9/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0024691 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 03/11/2005
Category: 120 DY
Status Date: 05/20/2005
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

E18 **DAVIDSON STREET PROPERTIES** **US BROWNFIELDS** **1016348363**
SW **UNKNOWN** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.051 mi.
270 ft. **Site 2 of 3 in cluster E**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:
Recipient name: R1 Brownfields TBA (previously Superfund TBA)
Grant type: TBA
Property name: DAVIDSON STREET PROPERTIES
Property #: Not reported
Parcel size: 0
Property Description: Not reported
Latitude: 42.645882
Longitude: -71.31282
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 10045
Start date: Not reported
Completed date: Not reported
Acres cleaned up: Not reported
Cleanup funding: Not reported
Cleanup funding source: Not reported
Assessment funding: 1
Assessment funding source: US EPA - TBA Funding
Redevelopment funding: Not reported
Redev. funding source: Not reported
Redev. funding entity name: Not reported
Redevelopment start date: Not reported
Assessment funding entity: EPA
Cleanup funding entity: Not reported
Grant type: Hazardous
Accomplishment type: Phase I Environmental Assessment
Accomplishment count: 1
Cooperative agreement #: n/a

DAVIDSON STREET PROPERTIES (Continued) **1016348363**

Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	N
Cleanup required:	Unknown
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Y
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Y
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported

DAVIDSON STREET PROPERTIES (Continued) **1016348363**

Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110038740262

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016348363
Registry ID:	110038740262
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110038740262

F19 **DUTTON STREET** **US BROWNFIELDS** **1016352345**
SW **DUTTON STREET** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.053 mi.
280 ft. **Site 1 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	DUTTON STREET
Property #:	Not reported
Parcel size:	Not reported
Property Description:	manufactured gas plant
Latitude:	42.64587
Longitude:	-71.312859
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12907
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Keyspan Energy
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported

DUTTON STREET (Continued) **1016352345**

Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported

DUTTON STREET (Continued) **1016352345**

No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039550009

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016352345
Registry ID:	110039550009
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039550009

E20 **EAGLE STAMP CO INC** **RCRA NonGen / NLR** **1000279416**
SW **13 SHATTUCK ST** **FINDS** **MAD981065691**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.055 mi.
288 ft. **Site 3 of 3 in cluster E**

Relative:
Lower

Actual:
87 ft.

RCRA NonGen / NLR:

Date form received by agency:	04/01/1985
Facility name:	EAGLE STAMP CO INC
Facility address:	13 SHATTUCK ST LOWELL, MA 01852
EPA ID:	MAD981065691
Contact:	THOMAS-E LUMBARD
Contact address:	13 SHATTUCK ST LOWELL, MA 01852
Contact country:	US
Contact telephone:	(508) 454-6008
Contact email:	Not reported
EPA Region:	01
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	EAGLE STAMP CO INC
Owner/operator address:	13 SHATTUCK ST LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported

EAGLE STAMP CO INC (Continued) **1000279416**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/30/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

FINDS:

Registry ID: 110003460638

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:
Envid: 1000279416
Registry ID: 110003460638
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110003460638

21 WNW < 1/8 0.056 mi. 297 ft. | **PAD-MOUNTED ELECTRICAL TRANSFORMER**
155 FATHER MORISSETTE BLVD
LOWELL, MA 01854 | **SHWS RELEASE** | **S110822202 N/A**

Relative: Lower

Actual: 88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0029789 / RAO
Release Town:	LOWELL
Notification Date:	02/04/2011
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	06/06/2013
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	TRANSFORM
Source:	150 KVA
Source:	MOUNTED
Source:	PAD-

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	MODF
Quantity:	25 gallons
Chemical:	NON PCB MINERAL OIL DIELECTRIC FLUID
Quantity:	50 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	1/30/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	12/5/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	12/5/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	12/5/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action

PAD-MOUNTED ELECTRICAL TRANSFORMER (Continued) **S110822202**

Action Status: Status or Interim Report Received
Action Date: 12/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/22/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 2/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 4/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

PAD-MOUNTED ELECTRICAL TRANSFORMER (Continued) **S110822202**

reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 4/7/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 6/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 6/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 6/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 6/6/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/6/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 6/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0029789 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 02/04/2011
Category: TWO HR
Status Date: 06/06/2013
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

PAD-MOUNTED ELECTRICAL TRANSFORMER (Continued) **S110822202**

Click here to access the MA DEP site for this facility:

G22
ENE
< 1/8
0.059 mi.
311 ft.

FORMER BOOTT COTTON MILLS **SHWS** **S111460224**
130 FOOT OF JOHN ST **RELEASE** **N/A**
LOWELL, MA 01852

Site 1 of 5 in cluster G

Relative:
Lower

Actual:
72 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030667 / RAONR
Release Town:	LOWELL
Notification Date:	02/22/2012
Category:	120 DY
Associated ID:	3-0026688
Current Status:	**Response Action Outcome Not Required**
Status Date:	04/11/2012
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	LEAD
Quantity:	1800 milligrams per kilogram

Actions:

Action Type:	Tier Classification
Action Status:	Tier 2 Transfer
Action Date:	12/3/2012
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	2/22/2012
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	2/22/2012
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	2/22/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	3/13/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	4/11/2012
Response Action Outcome:	Not reported

FORMER BOOTT COTTON MILLS (Continued) **S111460224**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 4/24/2012
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0030667 / RAONR
Primary ID: 3-0026688
Official City: LOWELL
Notification: 02/22/2012
Category: 120 DY
Status Date: 04/11/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

F23 **180 CHURCH STREET** **US BROWNFIELDS** **1016351803**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 2 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: 180 CHURCH STREET
Property #: Not reported
Parcel size: .1
Property Description: Not reported
Latitude: 42.645882
Longitude: -71.31282
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 12898
Start date: Not reported
Completed date: Not reported

180 CHURCH STREET (Continued) **1016351803**

Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported

180 CHURCH STREET (Continued) **1016351803**

Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541252

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to

180 CHURCH STREET (Continued) **1016351803**

electronically submit data directly to EPA.

ECHO:

Envid:	1016351803
Registry ID:	110039541252
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541252

F24 **171 LINCOLN STREET** **US BROWNFIELDS** **1016351824**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 3 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	171 LINCOLN STREET
Property #:	Not reported
Parcel size:	1.5
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12906
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported

171 LINCOLN STREET (Continued) **1016351824**

IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported

171 LINCOLN STREET (Continued) **1016351824**

Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541519

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351824
Registry ID:	110039541519
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541519

F25 **28 LIVINGSTON STREET** **US BROWNFIELDS** **1016351819**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 4 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	28 LIVINGSTON STREET
Property #:	Not reported
Parcel size:	.1
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported

28 LIVINGSTON STREET (Continued) **1016351819**

ACRES property ID:	12903
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported

28 LIVINGSTON STREET (Continued) **1016351819**

Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541458

28 LIVINGSTON STREET (Continued) **1016351819**

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351819
Registry ID:	110039541458
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541458

F26 **1995 MIDDLESEX STREET** **US BROWNFIELDS** **1016351814**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 5 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	1995 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	1.8
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12901
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported

1995 MIDDLESEX STREET (Continued) **1016351814**

IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported

1995 MIDDLESEX STREET (Continued) **1016351814**

nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541378

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351814
Registry ID:	110039541378
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541378

F27 **ASSETS BUILDINGS SITE** **US BROWNFIELDS** **1016345218**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 6 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	R1 Brownfields TBA (previously Superfund TBA)
Grant type:	TBA
Property name:	ASSETS BUILDINGS SITE
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported

ASSETS BUILDINGS SITE (Continued) **1016345218**

Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	10063
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	1
Assessment funding source:	US EPA - TBA Funding
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	EPA
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	1
Cooperative agreement #:	n/a
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported

ASSETS BUILDINGS SITE (Continued) **1016345218**

PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

ASSETS BUILDINGS SITE (Continued) **1016345218**

FINDS:

Registry ID: 110038691458

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to
electronically submit data directly to EPA.

ECHO:
Envid: 1016345218
Registry ID: 110038691458
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110038691458

F28 **CITY PARCELS** **US BROWNFIELDS** **1016351793**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 7 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	CITY PARCELS
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12893
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported

CITY PARCELS (Continued) **1016351793**

Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported

CITY PARCELS (Continued) **1016351793**

Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541127

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351793
Registry ID:	110039541127
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541127

F29 **33 E. MERRIMACK STREET** **US BROWNFIELDS** **1016351822**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 8 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	33 E. MERRIMACK STREET
Property #:	Not reported
Parcel size:	Not reported

33 E. MERRIMACK STREET (Continued) **1016351822**

Property Description:	auto dealership
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12905
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported

33 E. MERRIMACK STREET (Continued) **1016351822**

Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported

33 E. MERRIMACK STREET (Continued) **1016351822**

Unknown media cleaned up: Not reported
Past Use: Multistory Not reported

FINDS:

Registry ID: 110039541494

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to
electronically submit data directly to EPA.

ECHO:
Envid: 1016351822
Registry ID: 110039541494
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110039541494

F30 **HOWARD AND ARCH STREET** **US BROWNFIELDS** **1016351826**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 9 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: HOWARD AND ARCH STREET
Property #: Not reported
Parcel size: Not reported
Property Description: Not reported
Latitude: 42.645882
Longitude: -71.31282
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 12908
Start date: Not reported
Completed date: Not reported
Acres cleaned up: Not reported
Cleanup funding: Not reported
Cleanup funding source: Not reported
Assessment funding: Not reported
Assessment funding source: Not reported
Redevelopment funding: Not reported
Redev. funding source: Not reported
Redev. funding entity name: Not reported
Redevelopment start date: Not reported
Assessment funding entity: Not reported
Cleanup funding entity: Not reported
Grant type: N/A
Accomplishment type: Phase I Environmental Assessment
Accomplishment count: 0
Cooperative agreement #: 99177901
Ownership entity: Not reported
Current owner: Not reported

HOWARD AND ARCH STREET (Continued) **1016351826**

Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported

HOWARD AND ARCH STREET (Continued) **1016351826**

Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541537

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351826
Registry ID:	110039541537
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541537

F31 **10 DAVIDSON STREET** **US BROWNFIELDS** **1016351806**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 10 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	10 DAVIDSON STREET
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12899
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported

10 DAVIDSON STREET (Continued) **1016351806**

Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported

10 DAVIDSON STREET (Continued) **1016351806**

No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541289

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351806
Registry ID:	110039541289
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541289

F32 **2011 MIDDLESEX STREET** **US BROWNFIELDS** **1016351817**
WSW **296 MERRIMACK ST** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.064 mi.
337 ft. **Site 11 of 17 in cluster F**

Relative:
Lower

Actual:
88 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	2011 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	2.6
Property Description:	Not reported
Latitude:	42.645882
Longitude:	-71.31282
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12902
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported

2011 MIDDLESEX STREET (Continued) **1016351817**

Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported

2011 MIDDLESEX STREET (Continued) **1016351817**

Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541412

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to
electronically submit data directly to EPA.

ECHO:
Envid: 1016351817
Registry ID: 110039541412

2011 MIDDLESEX STREET (Continued) **1016351817**

DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110039541412

F33 **HESS STATION # 21509** **SHWS S117964732**
WSW **300 MERRIMAC STREET** **LUST N/A**
< 1/8 **LOWELL, MA** **RELEASE**
0.066 mi.
346 ft. **Site 12 of 17 in cluster F**

Relative: Higher

Actual: 89 ft.

SHWS:

Release Tracking Number/Current Status:	3-0032808 / PSNC
Release Town:	LOWELL
Notification Date:	04/10/2015
Category:	72 HR
Associated ID:	Not reported
Current Status:	**PSNC**
Status Date:	06/09/2015
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	LINE
Source:	USTPIPE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	.05 gallons per hour

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	4/10/2015
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	4/10/2015
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/22/2015
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	6/8/2015
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/8/2015
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO

HESS STATION # 21509 (Continued) **S117964732**

Action Status: PSNRCD
Action Date: 6/9/2015
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0032808 / PSNC
Status Date: 06/09/2015
Source Type: USTPIPE
Release Town: LOWELL
Notification Date: 04/10/2015
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: LINE
Source: USTPIPE
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: .05 gallons per hour

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/10/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/10/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/22/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/8/2015
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/8/2015
Response Action Outcome: Not reported

HESS STATION # 21509 (Continued) **S117964732**

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 6/9/2015
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0032808 / PSNC
Primary ID: Not reported
Official City: LOWELL
Notification: 04/10/2015
Category: 72 HR
Status Date: 06/09/2015
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

G34 **NO LOCATION AID** **SHWS** **S107405587**
ENE **300 FOOT OF JOHN ST** **RELEASE** **N/A**
< 1/8 **LOWELL, MA**
0.069 mi.
363 ft. **Site 2 of 5 in cluster G**

Relative:
Lower

Actual:
70 ft.

SHWS:
Release Tracking Number/Current Status: 3-0025037 / RAO
Release Town: LOWELL
Notification Date: 07/14/2005
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 09/15/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: RESIDNTIAL
Location Type: WATERBODY
Location Type: INDUSTRIAL
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MINERAL OIL
Quantity: 300 gallons
Chemical: TRANSFORMER OIL (NON-PCB)
Quantity: 50 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/3/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

NO LOCATION AID (Continued) **S107405587**

to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1A
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 7/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NO LOCATION AID (Continued) **S107405587**

Release:
Release Tracking Number/Current Status: 3-0025037 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/14/2005
Category: TWO HR
Status Date: 09/15/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

H35 **CVS PHARMACY 1000** **HW GEN** **S113409407**
SE **35 MERRIMACK ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.069 mi.
364 ft. **Site 1 of 4 in cluster H**

Relative: **Lower**

Actual: **86 ft.**

HW GEN:
EPA Id: MAC300019775
RCRA Generator Status: LQG
State Generator Status: Not reported

H36 **CVS PHARMACY 1000** **RCRA-LQG** **1014954046**
SE **35 MERRIMACK ST** **MAC300019775**
< 1/8 **LOWELL, MA 01852**
0.069 mi.
364 ft. **Site 2 of 4 in cluster H**

Relative: **Lower**

Actual: **86 ft.**

RCRA-LQG:
Date form received by agency: 06/01/2014
Facility name: CVS PHARMACY 1000
Facility address: 35 MERRIMACK ST
LOWELL, MA 01852
EPA ID: MAC300019775
Mailing address: CVS DR
23062A
WOONSOCKET, RI 02895
Contact: WENDY L BRANT
Contact address: CVS DR 23062A
WOONSOCKET, RI 02895
Contact country: Not reported
Contact telephone: (401) 770-7457
Contact email: WENDY.BRANT@CVSCAREMARK.COM
EPA Region: 01
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1

CVS PHARMACY 1000 (Continued) **1014954046**

kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	HILDRETH VENTURES LLC
Owner/operator address:	1 CVS DR
	WOONSOCKET, RI 02895
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	10/19/1987
Owner/Op end date:	Not reported
Owner/operator name:	CVS PHARMACY INC
Owner/operator address:	1 CVS DR
	WOONSOCKET, RI 02895
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/11/1988
Owner/Op end date:	Not reported
Owner/operator name:	HILDRETH VENTURES, LLC
Owner/operator address:	VFW PWY
	W ROXBURY, MA 02132
Owner/operator country:	Not reported
Owner/operator telephone:	(617) 327-8100
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	10/19/1987
Owner/Op end date:	Not reported
Owner/operator name:	CVS PHARMACY, INC.
Owner/operator address:	Not reported
	Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/11/1988
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No

CVS PHARMACY 1000 (Continued) **1014954046**

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D039

CVS PHARMACY 1000 (Continued) **1014954046**

. Waste name: TETRACHLOROETHYLENE

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: P188
. Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL--YL METHYLCARBAMATE ESTER (1:1) (OR) PHYSOSTIGMINE SALICYLATE

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U072

CVS PHARMACY 1000 (Continued) **1014954046**

. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U188
. Waste name: PHENOL

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U411

CVS PHARMACY 1000 (Continued) **1014954046**

. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

Historical Generators:
Date form received by agency: 04/11/2013
Site name: CVS PHARMACY 1000
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D009
. Waste name: MERCURY

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Date form received by agency: 03/30/2012
Site name: CVS PHARMACY 1000
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

CVS PHARMACY 1000 (Continued) **1014954046**

Violation Status: No violations found

G37 **KONARKA TECHNOLOGIES INC** **RCRA NonGen / NLR** **1007570463**
ENE **116 JOHN ST** **AIRS** **MAR000505446**
< 1/8 **LOWELL, MA 01852** **HW GEN**
0.070 mi.
370 ft. **Site 3 of 5 in cluster G**

Relative: Lower

Actual: 70 ft.

RCRA NonGen / NLR:

Date form received by agency:	01/03/2013
Facility name:	KONARKA TECHNOLOGIES INC
Facility address:	116 JOHN ST 3RD FL SUITE 12 LOWELL, MA 01852
EPA ID:	MAR000505446
Contact:	DAVID NICKLESS
Contact address:	625 MAIN ST FITCHBURG, MA 014200000
Contact country:	US
Contact telephone:	(978) 342-4590
Contact email:	DNICKLESS.NANDP@VERIZON.NET
EPA Region:	01
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	KONARKA TECHNOLOGIES INC
Owner/operator address:	625 MAIN ST FITCHBURG, MA 01420
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	06/13/2002
Owner/Op end date:	Not reported

Owner/operator name:	NOMIST REALTY BOOT LOWELL LLC
Owner/operator address:	625 MAIN ST FITCHBURG, MA 01420
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	09/30/2005
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 01/24/2009
Site name: KONARKA TECHNOLOGIES INC
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P014
. Waste name: BENZENETHIOL (OR) THIOPHENOL

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U141
. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 07/08/2005
Site name: KONARKA TECHNOLOGIES INC

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 09/05/2002
Site name: KONARKA TECHNOLOGIES INC
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: MA01
. Waste name: WASTE OIL

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: State Statute or Regulation
Date violation determined: 03/07/2012
Date achieved compliance: 01/03/2013
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/10/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 03/07/2012
Date achieved compliance: 01/03/2013
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/10/2012
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 07/27/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/07/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: State Statute or Regulation
Date achieved compliance: 01/03/2013
Evaluation lead agency: State

KONARKA TECHNOLOGIES INC (Continued) **1007570463**

Evaluation date: 03/07/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 01/03/2013
Evaluation lead agency: State

AIRS:
Facility Status: APPROV
Permit Code: AQ01
Permit Name: Plan Application Limited
DEP Region: NE
Application Tracking Number: W028302
Date Closed: 06/13/2002
Applicant Name: KONARKA TECHNOLOGIES INC
Applicant Address: 600 SUFFOLK ST
Applicant City,St,Zip: LOWELL, MA 01854
Applicant Telephone: 9782736522

HW GEN:
EPA Id: MV9784592030
RCRA Generator Status: VSQG
State Generator Status: Not reported

EPA Id: MAC300015864
RCRA Generator Status: SQG
State Generator Status: VQG-MA

F38 **GASOLINE STATION** **SHWS S102687382**
SW **300 MERRIMACK ST** **LUST N/A**
< 1/8 **LOWELL, MA 01852** **RELEASE**
0.073 mi. **HW GEN**
384 ft. **Site 13 of 17 in cluster F**

Relative: Lower

Actual: 88 ft.

SHWS:
Release Tracking Number/Current Status: 3-0028784 / RAO
Release Town: LOWELL
Notification Date: 10/08/2009
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 10/19/2012
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: PIPE
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 2 gallons

Actions:
Action Type: Immediate Response Action

GASOLINE STATION (Continued) **S102687382**

Action Status: RMRINI
Action Date: 1/18/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 1/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 1/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 10/11/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 10/13/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 10/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/19/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

GASOLINE STATION (Continued) **S102687382**

reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 10/19/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 10/28/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/29/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 10/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 10/9/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 11/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action

GASOLINE STATION (Continued) **S102687382**

Action Status: Imminent Hazard Evaluation Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 12/16/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 12/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 12/8/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

GASOLINE STATION (Continued) **S102687382**

reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/8/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/9/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/26/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level II - Audit Inspection
Action Date: 4/26/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action

GASOLINE STATION (Continued) **S102687382**

Action Status: RMRINT
Action Date: 4/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 4/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 4/8/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 5/24/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/4/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/10/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/4/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

GASOLINE STATION (Continued) **S102687382**

reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/1/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/1/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/13/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action

GASOLINE STATION (Continued) **S102687382**

Action Status:	Status or Interim Report Received
Action Date:	8/16/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	8/16/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	8/18/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	8/3/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	8/3/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	9/12/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	9/12/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	9/2/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status:	3-0015400 / RAONR
Release Town:	LOWELL
Notification Date:	08/04/1997
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome Not Required**
Status Date:	07/23/1998
Phase:	Not reported
Response Action Outcome:	-

GASOLINE STATION (Continued) **S102687382**

Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[A]PYRENE
Quantity:	1.85 parts per million
Chemical:	TOLUENE
Quantity:	1340 parts per million
Chemical:	MTBE
Quantity:	parts per million
Chemical:	TPH
Quantity:	1850 parts per million
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	1.64 parts per million
Chemical:	XYLENE
Quantity:	1150 parts per million
Chemical:	BENZ[A]ANTHRACENE
Quantity:	1.83 parts per million
Chemical:	MTBE
Quantity:	1.58 parts per million
Chemical:	ETHYLBENZENE
Quantity:	173 parts per million

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	12/8/1997
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Enforcement Conference
Action Date:	3/30/1998
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	RFI
Action Date:	4/8/1998
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	5/20/1998
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	6/18/1998
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	7/23/1998
Response Action Outcome:	Not reported
Action Type:	RNF

GASOLINE STATION (Continued) **S102687382**

Action Status: Reportable Release under MGL 21E
Action Date: 8/4/1997
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/4/1997
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0017484 / RAONR
Release Town: LOWELL
Notification Date: 10/27/1998
Category: TWO HR
Associated ID: 3-0004509
Current Status: **Response Action Outcome Not Required**
Status Date: 08/09/1999
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: Not reported

Actions:
Action Type: Immediate Response Action
Action Status: Written Denial of Plan
Action Date: 1/28/1999
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 1/28/1999
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 10/26/1999
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/26/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/27/1998
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)

GASOLINE STATION (Continued) **S102687382**

Action Status: FLDISS
Action Date: 10/27/1998
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/27/1998
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/27/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 11/14/2002
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/29/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Effective Date
Action Date: 12/6/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 2/16/1999
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/8/2000
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/1/2000
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/2/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Transfer Received
Action Date: 3/22/2001

GASOLINE STATION (Continued) **S102687382**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/22/2001
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/14/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Effective Date
Action Date: 7/9/2001
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/23/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/4/1997
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 8/9/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/9/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 1C Classification
Action Date: 8/9/1999
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 8/9/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 9/11/2001
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0028784 / RAO

GASOLINE STATION (Continued) **S102687382**

Status Date:	10/19/2012
Source Type:	UST
Release Town:	LOWELL
Notification Date:	10/08/2009
Category:	TWO HR
Associated ID:	Not reported
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	PIPE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	2 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	RMRINI
Action Date:	1/18/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	1/4/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	1/6/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	10/11/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FLDRAN
Action Date:	10/13/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	RMRINT
Action Date:	10/14/2010

GASOLINE STATION (Continued) **S102687382**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/15/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/19/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 10/19/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 10/28/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/29/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 10/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

GASOLINE STATION (Continued) **S102687382**

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 10/9/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 11/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 12/16/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 12/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 12/8/2011

GASOLINE STATION (Continued) **S102687382**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/1/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/8/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

GASOLINE STATION (Continued) **S102687382**

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/9/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/26/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level II - Audit Inspection
Action Date: 4/26/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 4/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 4/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 4/8/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 5/24/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/4/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/4/2011

GASOLINE STATION (Continued) **S102687382**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 5/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/10/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 6/4/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

GASOLINE STATION (Continued) **S102687382**

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 7/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/1/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/1/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/13/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/16/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 8/16/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/18/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 8/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 9/12/2011

GASOLINE STATION (Continued) **S102687382**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 9/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 9/2/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0015400 / RAONR
Primary ID: Not reported
Official City: LOWELL
Notification: 08/04/1997
Category: 120 DY
Status Date: 07/23/1998
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0017484 / RAONR
Primary ID: 3-0004509
Official City: LOWELL
Notification: 10/27/1998
Category: TWO HR
Status Date: 08/09/1999
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0028784 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/08/2009
Category: TWO HR
Status Date: 10/19/2012
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

GASOLINE STATION (Continued) **S102687382**

HW GEN:
EPA Id: MAD982197410
RCRA Generator Status: VSQG
State Generator Status: Not reported

F39 **HESS GAS STATION** **RCRA-CESQG** **1000263689**
SW **300 MERRIMACK ST** **UST** **MAD982197410**
< 1/8 **LOWELL, MA 01852** **FINDS**
0.073 mi. **Financial Assurance**
384 ft. **Site 14 of 17 in cluster F** **ECHO**

Relative: Lower

Actual: 88 ft.

RCRA-CESQG:
Date form received by agency: 03/12/2002
Facility name: HESS CORPORATION 21509
Facility address: 300 MERRIMACK ST
LOWELL, MA 01852
EPA ID: MAD982197410
Mailing address: 1 HESS PLAZA
WOODBRIDGE, NJ 070950961
Contact: PAUL MARINO
Contact address: 1 HESS PLAZA
WOODBRIDGE, NJ 07095
Contact country: US
Contact telephone: (732) 750-7105
Contact email: Not reported
EPA Region: 01
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
Owner/operator name: AMERADA HESS CORP
Owner/operator address: 1 HESS PLAZA
WOODBRIDGE, NJ 07095
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1900
Owner/Op end date: Not reported

Owner/operator name: AMERADA HESS CORP
Owner/operator address: 1 HESS PLAZA
WOODBRIDGE, NJ 07095
Owner/operator country: US

HESS GAS STATION (Continued) **1000263689**

Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 05/15/2000
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Historical Generators:
Date form received by agency: 06/17/1987
Site name: HESS CORPORATION 21509
Classification: Small Quantity Generator

Violation Status: No violations found

UST:

Facility:
Facility ID: 19530
Owner Id: 1025368
Owner: Speedway LLC
Owner Address: 500 Speedway Drive
Owner City,St,Zip: Enon, OH 45323
Telephone: 9784522448
Description: Retail Motor Vehicle Fuel
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.64588
Longitude: -71.31301
Contact name: Corey Damron
Contact address1: 500 Speedway Drive
Contact address2: Not reported
Contact city: Enon
Contact state: OH
Contact zip: 45323
Contact email: cdamron@speedway.com
Update: 2015-12-08 00:00:00
Update by: Mark Bolivar
Fac status: OPEN

HESS GAS STATION (Continued) **1000263689**

Tank ID: 1
Tank Status: In Use
Status Date: Not reported
Date Installed: 04/13/1988
Capacity: 10000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with electronic automatic line leak detection
Number of compartment: Not reported
Pipe install date: 04/13/1988
Pipe leak install date: Not reported
Submersible sump: Y
Submersible sump install date: Not reported
Turbine sump: Y
Turbine sump sensor: Y
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Automatic shut-off valve
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: In Use
Status Date: Not reported
Date Installed: 04/13/1988
Capacity: 10000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with electronic automatic line leak detection
Number of compartment: Not reported
Pipe install date: 04/13/1988
Pipe leak install date: Not reported
Submersible sump: Y
Submersible sump install date: Not reported
Turbine sump: Y
Turbine sump sensor: Y
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N

HESS GAS STATION (Continued) **1000263689**

Overfill protect install: Not reported
Overfill protect type: Automatic shut-off valve
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: In Use
Status Date: Not reported
Date Installed: 04/13/1988
Capacity: 10000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with electronic automatic line leak detection
Number of compartment: Not reported
Pipe install date: 04/13/1988
Pipe leak install date: Not reported
Submersible sump: Y
Submersible sump install date: Not reported
Turbine sump: Y
Turbine sump sensor: Y
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Automatic shut-off valve
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 4
Tank Status: Tank Removed
Status Date: 05/29/1997
Date Installed: 04/13/1988
Capacity: 550.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Soil Vapor Monitoring
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N

HESS GAS STATION (Continued) **1000263689**

Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 5
Tank Status: Tank Removed
Status Date: Not reported
Date Installed: Not reported
Capacity: 550.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

FINDS:

Registry ID: 110001960067

Environmental Interest/Information System
AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans

HESS GAS STATION (Continued) **1000263689**

to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

MA Financial Assurance 2:
- Facility Id: 19530
- Description: Gas Station
- Work Phone: (732) 750-6220

ECHO:
- Envid: 1000263689
- Registry ID: 110001960067
- DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110001960067

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40 **JOHN ST POWER HOUSE** **SHWS** **S103811471**
SSE **JOHN ST** **RELEASE** **N/A**
< 1/8 **LOWELL, MA**
0.075 mi.
394 ft.

Relative:
Higher

Actual:
91 ft.

SHWS:
- Release Tracking Number/Current Status: 3-0011011 / RAO
- Release Town: LOWELL
- Notification Date: 05/17/1994
- Category: TWO HR
- Associated ID: Not reported
- **Current Status:** **Response Action Outcome**
- Status Date: 08/16/1994
- Phase: Not reported
- Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
- Oil Or Haz Material: Oil
- Location Type: INDUSTRIAL
- Location Type: WATERBODY
- Source: FITTING

Click here to access the MA DEP site for this facility:

Chemicals:
- Chemical: LUBRICATING OIL
- Quantity: 2 gallons
- Chemical: HYDRAULIC FLUID
- Quantity: 2 gallons

JOHN ST POWER HOUSE (Continued) **S103811471**

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	5/17/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	5/17/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	6/8/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	7/18/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/16/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0011011 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/17/1994
Category:	TWO HR
Status Date:	08/16/1994
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

G41 **LOWELL NATIONAL HISTORICAL PARK** **HW GEN** **S112549949**
ENE **400 FOOT OF JOHN ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.075 mi.
394 ft. **Site 4 of 5 in cluster G**

Relative:
Lower

Actual:
68 ft.

HW GEN:

EPA Id:	MAC300001161
RCRA Generator Status:	VSQG
State Generator Status:	VQG-MA

G42 **LOWELL NATIONAL HISTORICAL PARK** **RCRA-CESQG** **1008403032**
ENE **400 FOOT OF JOHN ST** **MAC300001161**
< 1/8 **LOWELL, MA 01852**
0.075 mi.
394 ft. **Site 5 of 5 in cluster G**

Relative:
Lower

Actual:
68 ft.

RCRA-CESQG:

Date form received by agency:	12/18/2003
Facility name:	LOWELL NATIONAL HISTORICAL PARK
Facility address:	400 FOOT OF JOHN ST LOWELL, MA 01852
EPA ID:	MAC300001161
Mailing address:	67 KIRK ST LOWELL, MA 018520000
Contact:	TED DAVIS
Contact address:	FACILITY MANAGER 67 KIRK ST, MA 018520000
Contact country:	US
Contact telephone:	(978) 275-1721
Contact email:	Not reported
EPA Region:	01
Land type:	Federal
Classification:	Conditionally Exempt Small Quantity Generator
Description:	Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name:	LOWELL NATIONAL HISTORICAL PARK
Owner/operator address:	FACILITY MANAGER 67 KIRK ST, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	State
Owner/Operator Type:	Operator
Owner/Op start date:	12/18/2003
Owner/Op end date:	Not reported

LOWELL NATIONAL HISTORICAL PARK (Continued) **1008403032**

Owner/operator name: NATIONAL PARK SERVICWE
Owner/operator address: FACILITY MANAGER
67 KIRK ST, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Federal
Owner/Operator Type: Owner
Owner/Op start date: 12/18/2003
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 04/12/2010
Date achieved compliance: 03/07/2011
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/2011
Enf. disposition status: Action Satisfied (Case Closed)
Enf. disp. status date: 03/07/2011
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Universal Waste - Small Quantity Handlers
Date violation determined: 04/12/2010
Date achieved compliance: 03/07/2011

LOWELL NATIONAL HISTORICAL PARK (Continued) **1008403032**

Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/2011
Enf. disposition status: Action Satisfied (Case Closed)
Enf. disp. status date: 03/07/2011
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 04/12/2010
Date achieved compliance: 04/12/2010
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/07/2011
Enf. disposition status: Action Satisfied (Case Closed)
Enf. disp. status date: 03/07/2011
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 04/12/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Universal Waste - Small Quantity Handlers
Date achieved compliance: 03/07/2011
Evaluation lead agency: EPA

Evaluation date: 04/12/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 03/07/2011
Evaluation lead agency: EPA

Evaluation date: 04/12/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 04/12/2010
Evaluation lead agency: EPA

I43 **LOWELL FIRE DEPARTMENT** **HW GEN** **S112553049**
West **99 MOODY ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.075 mi.
398 ft. **Site 1 of 3 in cluster I**

Relative:
Higher

Actual:
91 ft.

HW GEN:
EPA Id: MAD982197725
RCRA Generator Status: VSQG
State Generator Status: SQG-MA

I44 **LOWELL FIRE DEPARTMENT** **RCRA-CESQG** **1000881685**
West **99 MOODY ST** **FINDS** **MAD982197725**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.075 mi.
398 ft. **Site 2 of 3 in cluster I**

Relative:
Higher

Actual:
91 ft.

RCRA-CESQG:

Date form received by agency:	06/17/2004
Facility name:	LOWELL FIRE DEPARTMENT
Facility address:	99 MOODY ST LOWELL, MA 01852
EPA ID:	MAD982197725
Contact:	WILLIAM DEMPSEY
Contact address:	ARCAND DR LOWELL, MA 01852
Contact country:	US
Contact telephone:	(508) 454-4947
Contact email:	Not reported
EPA Region:	01
Land type:	Private
Classification:	Conditionally Exempt Small Quantity Generator
Description:	Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name:	LOWELL FIRE DEPARTMENT
Owner/operator address:	ARCAND DR LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	06/17/2004
Owner/Op end date:	Not reported

Owner/operator name:	CITY OF LOWELL FIRE DEPT
Owner/operator address:	ARCAND DR LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1900
Owner/Op end date:	Not reported

Handler Activities Summary:

LOWELL FIRE DEPARTMENT (Continued) **1000881685**

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Historical Generators:
Date form received by agency: 06/03/1987
Site name: LOWELL FIRE DEPARTMENT
Classification: Not a generator, verified

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 06/26/1998
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

FINDS:

Registry ID: 110008414787

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1000881685
Registry ID: 110008414787
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110008414787

F45 **EDR Hist Auto** **1015434951**
WSW **338 MERRIMACK ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.084 mi.
445 ft. **Site 15 of 17 in cluster F**

Relative:
Higher

Actual:
91 ft.

EDR Historical Auto Stations:

Name:	GOODYEAR AUTO SERVICES
Year:	2005
Address:	338 MERRIMACK ST
Name:	GOODYEAR AUTO SERVICES
Year:	2006
Address:	338 MERRIMACK ST
Name:	GOODYEAR AUTO SERVICE CENTERS
Year:	2009
Address:	338 MERRIMACK ST
Name:	GOODYEAR AUTO SERVICE CENTERS
Year:	2011
Address:	338 MERRIMACK ST
Name:	GOODYEAR AUTO SERVICE CENTERS
Year:	2012
Address:	338 MERRIMACK ST

F46 **GOODYEAR TIRE & AUTO SERVICE CENTER 0321** **SHWS** **S111277360**
WSW **338 MERRIMACK ST** **RELEASE** **N/A**
< 1/8 **LOWELL, MA 01852** **HW GEN**
0.084 mi.
445 ft. **Site 16 of 17 in cluster F**

Relative:
Higher

Actual:
91 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030347 / RAO
Release Town:	LOWELL
Notification Date:	10/05/2011
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/13/2012
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PHENANTHRENE
Quantity:	52.4 milligrams per kilogram
Chemical:	ACENAPHTHYLENE
Quantity:	23.5 milligrams per kilogram
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	1900 milligrams per kilogram
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	56.2 milligrams per kilogram

GOODYEAR TIRE & AUTO SERVICE CENTER 0321 (Continued) **S111277360**

Chemical: BENZO[A]ANTHRACENE
Quantity: 29.4 milligrams per kilogram
Chemical: BENZO[A]PYRENE
Quantity: 25.3 milligrams per kilogram
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 34.7 milligrams per kilogram

Actions:

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 12/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 12/20/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 12/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/19/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received

GOODYEAR TIRE & AUTO SERVICE CENTER 0321 (Continued) **S111277360**

Action Date: 4/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: SHPFAC
Action Date: 8/22/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/13/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/13/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 9/20/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0030347 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/05/2011
Category: 120 DY
Status Date: 09/13/2012
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

HW GEN:
EPA Id: MAD149981524
RCRA Generator Status: Not reported
State Generator Status: LQG-MA

F47 **GOODYEAR TIRE & AUTO SERVICE CENTER 0321** **RCRA NonGen / NLR** **1000881614**
WSW **338 MERRIMACK ST** **FINDS** **MAD149981524**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.084 mi.
445 ft. **Site 17 of 17 in cluster F**

Relative:
Higher

Actual:
91 ft.

RCRA NonGen / NLR:

Date form received by agency:	02/05/2010
Facility name:	GOODYEAR TIRE & AUTO SERVICE CENTER 0321
Facility address:	338 MERRIMACK ST LOWELL, MA 01852
EPA ID:	MAD149981524
Mailing address:	1144 E MARKET STREET DEPT 704 AKRON, OH 443160000
Contact:	KATY PARADISE
Contact address:	338 MERRIMACK ST LOWELL, MA 018520000
Contact country:	US
Contact telephone:	(508) 454-0457
Contact email:	GSR0321@GOODYEAR.COM
EPA Region:	01
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	THE GOODYEAR TIRE & RUBBER COMPANY
Owner/operator address:	338 MERRIMACK ST LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	03/10/1996
Owner/Op end date:	Not reported

Owner/operator name:	THE GOODYEAR TIRE & RUBBER COMPANY
Owner/operator address:	338 MERRIMACK ST LOWELL, MA 01852
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	03/10/1996
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

GOODYEAR TIRE & AUTO SERVICE CENTER 0321 (Continued) **1000881614**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: MA01
. Waste name: WASTE OIL

Historical Generators:
Date form received by agency: 10/02/1986
Site name: GOODYEAR TIRE & AUTO SERVICE CENTER 0321
Classification: Not a generator, verified

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 07/23/2009
Date achieved compliance: 02/22/2010
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/15/2009
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/04/2010
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/22/2010
Evaluation lead agency: State

GOODYEAR TIRE & AUTO SERVICE CENTER 0321 (Continued) **1000881614**

FINDS:

Registry ID: 110003452763

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1000881614
Registry ID: 110003452763
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110003452763

J48 **NO LOCATION AID** **SHWS** **S111085950**
WNW **150 FATHER MORISSETTE BLVD** **RELEASE** **N/A**
< 1/8 **LOWELL, MA**
0.088 mi.
465 ft. **Site 1 of 2 in cluster J**

Relative: Higher

Actual: 91 ft.

SHWS:
Release Tracking Number/Current Status: 3-0030077 / RAO
Release Town: LOWELL
Notification Date: 06/17/2011
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/30/2011
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: LINE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC FLUID
Quantity: 40 gallons
Chemical: HYDRAULIC OIL
Quantity: 40 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/17/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NO LOCATION AID (Continued) **S111085950**

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/17/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/17/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/30/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/30/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/20/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Revised Statement or Transmittal Received
Action Date: 7/20/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0030077 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/17/2011
Category: TWO HR
Status Date: 06/30/2011
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

K49 **158 & 176 MIDDLE STREET AYER LOFTS** **US BROWNFIELDS** **1016351797**
SSW **158 MIDDLE STREET** **FINDS** **N/A**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.097 mi.
513 ft. **Site 1 of 5 in cluster K**

Relative:
Higher

Actual:
91 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	158 & 176 MIDDLE STREET [AYER LOFTS]
Property #:	Not reported
Parcel size:	8.5
Property Description:	Not reported
Latitude:	42.645063
Longitude:	-71.310946
HCM label:	Address Matching-House Number
Map scale:	100000
Point of reference:	Entrance Point of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	12895
Start date:	02/01/1999 00:00:00
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	120000
Cleanup funding source:	Local Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	3900000
Redev. funding source:	Private/Other Funding
Redev. funding entity name:	Edward A. Fish Associates
Redevelopment start date:	02/01/1999 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	city
Grant type:	Hazardous
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported

158 & 176 MIDDLE STREET AYER LOFTS (Continued) **1016351797**

Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported

158 & 176 MIDDLE STREET AYER LOFTS (Continued) **1016351797**

No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541172

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351797
Registry ID:	110039541172
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541172

L50 **LOWELL SHOE INC** **RCRA NonGen / NLR** **1000204564**
ESE **95 BRIDGE ST** **MAD001005677**
< 1/8 **LOWELL, MA 01852**
0.098 mi.
516 ft. **Site 1 of 6 in cluster L**

Relative:
Lower

Actual:
78 ft.

RCRA NonGen / NLR:

Date form received by agency:	08/15/1980
Facility name:	LOWELL SHOE INC
Facility address:	95 BRIDGE ST LOWELL, MA 01852
EPA ID:	MAD001005677
Mailing address:	PO BOX 859 LOWELL, MA 01853
Contact:	ARTHUR LEBEL
Contact address:	PO BOX 859 LOWELL, MA 01853
Contact country:	US
Contact telephone:	(508) 458-8402
Contact email:	Not reported
EPA Region:	01
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	MORSE SHOE INC
Owner/operator address:	PO BOX 859 LOWELL, MA 01853

LOWELL SHOE INC (Continued) **1000204564**

Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Owner/operator name: LOWELL SHOE INC
Owner/operator address: PO BOX 859
LOWELL, MA 01853
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/03/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

L51 **ASSEMBLY SERVICES CORP** **RCRA NonGen / NLR** **1000205959**
ESE **95 BRIDGE ST** **MAD980910616**
< 1/8 **LOWELL, MA 01852**
0.098 mi.
516 ft. **Site 2 of 6 in cluster L**

Relative:
Lower

Actual:
78 ft.

RCRA NonGen / NLR:
Date form received by agency: 07/10/1984
Facility name: ASSEMBLY SERVICES CORP
Facility address: 95 BRIDGE ST
LOWELL, MA 01852
EPA ID: MAD980910616
Contact: DAVID FAWCETT
Contact address: 95 BRIDGE ST
LOWELL, MA 01852
Contact country: US
Contact telephone: (508) 937-5770
Contact email: Not reported
EPA Region: 01

ASSEMBLY SERVICES CORP (Continued) **1000205959**

Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: ASSEMBLY SERVICES CORP
Owner/operator address: 95 BRIDGE ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/30/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

L52 **LOWELL SHOE INC** **RCRA NonGen / NLR** **1000332809**
ESE **95 BRIDGE ST** **FINDS** **MAD076587617**
< 1/8 **LOWELL, MA 01852** **ECHO**
0.098 mi.
516 ft. **Site 3 of 6 in cluster L**

Relative:
Lower

Actual:
78 ft.

RCRA NonGen / NLR:
Date form received by agency: 08/18/1980
Facility name: DEPOIAN DON SCREEN PRINT
Facility address: 95 BRIDGE ST
LOWELL, MA 01852
EPA ID: MAD076587617

LOWELL SHOE INC (Continued) **1000332809**

Contact: DONALD-S DEPOIAN
Contact address: 95 BRIDGE ST
LOWELL, MA 01852
Contact country: US
Contact telephone: (617) 555-1212
Contact email: Not reported
EPA Region: 01
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: DONALD S DEPOIAN
Owner/operator address: 95 BRIDGE ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Owner/operator name: DEPOIAN DON SCREEN PRINT
Owner/operator address: 95 BRIDGE ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/30/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

FINDS:

Registry ID: 110003416820

LOWELL SHOE INC (Continued) **1000332809**

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:

Envid:	1000332809
Registry ID:	110003416820
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110003416820

L53 **PARIS SHOE CO INC** **RCRA NonGen / NLR** **1000262374**
ESE **95 BRIDGE ST** **MAD001005685**
< 1/8 **LOWELL, MA 01852**
0.098 mi.
516 ft. **Site 4 of 6 in cluster L**

Relative:
Lower

Actual:
78 ft.

RCRA NonGen / NLR:

Date form received by agency:	08/18/1980
Facility name:	PARIS SHOE CO INC
Facility address:	95 BRIDGE ST LOWELL, MA 01852
EPA ID:	MAD001005685
Mailing address:	PO BOX 68 LOWELL, MA 01853
Contact:	KEITH LURIE
Contact address:	PO BOX 68 LOWELL, MA 01853
Contact country:	US
Contact telephone:	(508) 459-9386
Contact email:	Not reported
EPA Region:	01
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	LACONIA SHOE COMPANY INC
Owner/operator address:	PO BOX 68 LOWELL, MA 01853
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	10/16/2004
Owner/Op end date:	Not reported
Owner/operator name:	LOWELL SHOE INC
Owner/operator address:	PO BOX 68 LOWELL, MA 01853
Owner/operator country:	US
Owner/operator telephone:	Not reported

PARIS SHOE CO INC (Continued) **1000262374**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/03/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

Violation Status: No violations found

K54 **OWL STAMP CO** **HW GEN** **S112560080**
SSW **142 MIDDLE ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.098 mi.
516 ft. **Site 2 of 5 in cluster K**

Relative: **Higher**

Actual: **91 ft.**

HW GEN:
EPA Id: MV9784524541
RCRA Generator Status: VSQG
State Generator Status: VQG-MA

H55 **ROADWAY INCIDENT** **SHWS** **S111739420**
SE **1 KEARNEY SQUARE** **RELEASE** **N/A**
< 1/8 **LOWELL, MA**
0.102 mi.
537 ft. **Site 3 of 4 in cluster H**

Relative: **Lower**

Actual: **80 ft.**

SHWS:
Release Tracking Number/Current Status: 3-0030719 / RAO
Release Town: LOWELL
Notification Date: 03/20/2012
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 04/06/2012
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: ROADWAY

ROADWAY INCIDENT (Continued) **S111739420**

Source: SADDLE
Source: TANK

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 20 gallons
Chemical: DIESEL FUEL OIL
Quantity: 20 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/20/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 3/20/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/20/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 3/20/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/4/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received

ROADWAY INCIDENT (Continued) **S111739420**

Action Date: 4/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0030719 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 03/20/2012
Category: TWO HR
Status Date: 04/06/2012
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

H56 **LOWELL SUN PUBLISHING CO** **RCRA NonGen / NLR** **1004517990**
SE **15 KEARNEY SQ** **US AIRS** **MAD001045616**
< 1/8 **LOWELL, MA 01853** **FINDS**
0.107 mi. **ECHO**
564 ft. **Site 4 of 4 in cluster H**

Relative:
Lower

Actual:
79 ft.

RCRA NonGen / NLR:
Date form received by agency: 10/07/2003
Facility name: LOWELL SUN PUBLISHING CO
Facility address: 15 KEARNEY SQ
LOWELL, MA 01853
EPA ID: MAD001045616
Mailing address: PO BOX 1477
LOWELL, MA 018530000
Contact: ANTHONY-R MENDONSA
Contact address: PO BOX 1477
LOWELL, MA 01853
Contact country: US
Contact telephone: (508) 458-7100
Contact email: Not reported
EPA Region: 01
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: LOWELL SUN PUBLISHING
Owner/operator address: PO BOX 1477
LOWELL, MA 01853
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: Not reported

LOWELL SUN PUBLISHING CO (Continued) **1004517990**

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

Historical Generators:
Date form received by agency: 04/30/1984
Site name: LOWELL SUN PUBLISHING CO
Classification: Conditionally Exempt Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 05/03/2012
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

US AIRS MINOR:
Envid: 1004517990
Region Code: 01
Programmatic ID: AIR MA0000002512100313
Facility Registry ID: 110001952236
D and B Number: Not reported
Primary SIC Code: 2711

LOWELL SUN PUBLISHING CO (Continued) **1004517990**

NAICS Code: 511110
Default Air Classification Code: MIN
Facility Type of Ownership Code: POF
Air CMS Category Code: Not reported
HPV Status: Not reported

US AIRS MINOR:
Region Code: 01
Programmatic ID: AIR MA0000002512100313
Facility Registry ID: 110001952236
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1989-12-14 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100313
Facility Registry ID: 110001952236
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 1992-01-28 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100313
Facility Registry ID: 110001952236
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2004-01-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

Region Code: 01
Programmatic ID: AIR MA0000002512100313
Facility Registry ID: 110001952236
Air Operating Status Code: OPR
Default Air Classification Code: MIN
Air Program: State Implementation Plan for National Primary and Secondary Ambient Air Quality Standards
Activity Date: 2012-05-03 00:00:00
Activity Status Date: Not reported
Activity Group: Compliance Monitoring
Activity Type: Inspection/Evaluation
Activity Status: Not reported

FINDS:

LOWELL SUN PUBLISHING CO (Continued) **1004517990**

Registry ID: 110001952236

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

AIR EMISSIONS CLASSIFICATION UNKNOWN

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

AIR MINOR

ECHO:
Envid: 1004517990
Registry ID: 110001952236
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110001952236

L57 **AUTOZONE 3749** **HW GEN** **S113409213**
East **114 BRIDGE ST** **N/A**
< 1/8 **LOWELL, MA 01850**
0.110 mi.
581 ft. **Site 5 of 6 in cluster L**

Relative:
Lower

Actual:
70 ft.

HW GEN:
EPA Id: MAC300017787
RCRA Generator Status: Not reported
State Generator Status: LQG-MA

L58 **AUTOZONE 3749** **RCRA NonGen / NLR** **1015743276**
East **114 BRIDGE ST** **MAC300017787**
< 1/8 **LOWELL, MA 01850**
0.110 mi.
581 ft. **Site 6 of 6 in cluster L**

Relative:
Lower

Actual:
70 ft.

RCRA NonGen / NLR:

Date form received by agency:	03/12/2012
Facility name:	AUTOZONE 3749
Facility address:	114 BRIDGE ST LOWELL, MA 01850
EPA ID:	MAC300017787
Mailing address:	123 SOUTH FRONT ST DEPT 8190 MEMPHIS, TN 381030000
Contact:	BRYAN BLAIR
Contact address:	123 SOUTH FRONT ST DEPT 8190 MEMPHIS, TN 381030000
Contact country:	US
Contact telephone:	(901) 495-7217
Contact email:	BRYAN.BLAIR@AUTOZONE.COM
EPA Region:	01
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	AUTO ZONE NORTHEAST INC
Owner/operator address:	123 SOUTH FRONT ST DEPT 8190 MEMPHIS, TN 38103
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	03/21/2012
Owner/Op end date:	Not reported

Owner/operator name:	AUTO ZONE NORTHEAST INC
Owner/operator address:	123 SOUTH FRONT ST DEPT 8190 MEMPHIS, TN 38103
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	03/21/2012
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No

AUTOZONE 3749 (Continued) **1015743276**

Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

Violation Status: No violations found

M59 **COMFED SAVINGS BANK** **RCRA NonGen / NLR** **1000228140**
SSE **44 MIDDLE ST PO BOX 8489** **FINDS** **MAD982546111**
< 1/8 **LOWELL, MA 01853** **ECHO**
0.111 mi.
586 ft. **Site 1 of 3 in cluster M**

Relative:
Lower

Actual:
87 ft.

RCRA NonGen / NLR:
Date form received by agency: 02/01/1988
Facility name: COMFED SAVINGS BANK
Facility address: 44 MIDDLE ST PO BOX 8489
LOWELL, MA 01853
EPA ID: MAD982546111
Contact: ARTHUR CONSTANTINE
Contact address: 44 MIDDLE ST PO BOX 8489
LOWELL, MA 01853
Contact country: US
Contact telephone: (508) 454-5663
Contact email: Not reported
EPA Region: 01
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: COMFED SAVINGS BANK
Owner/operator address: 44 MIDDLE ST PO BOX 8489
LOWELL, MA 01853
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Owner/operator name: COMFED SAVINGS BANK
Owner/operator address: 44 MIDDLE ST PO BOX 8489
LOWELL, MA 01853
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/03/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No

COMFED SAVINGS BANK (Continued) **1000228140**

Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D002
. Waste name: CORROSIVE WASTE

Violation Status: No violations found

FINDS:

Registry ID: 110008415740

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ECHO:
Envid: 1000228140
Registry ID: 110008415740
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110008415740

M60 **MIDDLESEX COMMUNITY COLLEGE** **HW GEN** **S107355595**
SSE **44 MIDDLE ST** **LEAD** **N/A**
< 1/8 **LOWELL, MA 01852**
0.111 mi.
586 ft. **Site 2 of 3 in cluster M**

Relative:
Lower

Actual:
87 ft.

HW GEN:
EPA Id: MV9788563206
RCRA Generator Status: VSQG
State Generator Status: Not reported

LEAD:
Community: Lowell
Unit: 1
Inspector Name: Nancy Olson
Inspector License Number: 1180
Activity Type: INSPECT
Activity Date: 09/29/1994
Start Work Date: Not reported

MIDDLESEX COMMUNITY COLLEGE (Continued) **S107355595**

Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

Community: Lowell
Unit: 1
Inspector Name: Nancy Olson
Inspector License Number: 1180
Activity Type: COMPLIANCE
Activity Date: 09/29/1994
Start Work Date: Not reported
Activity Descriptions: Letter of Full Initial Insp Comp
Outcomes: Issued

N61 **EDR Hist Cleaner** **1015066688**
SE **49 KEARNEY SQ** **N/A**
< 1/8 **LOWELL, MA 01852**
0.119 mi.
626 ft. **Site 1 of 2 in cluster N**

Relative:
Lower

Actual:
77 ft.

EDR Historical Cleaners:
Name: HIGHLAND LAUNDRY INCORPORATED
Year: 1999
Address: 49 KEARNEY SQ

Name: HIGHLAND LAUNDRY INCORPORATED
Year: 2000
Address: 49 KEARNEY SQ

K62 **LOWELL FAMILY DENTAL PRACTICE** **HW GEN** **S112560099**
SSW **133 MARKET ST** **N/A**
< 1/8 **LOWELL, MA 01852**
0.121 mi.
637 ft. **Site 3 of 5 in cluster K**

Relative:
Lower

Actual:
88 ft.

HW GEN:
EPA Id: MV9784581179
RCRA Generator Status: VSQG
State Generator Status: Not reported

J63 **FMR TREMONT YARD PWRHOUSE AND TAILRACE** **SHWS** **S109146403**
WNW **257 FATHER MORISSETTE BLVD** **RELEASE** **N/A**
< 1/8 **LOWELL, MA 01854** **ENF**
0.121 mi.
638 ft. **Site 2 of 2 in cluster J**

Relative:
Higher

Actual:
91 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027828 / RAO
Release Town: LOWELL
Notification Date: 07/09/2008
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/05/2009
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Hazardous Material
Location Type: COMMERCIAL
Location Type: STATE
Source: LATION
Source: BOILER
Source: INSU

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: ASBESTOS
Quantity: 1 pounds
Chemical: ASBESTOS
Quantity: 2 pounds

Actions:
Action Type: RLFA
Action Status: FOLOFF
Action Date: 1/6/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 11/19/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 11/6/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/6/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 3/17/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/5/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/5/2009

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 7/23/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/5/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/5/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 9/29/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	9/3/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	9/5/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	9/5/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	9/8/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status:	3-0027821 / RAONR
Release Town:	LOWELL
Notification Date:	07/06/2008
Category:	TWO HR
Associated ID:	3-0019880
Current Status:	**Response Action Outcome Not Required**
Status Date:	06/26/2009
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	STATE
Location Type:	WATERBODY
Location Type:	MUNICIPAL
Location Type:	COMMERCIAL
Source:	TREMONT
Source:	YARD
Source:	UNKNOWN
Source:	PWRHOUSE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	DIESEL FUEL
Quantity:	30 gallons
Chemical:	FUEL OIL
Quantity:	10 gallons

Actions:

Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	1/6/2009

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 11/19/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 11/6/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 11/6/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 2/2/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/6/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/8/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 5/11/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/5/2009
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 5/8/2009
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 6/26/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/26/2009
Response Action Outcome: Not reported

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Action Type: RLFA
Action Status: FLDRUN
Action Date: 7/10/2008
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/11/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 7/2/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: EPETOP
Action Date: 7/2/2008
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 7/23/2008
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1A
Action Date: 7/6/2008
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/6/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/6/2008
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 7/6/2008
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/7/2008
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/9/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Action Date: 8/10/2001
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/10/2001
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/10/2001
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 8/18/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/25/2010
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDDO
Action Date: 8/5/2008
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/5/2010
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/2008
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 9/29/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Denial of Plan
Action Date: 9/29/2008
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/3/2008
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 9/4/2009
Response Action Outcome: Not reported

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	9/5/2008
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	9/5/2008
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	9/8/2008
Response Action Outcome:	Not reported
Release Tracking Number/Current Status:	3-0027830 / RAO
Release Town:	LOWELL
Notification Date:	07/09/2008
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	02/26/2009
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported
Location Type:	STATE
Location Type:	COMMERCIAL
Source:	DRUMS

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLUEM TAR
Quantity:	40 gallons
Chemical:	COAL TAR
Quantity:	1 pounds

Actions:

Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	1/6/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Written Denial of Plan
Action Date:	11/19/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	11/6/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 2/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/6/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/10/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 7/23/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Action Status: FOLFLD
Action Date: 8/5/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/5/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 9/29/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/3/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/5/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/5/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 9/8/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0027821 / RAONR
Primary ID: 3-0019880

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Official City:	LOWELL
Notification:	07/06/2008
Category:	TWO HR
Status Date:	06/26/2009
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0027828 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	07/09/2008
Category:	TWO HR
Status Date:	03/05/2009
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0027830 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	07/09/2008
Category:	TWO HR
Status Date:	02/26/2009
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3E
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0027821
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	09/29/2008
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported

FMR TREMONT YARD PWRHOUSE AND TAILRACE (Continued) **S109146403**

Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

I64 **NO LOCATION AID** **SHWS S109546204**
West **445 MERRIMACK ST** **RELEASE N/A**
< 1/8 **LOWELL, MA 01854**
0.122 mi.
642 ft. **Site 3 of 3 in cluster I**

Relative:
Higher

Actual:
91 ft.

SHWS:

Release Tracking Number/Current Status:	3-0028297 / RAO
Release Town:	LOWELL
Notification Date:	02/02/2009
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	02/13/2009
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	ROADWAY
Source:	LIC TANK
Source:	HYDRAU
Source:	60 GAL
Source:	LINE
Source:	VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	HYDRAULIC FLUID
Quantity:	60 gallons
Chemical:	HYDRAULIC OIL
Quantity:	25 gallons

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	2/13/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	2/13/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NO LOCATION AID (Continued) **S109546204**

Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	2/13/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	2/2/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	2/2/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	3/10/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0028297 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	02/02/2009
Category:	TWO HR
Status Date:	02/13/2009
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

K65 **COMPO IND INC BRADFORD DIV** **RCRA NonGen / NLR** **1000348490**
SSW **200 MARKET ST** **FINDS** **MAD001415702**
1/8-1/4 **LOWELL, MA 01852** **ECHO**
0.130 mi.
688 ft. **Site 4 of 5 in cluster K**

Relative:
Higher

Actual:
91 ft.

RCRA NonGen / NLR:

Date form received by agency:	08/14/1980
Facility name:	COMPO IND INC BRADFORD DIV
Facility address:	200 MARKET ST LOWELL, MA 01852
EPA ID:	MAD001415702
Contact:	RICHARD OBRIEN
Contact address:	200 MARKET ST LOWELL, MA 01852
Contact country:	US
Contact telephone:	(508) 459-4100

COMPO IND INC BRADFORD DIV (Continued) **1000348490**

Contact email: Not reported
EPA Region: 01
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: BRADFORD INDUSTRIES
Owner/operator address: 200 MARKET ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: Not reported

Owner/operator name: COMPO INDUSTRIES INC
Owner/operator address: 200 MARKET ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT

COMPO IND INC BRADFORD DIV (Continued) **1000348490**

MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U107
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

Violation Status: No violations found

FINDS:

Registry ID: 110002059762

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1000348490
Registry ID: 110002059762
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110002059762

K66 **COMPO INDUSTRIES INC** **SHWS** **1000348491**
SSW **200 MARKET ST** **LUST** **MAD097435572**
1/8-1/4 **LOWELL, MA 01852** **BROWNFIELDS**
0.130 mi. **RELEASE**
688 ft. **Site 5 of 5 in cluster K** **RCRA NonGen / NLR**
LEAD

Relative: Higher

Actual: 91 ft.

SHWS:
Release Tracking Number/Current Status: 3-0014200 / RAO
Release Town: LOWELL
Notification Date: 09/05/1996
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/10/1997
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been

COMPO INDUSTRIES INC (Continued) **1000348491**

reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: RESIDNTIAL
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TRANSFORMER OIL
Quantity: 10 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 1/10/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/10/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/10/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/10/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/24/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/27/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/30/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS

COMPO INDUSTRIES INC (Continued) **1000348491**

Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action - DEP Lead
Action Status: Oral Approval of Plan or Action
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action - DEP Lead
Action Status: Oral Approval of Plan or Action
Action Date: 9/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 9/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/9/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0000041 / RAO

COMPO INDUSTRIES INC (Continued) **1000348491**

Status Date:	08/24/1999
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Phase:	PHASE IV
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported
Location Type:	MANUFACT
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PHTHALATE ESTER
Quantity:	Not reported

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/15/1987
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/7/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	10/13/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	TREGS
Action Status:	WAVREC
Action Date:	12/30/1988
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	TREGS
Action Status:	WAVSIG
Action Date:	5/4/1989
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

COMPO INDUSTRIES INC (Continued) **1000348491**

reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 5/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/26/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 6/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 6/9/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Not Required - Fee Credited-FMCRA Use Only
Action Date: 7/15/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/20/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 7/20/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 8/17/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 8/24/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO

COMPO INDUSTRIES INC (Continued) **1000348491**

Action Status: RAO Statement Received
Action Date: 8/24/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 9/14/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/14/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 9/14/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVACC
Action Date: 9/8/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/8/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

BROWNFIELDS 2:
RTN: 3-0000041
RAO Class: A2
Other RTNs: Not reported
Current Owner: Ford Rosemary E
MCP Status: RAO
AUL: No
COCs: Phthalate Ester
Former Use: Manufacture
Current Use: Not reported
Total Acreage: 0.188

Release:
Release Tracking Number/Current Status: 3-0000041 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1987
Category: NONE
Status Date: 08/24/1999
Phase: PHASE IV

COMPO INDUSTRIES INC (Continued) **1000348491**

Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0014200 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/05/1996
Category: TWO HR
Status Date: 01/10/1997
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

RCRA NonGen / NLR:
Date form received by agency: 03/12/1985
Facility name: COMPO INDUSTRIES INC
Facility address: 200 MARKET ST
LOWELL, MA 01852
EPA ID: MAD097435572
Contact: RAYMOND CAISSE
Contact address: 200 MARKET ST
LOWELL, MA 01852
Contact country: US
Contact telephone: (508) 459-4100
Contact email: Not reported
EPA Region: 01
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: BRADFORD INDUSTRIES
Owner/operator address: 200 MARKET ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No

COMPO INDUSTRIES INC (Continued) **1000348491**

On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 09/09/1985
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

LEAD:
Community: Lowell
Unit: UT314
Inspector Name: Frederick Wheaton
Inspector License Number: 1597
Activity Type: INSPECT
Activity Date: 03/13/1992
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: Hazards Found

O67
NNW
1/8-1/4
0.131 mi.
694 ft.

100 RIVER PLACE
100 RIVER PLACE
LOWELL, MA 30161

Site 1 of 4 in cluster O

US BROWNFIELDS **1016351828**
FINDS **N/A**
ECHO

Relative:
Lower

Actual:
69 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	100 RIVER PLACE
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.649124
Longitude:	-71.312249
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12910
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported

100 RIVER PLACE (Continued) **1016351828**

Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported

100 RIVER PLACE (Continued) **1016351828**

No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541555

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016351828
Registry ID:	110039541555
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541555

P68 **INDUSTRIAL PROPERTY** **SHWS** **S101045750**
NW **661 SUFFOLK ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01850** **SPILLS**
0.143 mi.
756 ft. **Site 1 of 4 in cluster P**

Relative:
Lower

Actual:
88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0004196 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1993
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/08/1996
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	FORMER
Location Type:	TEXT MILL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	VOCS
Quantity:	Not reported

INDUSTRIAL PROPERTY (Continued) **S101045750**

Chemical: BTEX
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/15/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/8/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0004196 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1993
Category: NONE
Status Date: 03/08/1996
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N93-0206
Staff Lead:	BRESNAHAN, C	Date Entered:	Not reported
Last Entered:	19930224	First Response:	19930223
Spill Date:	19930223	Spill Time:	Not reported
Report Date:	19930223	Report Time:	Not reported
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	LUBRICATING OIL	Other Material:	Not reported
Qty Reported:	----------	Qty Actual:	----------
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	U.S.T.	Other Source:	Not reported
Incident:	TANK REMOVAL	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	LT NUTTER/FD		

INDUSTRIAL PROPERTY (Continued) **S101045750**

Notif Tel: Not reported
Days/Close: 0

O69 **152 RIVER PLACE** **US BROWNFIELDS** **1012232790**
NNW **152 RIVER PLACE** **N/A**
1/8-1/4 **LOWELL, MA 30165**
0.145 mi.
763 ft. **Site 2 of 4 in cluster O**

Relative:
Lower

Actual:
62 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	152 RIVER PLACE
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.649647
Longitude:	-71.311807
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12912
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported

152 RIVER PLACE (Continued) **1012232790**

Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported

152 RIVER PLACE (Continued) **1012232790**

Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

O70 **LOWELL POLICE GARAGE** **UST** **U004156865**
NNW **152 RIVER PL** **Financial Assurance** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.145 mi.
763 ft. **Site 3 of 4 in cluster O**

Relative:
Lower

Actual:
62 ft.

UST:

Facility:

Facility ID:	19528
Owner Id:	7246
Owner:	UMASS LOWELL
Owner Address:	1 UNIVERSITY AVE
Owner City,St,Zip:	LOWELL, MA 01854
Telephone:	Not reported
Description:	Government Entity
Facility address 2:	Not reported
Owner address 2:	Not reported
Latitude:	42.64960
Longitude:	-71.31170
Contact name:	Not reported
Contact address1:	Not reported
Contact address2:	Not reported
Contact city:	Not reported
Contact state:	Not reported
Contact zip:	Not reported
Contact email:	Not reported
Update:	2012-10-25 00:00:00
Update by:	Not reported
Fac status:	OPEN

Tank ID:	1
Tank Status:	**Tank Removed**
Status Date:	04/15/1990
Date Installed:	06/03/1967
Capacity:	5000.00000
Contents:	Gasoline
Tank Usage:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported

LOWELL POLICE GARAGE (Continued) **U004156865**

Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 04/15/1990
Date Installed: 06/03/1967
Capacity: 5000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: Tank Removed

LOWELL POLICE GARAGE (Continued) **U004156865**

Status Date: 02/04/1978
Date Installed: 06/03/1967
Capacity: 500.00000
Contents: Unregulate
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 4
Tank Status: Tank Removed
Status Date: 04/15/1990
Date Installed: 06/03/1967
Capacity: 500.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported

LOWELL POLICE GARAGE (Continued) **U004156865**

Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 5
Tank Status: Tank Removed
Status Date: 04/15/1990
Date Installed: 06/03/1967
Capacity: 1000.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 6
Tank Status: Tank Temporarily Out
Status Date: 06/05/2014
Date Installed: 05/01/1990
Capacity: 6000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Quarterly visual inspection and annual product line tightness test
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N

LOWELL POLICE GARAGE (Continued) **U004156865**

Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

MA Financial Assurance 2:
Facility Id: 19528
Description: Federal / Non-Military
Work Phone: (978) 934-0551

Q71 **HAFFNER'S SERVICE STATIONS, INC** **SHWS** **S106863365**
SW **215 DUTTON ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01852** **TIER 2**
0.147 mi.
775 ft. **Site 1 of 2 in cluster Q**

Relative:
Lower

Actual:
88 ft.

SHWS:
Release Tracking Number/Current Status: 3-0024693 / RAO
Release Town: LOWELL
Notification Date: 03/14/2005
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 09/21/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: PIPE
Source: TANKER

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 100 gallons
Chemical: GASOLINE
Quantity: 8 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 3/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1A
Action Date: 3/14/2005

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/23/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 3/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	9/21/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0024693 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/14/2005
Category:	TWO HR
Status Date:	09/21/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

TIER 2:

Report Year:	2012
Facility Id:	FATR2012974UK501CVDP
Facility Dept:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Mailing Address:	2 INTERNATIONAL WAY
Mailing City/State/Zip:	01843
Mailing Country:	USA
Notes:	Not reported
All Chemicals Same As Last Yr:	Not reported
Date Signed:	3/31/2013
Dike Or Other Safeguard:	Not reported
Failed Validation:	Not reported
Date Modified:	11/15/2013
Fees Total:	Not reported
Num Of Employees:	Not reported
Site Coord Abbreviated?:	Not reported
Site Map:	Not reported
State Label Code:	MA2012
Submitted By:	PEGGY WILLETT
Validation Report:	Not reported
Fire District:	Not reported
Latlong Location Description:	Not reported
Latlong Method:	Not reported

Record Key:	FDTR2012974UK501DVE4
Id:	44719
Type:	NAICS
Description:	Not reported
Last Modified:	4/5/2013

Record Key:	FDTR2012974ULL01E4AS
Id:	5541

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Type: SIC
Description: Not reported
Last Modified: 4/5/2013

Contact:
Report Year: 2012
Contact Record Id: CTTR2012974T5H002JRE
Title: PRESIDENT
Contact Name: FOURNIER
Contact Email: Not reported
Contact Mail Address: 2 INTERNATIONAL WAY
Contact Mail City: LAWRENCE
Contact Mail State: MA
Contact Mail Zip: 01843
Contact Mail Country: USA
Contact1 Type: Owner / Operator
Contact2 Type: Not reported
Contact3 Type: Not reported
Contact4 Type: Not reported
Modification Date: 11/15/2013

Contact:
Report Year: 2012
Contact Record Id: CTTR201297509K00223B
Title: SUPERVISOR
Contact Name: FOURNIER
Contact Email: Not reported
Contact Mail Address: 2 INTERNATIONAL WAY
Contact Mail City: LAWRENCE
Contact Mail State: MA
Contact Mail Zip: 01843
Contact Mail Country: USA
Contact1 Type: Emergency Contact
Contact2 Type: Not reported
Contact3 Type: Not reported
Contact4 Type: Not reported
Modification Date: 11/15/2013

Chemicals:
Acute: T
Ave Amount: Not reported
Ave Amount Code: 02
Chem Inv Record Id: CVTR2012974UM201HJ25
Chem Same As Last Yr: T
Chronic: Not reported
CICAS: 68476-30-2
CI EHS Chemical: Not reported
CI Last Modified: 11/15/2013
Days On Site: 365
Entered Chemical Name: FUEL OIL
Fire: T
Gas: Not reported
Liquid: T
Max Amount: Not reported

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Max Amount Code:	02
Max Amt Container:	Not reported
Mixture:	T
Pressure:	Not reported
Pure:	Not reported
Reactive:	Not reported
Solid:	Not reported
State01 Checkbox:	Not reported
State01 Number:	9800
State01 Text:	Not reported
State02 Checkbox:	T
State02 Number:	6
State02 Text:	Week
State03 Checkbox:	Not reported
State03 Number:	70560
State03 Text:	Not reported
State04 Checkbox:	Not reported
State04 Number:	70560
State04 Text:	Liquid
State05 Checkbox:	Not reported
State05 Text:	Not reported
State06 Checkbox:	Not reported
State06 Text:	Not reported
State07 Checkbox:	Not reported
State07 Text:	RTS 495, 95 AND 93
State1 Contact Field:	PARKER FUEL CORP., 2 INTERNATIONAL WAY, LAWRENCE, MA 01843, RICK PELLETIER, 978-375-2001
State Label Code:	MA2012
Trade Secret:	Not reported

Location:

Record Key:	CLTR2012974UMS01J4ML
Chem Inv Record Id:	CVTR2012974UM201HJ25
Type Code:	Below Ground Tank
Pressure Code:	Ambient pressure
Temperature Code:	Ambient temperature
Location:	SOUTH 15' FROM BUILDING
Amount:	Not reported
Amount Unit:	pounds
Last Modified:	11/15/2013

Acute:	T
Ave Amount:	Not reported
Ave Amount Code:	02
Chem Inv Record Id:	CVTR2012974UNE01KPH5
Chem Same As Last Yr:	T
Chronic:	Not reported
CICAS:	8008-20-6
CI EHS Chemical:	Not reported
CI Last Modified:	11/15/2013
Days On Site:	365
Entered Chemical Name:	KEROSENE
Fire:	T
Gas:	Not reported
Liquid:	T
Max Amount:	Not reported
Max Amount Code:	02

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Max Amt Container:	Not reported
Mixture:	T
Pressure:	Not reported
Pure:	Not reported
Reactive:	Not reported
Solid:	Not reported
State01 Checkbox:	Not reported
State01 Number:	9800
State01 Text:	Not reported
State02 Checkbox:	T
State02 Number:	1
State02 Text:	Week
State03 Checkbox:	Not reported
State03 Number:	66836
State03 Text:	Not reported
State04 Checkbox:	Not reported
State04 Number:	66836
State04 Text:	Liquid
State05 Checkbox:	Not reported
State05 Text:	Not reported
State06 Checkbox:	Not reported
State06 Text:	Not reported
State07 Checkbox:	Not reported
State07 Text:	RTS 495, 95 AND 93
State1 Contact Field:	PARKER FUEL CORP., 2 INTERNATIONAL WAY, LAWRENCE, MA 01843, RICK PELLETIER, 978-375-2001
State Label Code:	MA2012
Trade Secret:	Not reported

Location:

Record Key:	CLTR2012974UPC01LHY2
Chem Inv Record Id:	CVTR2012974UNE01KPH5
Type Code:	Below Ground Tank
Pressure Code:	Ambient pressure
Temperature Code:	Ambient temperature
Location:	SOUTH 15' FROM BUILDING
Amount:	Not reported
Amount Unit:	pounds
Last Modified:	11/15/2013

Acute:	T
Ave Amount:	Not reported
Ave Amount Code:	02
Chem Inv Record Id:	CVTR2012974UPV01MYBG
Chem Same As Last Yr:	T
Chronic:	Not reported
CICAS:	68476-34-6
CI EHS Chemical:	Not reported
CI Last Modified:	11/15/2013
Days On Site:	365
Entered Chemical Name:	LOW SULFER DIESEL
Fire:	T
Gas:	Not reported
Liquid:	T
Max Amount:	Not reported
Max Amount Code:	02
Max Amt Container:	Not reported

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Mixture:	T
Pressure:	Not reported
Pure:	Not reported
Reactive:	Not reported
Solid:	Not reported
State01 Checkbox:	Not reported
State01 Number:	9800
State01 Text:	Not reported
State02 Checkbox:	T
State02 Number:	6
State02 Text:	Week
State03 Checkbox:	Not reported
State03 Number:	66836
State03 Text:	Not reported
State04 Checkbox:	Not reported
State04 Number:	66836
State04 Text:	Liquid
State05 Checkbox:	Not reported
State05 Text:	Not reported
State06 Checkbox:	Not reported
State06 Text:	Not reported
State07 Checkbox:	Not reported
State07 Text:	RTS 495, 95 AND 93
State1 Contact Field:	PARKER FUEL CORP., 2 INTERNATIONAL WAY, LAWRENCE, MA 01843, RICK PELLETIER, 978-375-2001
State Label Code:	MA2012
Trade Secret:	Not reported

Location:

Record Key:	CLTR2012974UQL01NL8E
Chem Inv Record Id:	CVTR2012974UPV01MYBG
Type Code:	Below Ground Tank
Pressure Code:	Ambient pressure
Temperature Code:	Ambient temperature
Location:	SOUTH 30' FROM BUILDING
Amount:	Not reported
Amount Unit:	pounds
Last Modified:	11/15/2013

Acute:	T
Ave Amount:	Not reported
Ave Amount Code:	03
Chem Inv Record Id:	CVTR2012974UR801P5E3
Chem Same As Last Yr:	T
Chronic:	Not reported
CICAS:	86290-81-5
CI EHS Chemical:	Not reported
CI Last Modified:	11/15/2013
Days On Site:	365
Entered Chemical Name:	UNLEADED GASOLINE
Fire:	T
Gas:	Not reported
Liquid:	T
Max Amount:	Not reported
Max Amount Code:	03
Max Amt Container:	Not reported
Mixture:	T

HAFFNER'S SERVICE STATIONS, INC (Continued) **S106863365**

Pressure:	Not reported
Pure:	Not reported
Reactive:	Not reported
Solid:	Not reported
State01 Checkbox:	Not reported
State01 Number:	11500
State01 Text:	Not reported
State02 Checkbox:	T
State02 Number:	7
State02 Text:	Week
State03 Checkbox:	Not reported
State03 Number:	69839.5
State03 Text:	Not reported
State04 Checkbox:	Not reported
State04 Number:	69839.5
State04 Text:	Liquid
State05 Checkbox:	Not reported
State05 Text:	Not reported
State06 Checkbox:	Not reported
State06 Text:	Not reported
State07 Checkbox:	Not reported
State07 Text:	RTS 495, 95 AND 93
State1 Contact Field:	PARKER FUEL CORP., 2 INTERNATIONAL WAY, LAWRENCE, MA 01843, RICK PELLETIER, 978-375-2001
State Label Code:	MA2012
Trade Secret:	Not reported

Location:

Record Key:	CLTR2012974URY01QS6E
Chem Inv Record Id:	CVTR2012974UR801P5E3
Type Code:	Below Ground Tank
Pressure Code:	Ambient pressure
Temperature Code:	Ambient temperature
Location:	SOUTH 15' FROM BUILDING
Amount:	Not reported
Amount Unit:	pounds
Last Modified:	11/15/2013

Q72
SW
1/8-1/4
0.147 mi.
775 ft.

Relative: Lower

Actual: 88 ft.

HEG #107
215 DUTTON ST
LOWELL, MA 01852

Site 2 of 2 in cluster Q

UST **U001008814**
Financial Assurance **N/A**

UST:

Facility:

Facility ID:	40139
Owner Id:	10854
Owner:	HEG INC
Owner Address:	2 INTERNATIONAL WAY
Owner City,St,Zip:	LAWRENCE, MA 01843
Telephone:	Not reported
Description:	Retail Motor Vehicle Fuel
Facility address 2:	Not reported
Owner address 2:	Not reported
Latitude:	42.64445

HEG #107 (Continued) **U001008814**

Longitude:	-71.31410
Contact name:	Brian Trombly
Contact address1:	2 INTERNATIONAL WAY
Contact address2:	Not reported
Contact city:	LAWRENCE
Contact state:	MA
Contact zip:	01843
Contact email:	btrombly@haffnersoil.com
Update:	2015-02-13 00:00:00
Update by:	Not reported
Fac status:	OPEN

Tank ID:	1
Tank Status:	**In Use**
Status Date:	Not reported
Date Installed:	09/01/1980
Capacity:	30000.00000
Contents:	Bulk Heati
Tank Usage:	Not reported
Tank Leak Detection:	In-Tank Monitoring System
Pipe Leak Detection:	Quarterly visual inspection and annual product line tightness test
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Single-walled metal tank (cathodic protection required)
Pipe construct:	Single-walled metal (Corrosion protection required)
Ptype:	Not reported
Number of compartment:	Not reported
Pipe install date:	Not reported
Pipe leak install date:	Not reported
Submersible sump:	N
Submersible sump install date:	Not reported
Turbine sump:	N
Turbine sump sensor:	N
Intermediate sump:	N
Intermediate sump sensor:	N
Spill bucket installed date:	Not reported
Spill bucket sensor:	N
Overfill protect install:	Not reported
Overfill protect type:	Not reported
Automatic line leak detect:	Not reported
Tank corrosion type:	Not reported
Leak corrosion type:	Not reported

Tank ID:	2
Tank Status:	**In Use**
Status Date:	Not reported
Date Installed:	09/01/1980
Capacity:	5000.00000
Contents:	Diesel
Tank Usage:	Motor Vehi
Tank Leak Detection:	In-Tank Monitoring System
Pipe Leak Detection:	Continuous Interstitial Space Monitoring
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Single-walled metal tank (cathodic protection required)

HEG #107 (Continued) **U001008814**

Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: In Use
Status Date: Not reported
Date Installed: 09/01/1980
Capacity: 5000.00000
Contents: Kerosene
Tank Usage: Not reported
Tank Leak Detection: In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 4
Tank Status: In Use
Status Date: Not reported
Date Installed: 09/01/1980
Capacity: 14000.00000

HEG #107 (Continued) **U001008814**

Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 5
Tank Status: In Use
Status Date: Not reported
Date Installed: 09/01/1980
Capacity: 12000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

HEG #107 (Continued) **U001008814**

Tank ID: 6
Tank Status: In Use
Status Date: Not reported
Date Installed: 09/01/1980
Capacity: 7000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: In-Tank Monitoring System
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

MA Financial Assurance 2:
Facility Id: 40139
Description: Gas Station
Work Phone: (508) 683-2771

O73 **174 RIVER PLACE** **US BROWNFIELDS 1016351830**
North **174 RIVER PLACE** **FINDS N/A**
1/8-1/4 **LOWELL, MA 30165** **ECHO**
0.150 mi.
792 ft. **Site 4 of 4 in cluster O**

Relative:
Lower

Actual:
59 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: 174 RIVER PLACE
Property #: Not reported
Parcel size: Not reported
Property Description: Not reported
Latitude: 42.649867
Longitude: -71.311617
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 12911
Start date: Not reported

174 RIVER PLACE (Continued) **1016351830**

Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported

174 RIVER PLACE (Continued) **1016351830**

Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110058241585

Environmental Interest/Information System
MA-EPICS - Massachussetts Environmental Protection Integrated Computer

174 RIVER PLACE (Continued) **1016351830**

System

Registry ID: 110039541582

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:
Envid: 1016351830
Registry ID: 110039541582
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110039541582

Envid: 1016351830
Registry ID: 110058241585
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110058241585

M74 **NO LOCATION AID** **SHWS S106954080**
SSE **40 MARKET ST** **RELEASE N/A**
1/8-1/4 **LOWELL, MA 01852**
0.157 mi.
829 ft. **Site 3 of 3 in cluster M**

Relative:
Lower

Actual:
83 ft.

SHWS:
Release Tracking Number/Current Status: 3-0024978 / RAO
Release Town: LOWELL
Notification Date: 06/24/2005
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/24/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: GENERATOR

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL
Quantity: 25 gallons
Chemical: HEATING OIL
Quantity: 50 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition

NO LOCATION AID (Continued) **S106954080**

Action Status: Reportable Release under MGL 21E
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 7/22/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status: 3-0024852 / RAO
Release Town: LOWELL
Notification Date: 05/10/2005
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/17/2006
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: AROMATIC HYDROCARBONS C11 THRU C22
Quantity: 235 milligrams per kilogram
Chemical: CADMIUM
Quantity: .016 milligrams per liter
Chemical: NAPTHALENE, BETA-CHLORO
Quantity: 210 milligrams per kilogram
Chemical: 2-METHYLNAPHTHALENE
Quantity: 13.8 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO

NO LOCATION AID (Continued) **S106954080**

Action Status: RAO Statement Received
Action Date: 1/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 1/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/10/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/10/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/18/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0024852 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/10/2005
Category: 120 DY
Status Date: 01/17/2006
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not

NO LOCATION AID (Continued) **S106954080**

been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0024978 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/24/2005
Category: TWO HR
Status Date: 08/24/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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75 East 1/8-1/4 0.159 mi. 839 ft.

RIVERWALK PROPERTY **SHWS S116756069**
179 BRIDGE STREET **RELEASE N/A**
LOWELL, MA 01852

Relative: Lower

Actual: 56 ft.

SHWS:
Release Tracking Number/Current Status: 3-0032312 / TIERII
Release Town: LOWELL
Notification Date: 07/11/2014
Category: 120 DY
Associated ID: Not reported
Current Status: **Tier II, A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.**
Status Date: 07/13/2015
Phase: PHASE II
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]ANTHRACENE
Quantity: 33 milligrams per kilogram
Chemical: DIBENZ[A,H]ANTHRACENE
Quantity: 3.8 milligrams per kilogram
Chemical: PHENANTHRENE
Quantity: 72 milligrams per kilogram
Chemical: BENZO[B]FLUORANTHENE
Quantity: 35 milligrams per kilogram
Chemical: ACENAPHTHYLENE

RIVERWALK PROPERTY (Continued) **S116756069**

Quantity: 7.5 milligrams per kilogram
Chemical: BENZO[A]PYRENE
Quantity: 29 milligrams per kilogram
Chemical: NAPHTHALENE
Quantity: 33 milligrams per kilogram
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 18 milligrams per kilogram
Chemical: 2-METHYLNAPHTHALENE
Quantity: 2.7 milligrams per kilogram
Chemical: ACENAPHTHENE
Quantity: 4.4 milligrams per kilogram
Chemical: TOTAL PETROLEUM HYDROCARBONS (TPH)
Quantity: 2580 milligrams per kilogram

Actions:

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/26/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/26/2015
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/26/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/27/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 5/5/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/11/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/11/2014
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/11/2014
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/13/2015

RIVERWALK PROPERTY (Continued) **S116756069**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/13/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/13/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/1/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 9/23/2015
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0032312 / TIERII
Primary ID: Not reported
Official City: LOWELL
Notification: 07/11/2014
Category: 120 DY
Status Date: 07/13/2015
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

76
SSE
1/8-1/4
0.161 mi.
850 ft.

LOWELL SUN PROPERTY **SHWS** **S100830517**
30 MARKET ST **RELEASE** **N/A**
LOWELL, MA 01850

Relative:
Lower

Actual:
82 ft.

SHWS:
Release Tracking Number/Current Status: 3-0001060 / DEPNFA
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: Not reported
Current Status: **No Further Action (DEP Determined)**
Status Date: 04/08/1996
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

LOWELL SUN PROPERTY (Continued) **S100830517**

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: DEPNFA
Action Date: 4/8/1996
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001060 / DEPNFA
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 04/08/1996
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

N77 **MIDDLESEX COMMUNITY COLLEGE** **UST** **U004162169**
SE **33 KEARNY SQ** **Financial Assurance** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.166 mi.
876 ft. **Site 2 of 2 in cluster N**

Relative: Lower

Actual: 70 ft.

UST:

Facility:
Facility ID: 22757
Owner Id: 10355
Owner: MIDDLESEX COMMUNITY COLLEGE
Owner Address: 33 KEARNY SQ
Owner City,St,Zip: LOWELL, MA 01852
Telephone: Not reported
Description: Institution
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.64470
Longitude: -71.30656
Contact name: Not reported
Contact address1: Not reported
Contact address2: Not reported
Contact city: Not reported
Contact state: Not reported
Contact zip: Not reported
Contact email: Not reported
Update: 2015-07-09 00:00:00

MIDDLESEX COMMUNITY COLLEGE (Continued) **U004162169**

Update by: Not reported
Fac status: OPEN

Tank ID: 1
Tank Status: In Use
Status Date: Not reported
Date Installed: 09/25/1984
Capacity: 1000.00000
Contents: Diesel
Tank Usage: Emergency
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Quarterly visual inspection and annual product line tightness test
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

MA Financial Assurance 2:
Facility Id: 22757
Description: College
Work Phone: (781) 280-3573

78
WSW
1/8-1/4
0.172 mi.
910 ft.

ACE EXPRESS CO **RCRA NonGen / NLR** **1000112944**
70 DUMMER **FINDS** **MAD009868696**
LOWELL, MA 01852 **ECHO**

Relative:
Higher

Actual:
91 ft.

RCRA NonGen / NLR:
Date form received by agency: 06/28/1980
Facility name: ACE EXPRESS CO
Facility address: 70 DUMMER
LOWELL, MA 01852
EPA ID: MAD009868696
Contact: UNKNOWN UNKNOWN
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: (999) 999-9999

ACE EXPRESS CO (Continued) **1000112944**

Contact email: Not reported
EPA Region: 01
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: ACE EXPRESS CO
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 12/08/1991
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110003423643

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1000112944
Registry ID: 110003423643
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110003423643

79 ESE 1/8-1/4 0.178 mi. 941 ft. **TREMONT MILLS SITE**
FRENCH STREET EXT
LOWELL, MA

SHWS
INST CONTROL
RELEASE
ENF

S104774238
N/A

Relative: Lower

Actual: 68 ft.

SHWS:

Release Tracking Number/Current Status:	3-0019880 / RAO
Release Town:	LOWELL
Notification Date:	08/10/2000
Category:	120 DY
Associated ID:	3-0019880
Current Status:	**Response Action Outcome**
Status Date:	02/02/2011
Phase:	PHASE IV
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Not reported
Source:	UNKNOWN
Source:	TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM HYDROCARBONS
Quantity:	1400 milligrams per kilogram

Actions:

Action Type:	Release Abatement Measure
Action Status:	Modified Revised or Updated Plan Received
Action Date:	10/10/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	10/26/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	11/22/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Legal Notice Published
Action Date:	2/2/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure

TREMONT MILLS SITE (Continued) **S104774238**

Action Status: Completion Statement Received
Action Date: 2/2/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/2/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/10/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/8/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/11/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 4/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 5/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal

TREMONT MILLS SITE (Continued) **S104774238**

Action Date: 6/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 6/30/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/30/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 7/2/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: EPETOP
Action Date: 7/2/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 7/2/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 7/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/10/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/10/2000

TREMONT MILLS SITE (Continued) **S104774238**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/10/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 8/10/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/10/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 8/10/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 8/10/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/25/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 9/15/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 9/4/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

TREMONT MILLS SITE (Continued) **S104774238**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 9/8/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0019880
Action Type: AUL
Action Stat: LEGNOT
Action Date: 02/02/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0019880
Action Type: AUL
Action Stat: RECPT
Action Date: 04/11/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0019880
Action Type: AUL
Action Stat: SNAUDI
Action Date: 04/12/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0019880 / RAO
Primary ID: 3-0019880
Official City: LOWELL
Notification: 08/10/2000
Category: 120 DY
Status Date: 02/02/2011
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3A

TREMONT MILLS SITE (Continued) **S104774238**

DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0019880
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	10/26/2007
ENF #:	NON-NE-07-3A147
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	State Owned

P80 **WANNALANCIT BUILDING** **HW GEN** **S113409059**
WNW **600 SUFFOLK ST** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.181 mi.
956 ft. **Site 2 of 4 in cluster P**

Relative:
Higher

Actual:
91 ft.

HW GEN:

EPA Id:	MAC300001153
RCRA Generator Status:	SQG
State Generator Status:	LQG-MA

P81 **WANNALANCIT BUILDING** **RCRA-SQG** **1008403031**
WNW **600 SUFFOLK ST** **MAC300001153**
1/8-1/4 **LOWELL, MA 01852**
0.181 mi.
956 ft. **Site 3 of 4 in cluster P**

Relative:
Higher

Actual:
91 ft.

RCRA-SQG:

Date form received by agency:	12/22/2011
Facility name:	WANNALANCIT BUILDING
Facility address:	600 SUFFOLK ST LOWELL, MA 01852
EPA ID:	MAC300001153
Mailing address:	UNIVERSITY OF MASSACHUSETTS LO 1 UNIVERSITY AVE LOWELL, MA 018540000
Contact:	RICHARD LEMOINE
Contact address:	1 UNIVERSITY AVE LOWELL, MA 018540000
Contact country:	US
Contact telephone:	(978) 934-2618

WANNALANCIT BUILDING (Continued) **1008403031**

Contact email: RICHARD_LEMOINE@UML.EDU
EPA Region: 01
Land type: State
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: UNIVERSITY OF MASSACHUSETTS LOWELL
Owner/operator address: 1 UNIVERSITY AVE
LOWELL, MA 01854
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: 07/01/2009
Owner/Op end date: Not reported

Owner/operator name: UNIVERSITY OF MASSACHUSETTS LOWELL
Owner/operator address: 1 UNIVERSITY AVE
LOWELL, MA 01854
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: 07/01/2009
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

WANNALANCIT BUILDING (Continued) **1008403031**

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT

WANNALANCIT BUILDING (Continued) **1008403031**

MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U105
. Waste name: 2,4-DINITROTOLUENE (OR) BENZENE, 1-METHYL-2,4-DINITRO-

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U244

WANNALANCIT BUILDING (Continued) **1008403031**

. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA02
. Waste name: PCB WASTES

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Historical Generators:
Date form received by agency: 12/18/2003
Site name: WANNALANCIT BUILDING
Classification: Conditionally Exempt Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 05/16/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

P82 **WANNALANCIT OFFICE & TECHNOLOGY CENTER** **LUST** **S103545944**
NW **660 SUFFOLK ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01854**
0.186 mi.
980 ft. **Site 4 of 4 in cluster P**

Relative:
Lower

Actual:
88 ft.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0014272 / RAO
Status Date: 11/26/1997
Source Type: UST
Release Town: LOWELL
Notification Date: 09/25/1996
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

WANNALANCIT OFFICE & TECHNOLOGY CENTER (Continued) **S103545944**

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: FUEL OIL #2
Quantity: 500 parts per million

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/8/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/9/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/26/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 12/2/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/25/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/25/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0014272 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/25/1996
Category: 72 HR
Status Date: 11/26/1997
Phase: Not reported

WANNALANCIT OFFICE & TECHNOLOGY CENTER (Continued) **S103545944**

Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

R83 **NO LOCATION AID** **SHWS** **S110303540**
SW **250 WORTHEN ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.198 mi.
1046 ft. **Site 1 of 2 in cluster R**

Relative:
Higher

Actual:
91 ft.

SHWS:
Release Tracking Number/Current Status: 3-0029298 / RAO
Release Town: LOWELL
Notification Date: 05/24/2010
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/23/2010
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: INDUSTRIAL
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TRANSFORMER FLUID
Quantity: 60 gallons
Chemical: NON PCB MINERAL OIL DIELECTRIC FLUID
Quantity: 50 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 5/24/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/24/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 5/24/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S110303540**

Action Date: 5/24/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/11/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/23/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/23/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/23/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/30/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0029298 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/24/2010
Category: TWO HR
Status Date: 07/23/2010
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

S84 **NORTH AMERICAN DIRECTORY CORP** **RCRA NonGen / NLR** **1000361625**
NW **17 HALL ST** **MAD991289273**
1/8-1/4 **LOWELL, MA 01854**
0.203 mi.
1071 ft. **Site 1 of 5 in cluster S**

Relative:
Lower

Actual:
86 ft.

RCRA NonGen / NLR:

Date form received by agency:	03/29/1992
Facility name:	NORTH AMERICAN DIRECTORY CORP
Facility address:	17 HALL ST
	LOWELL, MA 018540000
EPA ID:	MAD991289273
Contact:	ROBERT E FOGG
Contact address:	Not reported
	Not reported
Contact country:	US
Contact telephone:	(508) 458-6356
Contact email:	Not reported
EPA Region:	01
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:

Date form received by agency:	03/01/1990
Site name:	NORTH AMERICAN DIRECTORY CORP
Classification:	Large Quantity Generator

Date form received by agency:	08/03/1981
Site name:	NORTH AMERICAN DIRECTORY CORP
Classification:	Not a generator, verified

. Waste code:	D001
. Waste name:	IGNITABLE WASTE

. Waste code:	D002
. Waste name:	CORROSIVE WASTE

. Waste code:	U080
. Waste name:	METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

NORTH AMERICAN DIRECTORY CORP (Continued) **1000361625**

. Waste code: MA01
. Waste name: WASTE OIL

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/03/1988
Date achieved compliance: 03/20/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/17/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/01/1989
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/03/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 03/20/1989
Evaluation lead agency: State

S85 **AMES TEXTILE CORP** **RCRA NonGen / NLR** **1000376029**
NW **750 SUFFOLK ST** **MAD001033737**
1/8-1/4 **LOWELL, MA 01853**
0.207 mi.
1095 ft. **Site 2 of 5 in cluster S**

Relative:
Lower

Actual:
80 ft.

RCRA NonGen / NLR:
Date form received by agency: 10/06/1980
Facility name: AMES TEXTILE CORP
Facility address: 750 SUFFOLK ST
LOWELL, MA 01853
EPA ID: MAD001033737
Contact: ROGER FAVVEL
Contact address: 750 SUFFOLK ST
LOWELL, MA 01854
Contact country: US
Contact telephone: (508) 454-9146
Contact email: Not reported
EPA Region: 01
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: AMES TEXTILE CORP
Owner/operator address: 750 SUFFOLK ST
LOWELL, MA 01854

AMES TEXTILE CORP (Continued) **1000376029**

Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 03/01/1965
Owner/Op end date: 06/03/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Violation Status: No violations found

S86 **MERRIMACK METAL RECLAIMING CO** **RCRA NonGen / NLR** **1000362014**
NW **750 SUFFOLK ST** **FINDS** **MAD069350254**
1/8-1/4 **LOWELL, MA 01850** **ECHO**
0.207 mi.
1095 ft. **Site 3 of 5 in cluster S**

Relative:
Lower

Actual:
80 ft.

RCRA NonGen / NLR:

Date form received by agency:	08/18/1980
Facility name:	MERRIMACK METAL RECLAIMING CO
Facility address:	750 SUFFOLK ST LOWELL, MA 01850
EPA ID:	MAD069350254
Contact:	JOHN-W BARDZIK
Contact address:	750 SUFFOLK ST LOWELL, MA 01850
Contact country:	US
Contact telephone:	(508) 458-9082
Contact email:	Not reported
EPA Region:	01
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	MERRIMACK METAL RECLAIMING CO
Owner/operator address:	750 SUFFOLK ST LOWELL, MA 01850
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	03/01/1990
Owner/Op end date:	06/03/1991

Owner/operator name:	BARDZIK JOHN W
Owner/operator address:	750 SUFFOLK ST LOWELL, MA 01850
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	10/16/2004
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No

MERRIMACK METAL RECLAIMING CO (Continued) **1000362014**

Used oil transporter: No

. Waste code: D002
. Waste name: CORROSIVE WASTE

Violation Status: No violations found

FINDS:

Registry ID: 110009587973

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Registry ID: 110001949802

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ECHO:
Envid: 1000362014
Registry ID: 110009587973
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110009587973

Envid: 1000362014
Registry ID: 110001949802
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110001949802

S87 **AMES PHOTONICS CENTER** **RCRA-SQG** **1014923765**
NW **720 SUFFOLK ST** **MAC300017340**
1/8-1/4 **LOWELL, MA 01854**
0.208 mi.
1097 ft. **Site 4 of 5 in cluster S**

Relative:
Lower

Actual:
81 ft.

RCRA-SQG:
Date form received by agency: 12/22/2011
Facility name: AMES PHOTONICS CENTER
Facility address: 720 SUFFOLK ST
LOWELL, MA 01854
EPA ID: MAC300017340
Mailing address: UNIVERSITY OF MASSACHUSETTS LO
1 UNIVERSITY AVE
LOWELL, MA 018540000
Contact: RICHARD LEMOINE

AMES PHOTONICS CENTER (Continued) **1014923765**

Contact address: 1 UNIVERSITY AVE
LOWELL, MA 018540000
Contact country: US
Contact telephone: (978) 934-2618
Contact email: RICHARD_LEMOINE@UML.EDU
EPA Region: 01
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name: UNIVERSITY OF MASSACHUSETTS LOWELL
Owner/operator address: 1 UNIVERSITY AVE
LOWELL, MA 01854
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: 07/01/1987
Owner/Op end date: Not reported

Owner/operator name: UNIVERSITY OF MASSACHUSETTS LOWELL
Owner/operator address: 1 UNIVERSITY AVE
LOWELL, MA 01854
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: 07/01/1987
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

AMES PHOTONICS CENTER (Continued) **1014923765**

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005

AMES PHOTONICS CENTER (Continued) **1014923765**

. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA02
. Waste name: PCB WASTES

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Violation Status: No violations found

S88 **AMES PHOTONICS CENTER** **HW GEN** **S113409171**
NW **720 SUFFOLK ST** **N/A**
1/8-1/4 **LOWELL, MA 01854**
0.208 mi.
1097 ft. **Site 5 of 5 in cluster S**

Relative:
Lower

Actual:
81 ft.

HW GEN:
EPA Id: MAC300017340
RCRA Generator Status: SQG
State Generator Status: LQG-MA

T89 **PAD-MOUNTED ELECTRICAL TRANSFORMER** **SHWS** **S111277367**
NW **650 SUFFOLK ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01854** **HW GEN**
0.215 mi.
1134 ft. **Site 1 of 2 in cluster T**

Relative:
Lower

Actual:
88 ft.

SHWS:
Release Tracking Number/Current Status: 3-0030361 / RAO
Release Town: LOWELL
Notification Date: 10/03/2011
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 11/28/2011
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity: 3630 milligrams per kilogram
Chemical: C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity: 1970 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 1070 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/3/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/3/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

PAD-MOUNTED ELECTRICAL TRANSFORMER (Continued) **S111277367**

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/3/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/28/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0030361 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	10/03/2011
Category:	120 DY
Status Date:	11/28/2011
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

HW GEN:

EPA Id:	MV9784411117
RCRA Generator Status:	Not reported
State Generator Status:	VQG-MA

U90 **11 E. MERRIMACK STREET** **US BROWNFIELDS** **1016456286**
ESE **11 EAST MERRIMACK STREET** **FINDS** **N/A**
1/8-1/4 **LOWELL, MA 01852** **ECHO**
0.218 mi.
1153 ft. **Site 1 of 2 in cluster U**

Relative:
Lower

Actual:
55 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	11 E. MERRIMACK STREET
Property #:	Not reported
Parcel size:	Not reported
Property Description:	Not reported
Latitude:	42.6448011
Longitude:	-71.3053141
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	12904
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported

11 E. MERRIMACK STREET (Continued) **1016456286**

Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported

11 E. MERRIMACK STREET (Continued) **1016456286**

Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039549986

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

11 E. MERRIMACK STREET (Continued) **1016456286**

ECHO:
Envid: 1016456286
Registry ID: 110039549986
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110039549986

91
WSW
1/8-1/4
0.224 mi.
1184 ft.

HOLY TRINITY COMMUNITY CTR
BROADWAY DUMMER ST
LOWELL, MA 01850

LUST
RELEASE
ENF

S105199224
N/A

Relative:
Higher

Actual:
93 ft.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0000355 / DPSTRM
Status Date: 03/01/2012
Source Type: UST
Release Town: LOWELL
Notification Date: 01/31/1986
Category: NONE
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: FORMER
Location Type: GASSTATION
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PETROLEUM
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/31/1986
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/31/1986
Response Action Outcome: Not reported

Action Type: Downgradient Property Status
Action Status: Revised Statement or Transmittal Received
Action Date: 1/31/2013
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: Audit Follow-up Completion Statement Received
Action Date: 1/31/2013
Response Action Outcome: Not reported

HOLY TRINITY COMMUNITY CTR (Continued) **S105199224**

Action Type: Downgradient Property Status
Action Status: Level III - Comprehensive Audit
Action Date: 10/25/2012
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NON-A
Action Date: 10/25/2012
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 10/28/1987
Response Action Outcome: Not reported

Action Type: Downgradient Property Status
Action Status: Action Status or AUL Terminated
Action Date: 3/1/2012
Response Action Outcome: Not reported

Action Type: Downgradient Property Status
Action Status: Level III - Comprehensive Audit
Action Date: 3/1/2012
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: Notice of Non-compliance related to an Audit
Action Date: 3/1/2012
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NON-A
Action Date: 5/17/2012
Response Action Outcome: Not reported

Action Type: Downgradient Property Status
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/2007
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000355 / DPSTRM
Primary ID: Not reported
Official City: LOWELL
Notification: 01/31/1986
Category: NONE
Status Date: 03/01/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

HOLY TRINITY COMMUNITY CTR (Continued) **S105199224**

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0000355
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	10/25/2012
ENF #:	NON-NE-12-3A019B
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0000355
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	05/17/2012
ENF #:	NON-NE-12-3A019A
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region: NERO

HOLY TRINITY COMMUNITY CTR (Continued) **S105199224**

DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0000355
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	03/01/2012
ENF #:	NON-NE-12-3A019
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

V92 **TOP END AUTOMOTIVE** **HW GEN** **S113805519**
NE **78 LAKEVIEW AVE** **N/A**
1/8-1/4 **LOWELL, MA 01850**
0.232 mi.
1224 ft. **Site 1 of 2 in cluster V**

Relative:
Lower

Actual:
71 ft.

HW GEN:

EPA Id:	MV9789375155
RCRA Generator Status:	VSQG
State Generator Status:	VQG-MA

R93 **HOLY TRINITY COMMUNITY CENTER** **SHWS** **S112288372**
SW **41 BROADWAY ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.235 mi.
1242 ft. **Site 2 of 2 in cluster R**

Relative:
Higher

Actual:
93 ft.

SHWS:

Release Tracking Number/Current Status:	3-0031218 / PSC
Release Town:	LOWELL
Notification Date:	11/07/2012
Category:	120 DY
Associated ID:	Not reported
Current Status:	**PSC**
Status Date:	11/13/2015
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

HOLY TRINITY COMMUNITY CENTER (Continued) **S112288372**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: LEAD
Quantity: 1270 parts per million

Actions:
Action Type: Response Action Outcome - RAO
Action Status: PSCRCD
Action Date: 11/13/2015
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 11/14/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/14/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/14/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/29/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/7/2012
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/7/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/7/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 9/6/2013
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0031218 / PSC

HOLY TRINITY COMMUNITY CENTER (Continued) **S112288372**

Primary ID:	Not reported
Official City:	LOWELL
Notification:	11/07/2012
Category:	120 DY
Status Date:	11/13/2015
Phase:	PHASE II
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

94
SSE
1/8-1/4
0.238 mi.
1259 ft.

ELEMENT CARE INC **HW GEN** **S118485672**
166 CENTRAL ST **N/A**
LOWELL, MA 01852

Relative:
Lower

Actual:
81 ft.

HW GEN:

EPA Id:	MAC300101078
RCRA Generator Status:	SQG
State Generator Status:	Not reported

V95
ENE
1/8-1/4
0.247 mi.
1306 ft.

STARR REALTY PROPERTY **SHWS** **S100042924**
43 LAKEVIEW AVE **RELEASE** **N/A**
LOWELL, MA 01850 **ENF**

Site 2 of 2 in cluster V

Relative:
Lower

Actual:
74 ft.

SHWS:

Release Tracking Number/Current Status:	3-0000852 / DPS
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Current Status:	**Downgradient Property Status**
Status Date:	03/09/2007
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1990
Response Action Outcome:	Not reported

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued

STARR REALTY PROPERTY (Continued) **S100042924**

Action Date: 11/28/2006
Response Action Outcome: Not reported

Action Type: Downgradient Property Status
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/9/2007
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/17/2007
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000852 / DPS
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 03/09/2007
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3P
DEP Bureau: BWSC
Program: Not reported
Program Id: 3-0000852
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 11/28/2006
ENF #: NON-NE-06-3P015
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

U96 **ALONG DAVIDSON ST** **LUST** **S108034290**
ESE **33 EAST MERRIMACK ST** **RELEASE** **N/A**
1/8-1/4 **LOWELL, MA 01852**
0.249 mi.
1317 ft. **Site 2 of 2 in cluster U**

Relative:
Lower

Actual:
57 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0025921 / RAO
Status Date:	09/12/2006
Source Type:	UST
Release Town:	LOWELL
Notification Date:	05/17/2006
Category:	TWO HR
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	FUEL OIL #2
Quantity:	10 gallons
Chemical:	GASOLINE
Quantity:	Not reported

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of a Modified Plan
Action Date:	5/17/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	5/17/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FLDD1A
Action Date:	5/17/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	5/17/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action

ALONG DAVIDSON ST (Continued) **S108034290**

Action Status: Oral Approval of Plan or Action
Action Date: 5/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 5/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 5/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/26/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/20/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 7/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/12/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/12/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

ALONG DAVIDSON ST (Continued) **S108034290**

to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0025921 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/17/2006
Category: TWO HR
Status Date: 09/12/2006
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

T97 **METAL PRODUCTS FMR** **SHWS** **S100830518**
NW **199 CABOT ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850**
0.252 mi.
1331 ft. **Site 2 of 2 in cluster T**

Relative:
Lower

Actual:
85 ft.

SHWS:
Release Tracking Number/Current Status: 3-0000712 / RAO
Release Town: LOWELL
Notification Date: 10/15/1988
Category: NONE
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/19/1994
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 10/15/1988
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: Level I - Technical Screen Audit
Action Date: 2/6/2012
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: RAOEQ
Action Date: 7/19/1994

METAL PRODUCTS FMR (Continued) **S100830518**

Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000712 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/15/1988
Category: NONE
Status Date: 07/19/1994
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

---

98 WNW 1/4-1/2 0.256 mi. 1351 ft.

Relative: Lower

Actual: 88 ft.

CONDOMINIUM APARTMENTS **SHWS S109612909**
175 CABOT ST **RELEASE N/A**
LOWELL, MA 01851

SHWS:
Release Tracking Number/Current Status: 3-0028468 / RAO
Release Town: LOWELL
Notification Date: 04/27/2009
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/23/2009
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Not reported
Location Type: RESIDNTIAL
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MINERAL OIL DIELECTRIC FLUID
Quantity: 40 gallons
Chemical: TRANSFORMER OIL, NON-PCB
Quantity: 25 gallons

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 10/6/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/27/2009

CONDOMINIUM APARTMENTS (Continued) **S109612909**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/27/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 6/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0028468 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/27/2009
Category: TWO HR
Status Date: 06/23/2009
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

99
SSE
1/4-1/2
0.272 mi.
1437 ft.

JOAN FABRICS CORP
19-27 JACKSON ST
LOWELL, MA 01850

SHWS
RELEASE

S100830514
N/A

Relative:
Lower

Actual:
83 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001839 / LSPNFA
Release Town:	LOWELL
Notification Date:	01/15/1989
Category:	NONE
Associated ID:	Not reported
Current Status:	**LSP No Further Action**
Status Date:	07/31/1995
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1989
Response Action Outcome:	Not reported

Action Type:	TREGS
Action Status:	LSPNFA
Action Date:	7/31/1995
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0001839 / LSPNFA
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1989
Category:	NONE
Status Date:	07/31/1995
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

100
SW
1/4-1/2
0.280 mi.
1478 ft.

Relative:
Higher

Actual:
94 ft.

MACHEROS SERVICE MART
66 BROADWAY ST
LOWELL, MA 01852

SHWS **S101018148**
LUST **N/A**
RELEASE
SPILLS
ENF
HW GEN

SHWS:

Release Tracking Number/Current Status:	3-0031034 / RAONR
Release Town:	LOWELL
Notification Date:	08/10/2012
Category:	72 HR
Associated ID:	3-0001620
Current Status:	**Response Action Outcome Not Required**
Status Date:	12/03/2012
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	5 inches
Chemical:	PETROLEUM, NOS
Quantity:	4.5 inches

Actions:

Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	10/10/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	10/14/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	10/27/2004
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	10/8/2012
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	12/17/2013
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	12/3/2012

MACHEROS SERVICE MART (Continued) **S101018148**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/10/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/10/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/20/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/5/2012
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/5/2012
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0031840 / RAONR
Release Town: LOWELL
Notification Date: 10/24/2013
Category: TWO HR
Associated ID: 3-0001620
Current Status: **Response Action Outcome Not Required**
Status Date: 10/14/2014
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Location Type: WATERBODY
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: #2 FUEL OIL
Quantity: 10 gallons
Chemical: OIL SHEEN
Quantity: Not reported

Actions:
Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/2/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 10/2/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/24/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 10/24/2013
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/24/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/27/2004
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/12/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/24/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/24/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/24/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/5/2016
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/7/2014
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/14/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/26/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/27/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/4/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0001620 / PSNC

MACHEROS SERVICE MART (Continued) **S101018148**

Release Town:	LOWELL
Notification Date:	07/15/1988
Category:	NONE
Associated ID:	3-0001620
Current Status:	**PSNC**
Status Date:	10/29/2014
Phase:	PHASE V
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	GASSTATION
Source:	TANKER

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	VOCS
Quantity:	Not reported

Actions:

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	1/7/2011
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	10/14/2014
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	SHPFAC
Action Date:	10/2/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	10/27/2004
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	PSNRCD
Action Date:	10/29/2014
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Completion Statement Received
Action Date:	11/2/2001
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	NON-A
Action Date:	11/2/2004
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 11/9/1999
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/23/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/28/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 12/28/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 12/28/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/17/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/17/2011
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 2/28/2007
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINI
Action Date: 2/28/2008
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 2/28/2008
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 2/28/2008
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/28/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/28/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/6/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/6/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 3/4/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 3/4/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 3/9/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 3/9/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 3/9/2009
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/5/2011
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/13/2011
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 5/24/2007
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 6/15/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 6/5/2000
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 6/5/2000
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 7/15/1988
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 7/26/2001
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 7/31/2006
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/14/2014
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/18/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/18/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/21/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/21/2012
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/26/2004
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 8/29/2007
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: As-Built Construction Report Received
Action Date: 8/29/2007
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/29/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/29/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/31/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 8/7/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/7/2013
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/16/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0010974 / RAONR
Release Town: LOWELL
Notification Date: 05/09/1994
Category: TWO HR
Associated ID: 3-0001620
Current Status: **Response Action Outcome Not Required**
Status Date: 06/29/1998
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: WATERBODY
Location Type: COMMERCIAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: Not reported
Chemical: #2 FUEL OIL
Quantity: Not reported
Chemical: #2 FUEL OIL
Quantity: 22 gallons
Chemical: #6 FUEL OIL
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/31/1995
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/27/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/9/1994
Response Action Outcome: Not reported

Action Type: Immediate Response Action - DEP Lead
Action Status: Completion Statement Received
Action Date: 2/23/1995
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLFLD
Action Date: 3/3/1995
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Transition Site - Obsolete Status
Action Date: 3/3/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/18/1994
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLFLD
Action Date: 5/18/1994
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/20/1994
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/9/1994
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 5/9/1994
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/27/1994
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/1/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0015257 / RAONR
Status Date: 06/29/1998
Source Type: UST
Release Town: LOWELL
Notification Date: 06/20/1997

MACHEROS SERVICE MART (Continued) **S101018148**

Category: 72 HR
Associated ID: 3-0001620
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 100 parts per million
Chemical: GASOLINE
Quantity: 200 parts per million

Actions:
Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/19/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/27/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/27/2004
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 11/9/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Transition Site - Obsolete Status
Action Date: 3/3/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 3/6/2000
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/16/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/23/1998
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/20/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/14/1997
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 8/27/1997
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/27/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Facility:
Release Tracking Number/Current Status: 3-0024276 / RAONR
Status Date: 09/09/2005
Source Type: UST
Release Town: LOWELL
Notification Date: 09/28/2004
Category: 72 HR
Associated ID: 3-0001620
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: .5 inches
Chemical: GASOLINE
Quantity: 1.72 inches

Actions:
Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 10/27/2004
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/27/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/27/2004
Response Action Outcome: Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/8/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/3/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/2/2006
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/28/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 2/28/2007
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 6/20/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 7/22/2005
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: RMRFIN
Action Date: 8/29/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received

MACHEROS SERVICE MART (Continued) **S101018148**

Action Date: 8/29/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 8/30/2006
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/28/2004
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/28/2004
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/28/2004
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/9/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/9/2005
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001620 / PSNC
Primary ID: 3-0001620
Official City: LOWELL
Notification: 07/15/1988
Category: NONE
Status Date: 10/29/2014
Phase: PHASE V

MACHEROS SERVICE MART (Continued) **S101018148**

Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0010974 / RAONR
Primary ID: 3-0001620
Official City: LOWELL
Notification: 05/09/1994
Category: TWO HR
Status Date: 06/29/1998
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0015257 / RAONR
Primary ID: 3-0001620
Official City: LOWELL
Notification: 06/20/1997
Category: 72 HR
Status Date: 06/29/1998
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0024276 / RAONR
Primary ID: 3-0001620
Official City: LOWELL
Notification: 09/28/2004
Category: 72 HR
Status Date: 09/09/2005
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0031034 / RAONR
Primary ID: 3-0001620
Official City: LOWELL
Notification: 08/10/2012
Category: 72 HR
Status Date: 12/03/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

MACHEROS SERVICE MART (Continued) **S101018148**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0031840 / RAONR
Primary ID:	3-0001620
Official City:	LOWELL
Notification:	10/24/2013
Category:	TWO HR
Status Date:	10/14/2014
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	3-1620	Spill ID:	N88-0174
Staff Lead:	OTHER	Date Entered:	19880224
Last Entered:	19930927	First Response:	19880204
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19880204	Report Time:	10:00AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	----------	Other Impact:	Not reported
Material:	MISCELLANEOUS OIL	Other Material:	Not reported
Qty Reported:	11-50	Qty Actual:	11-50
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	----------	Other Incdnt:	Not reported
Cleanup Type:	SC	Contractor:	ENPRO
Referral:	SA	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	0		

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0001620
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	01/07/2011
ENF #:	NON-NE-10-3A102
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported

MACHEROS SERVICE MART (Continued) **S101018148**

Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0001620
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Macheras Service Mart
Town Where Violation Occurred:	Not reported
Date Executed:	07/31/2006
ENF #:	ACOP-NE-06-3A009
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	07/31/2007
ACOP $:	6500
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	25500
Ownership:	Commercially Owned

HW GEN:

EPA Id:	MV5084582555
RCRA Generator Status:	Not reported
State Generator Status:	VQG-MA

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101 ENE 1/4-1/2 0.288 mi. 1520 ft.

PAD MOUNTED TRANSFORMER
39 FIRST ST
LOWELL, MA 01850

SHWS RELEASE **S106617463 N/A**

Relative: Lower

Actual: 69 ft.

SHWS:

Release Tracking Number/Current Status:	3-0023993 / RAO
Release Town:	LOWELL
Notification Date:	06/23/2004
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**

PAD MOUNTED TRANSFORMER (Continued) **S106617463**

Status Date: 08/05/2004
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MODF
Quantity: 80 gallons
Chemical: MINERAL OIL
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDD1A
Action Date: 6/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/5/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/5/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/6/2004

PAD MOUNTED TRANSFORMER (Continued) **S106617463**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0023993 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/23/2004
Category: TWO HR
Status Date: 08/05/2004
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

W102 **ADDEN FURNITURE INC** **SHWS** **1005445840**
South **26 JACKSON ST** **INST CONTROL** **N/A**
1/4-1/2 **LOWELL, MA 01852** **RELEASE**
0.288 mi. **AIRS**
1523 ft. **Site 1 of 4 in cluster W**

Relative: Lower

Actual: 84 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026924 / RAO
Release Town: LOWELL
Notification Date: 06/29/2007
Category: 120 DY
Associated ID: 3-0026924
Current Status: **Response Action Outcome**
Status Date: 10/18/2011
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Oil
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity: 33800 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 10300 milligrams per kilogram
Chemical: C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity: 1590 milligrams per kilogram

Actions:
Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 1/15/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

ADDEN FURNITURE INC (Continued) **1005445840**

been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: SHPFAC
Action Date: 10/4/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 10/4/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 10/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 12/5/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 2/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 2/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 2/14/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

ADDEN FURNITURE INC (Continued) **1005445840**

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 2/14/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 2/29/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/28/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 4/14/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/23/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/29/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/29/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 7/16/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2

ADDEN FURNITURE INC (Continued) **1005445840**

Action Status: Completion Statement Received
Action Date: 7/16/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/17/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/7/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/7/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/7/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0026924
Action Type: AUL
Action Stat: LEGNOT
Action Date: 10/06/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

ADDEN FURNITURE INC (Continued) **1005445840**

Release Tracking Number: 3-0026924
Action Type: AUL
Action Stat: RECPT
Action Date: 09/28/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026924
Action Type: AUL
Action Stat: SNAUDI
Action Date: 02/10/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026924
Action Type: AUL
Action Stat: TSAUD
Action Date: 02/14/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0026924 / RAO
Primary ID: 3-0026924
Official City: LOWELL
Notification: 06/29/2007
Category: 120 DY
Status Date: 10/18/2011
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AIRS:
Facility Status: APPROV
Permit Code: AQ08B
Permit Name: Emission Control Plan NOx/VOC State & EPA Review
DEP Region: NE
Application Tracking Number: W011273
Date Closed: 12/23/2000
Applicant Name: ADDEN FURNITURE INC
Applicant Address: 26 JACKSON ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784547848

Facility Status: APPROV
Permit Code: AQ11
Permit Name: Operating Permit Administrative Amendment
DEP Region: NE

ADDEN FURNITURE INC (Continued) **1005445840**

Application Tracking Number: W209899
Date Closed: 02/19/2008
Applicant Name: ADDEN FURNITURE INC
Applicant Address: 26 JACKSON ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784547848

Facility Status: APPROV
Permit Code: AQ12
Permit Name: Operating Permit Renewal
DEP Region: NE
Application Tracking Number: W131517
Date Closed: 06/03/2009
Applicant Name: ADDEN FURNITURE INC
Applicant Address: 26 JACKSON ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784547848

Facility Status: APPROV
Permit Code: AQ16
Permit Name: Group B Operating Permit
DEP Region: NE
Application Tracking Number: 105605
Date Closed: 11/07/2002
Applicant Name: OAK FINISHERS INC
Applicant Address: 165 JACKSON ST
Applicant City,St,Zip: LOWELL, MA
Applicant Telephone: Not reported

X103 **68 JACKSON STREET** **US BROWNFIELDS** **1016370551**
South **68 JACKSON STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ECHO**
0.299 mi.
1580 ft. **Site 1 of 2 in cluster X**

Relative:
Lower

Actual:
87 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: 68 JACKSON STREET
Property #: Not reported
Parcel size: .23
Property Description: Not reported
Latitude: 42.6422825
Longitude: -71.3097844
HCM label: Address Matching-House Number
Map scale: Not reported
Point of reference: Entrance Point of a Facility or Station
Datum: North American Datum of 1983
ACRES property ID: 140021
Start date: Not reported
Completed date: Not reported
Acres cleaned up: Not reported
Cleanup funding: Not reported
Cleanup funding source: Not reported
Assessment funding: 3500
Assessment funding source: US EPA - Brownfields Assessment Cooperative Agreement
Redevelopment funding: Not reported
Redev. funding source: Not reported

68 JACKSON STREET (Continued) **1016370551**

Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	EPA
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	96107801
Ownership entity:	Not reported
Current owner:	City of Lowell
Did owner change:	N
Cleanup required:	Unknown
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported

68 JACKSON STREET (Continued) **1016370551**

Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110046368649

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:
Envid: 1016370551
Registry ID: 110046368649

68 JACKSON STREET (Continued) **1016370551**

DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110046368649

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104 **BRIDGE STREET SUNOCO** **SHWS** **U004126748**
ENE **356 BRIDGE ST** **UST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **RELEASE**
0.302 mi. **ENF**
1593 ft. **Financial Assurance**

Relative: Lower

Actual: 78 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001328 / RAO
Release Town:	LOWELL
Notification Date:	04/15/1989
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	02/11/2008
Phase:	PHASE V
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	10/14/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	NON-A
Action Date:	10/14/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	Inspection and Monitoring Report Received
Action Date:	11/2/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	12/1/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Completion Statement Received
Action Date:	12/1/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

BRIDGE STREET SUNOCO (Continued) **U004126748**

Action Type: Phase 5
Action Status: Work Started
Action Date: 12/1/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 12/1/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/11/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 2/9/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 3/29/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 3/29/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 3/30/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 4/15/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/31/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 5/31/2006

BRIDGE STREET SUNOCO (Continued) **U004126748**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: RMRINI
Action Date: 6/14/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 6/14/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 6/29/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Revised Statement or Transmittal Received
Action Date: 6/3/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 6/3/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 7/17/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 7/26/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/1/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: LSPFA
Action Date: 8/4/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

BRIDGE STREET SUNOCO (Continued) **U004126748**

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 8/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 8/7/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 8/7/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 8/7/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/17/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/24/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/25/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

UST:

BRIDGE STREET SUNOCO (Continued) **U004126748**

Facility:

Facility ID:	19524
Owner Id:	10496
Owner:	GERSHMAN BROWN CROWLEY INC
Owner Address:	14 BREAKESIK RD
Owner City,St,Zip:	LINCOLN, RI 02865
Telephone:	Not reported
Description:	Retail Motor Vehicle Fuel
Facility address 2:	Not reported
Owner address 2:	Not reported
Latitude:	42.64991
Longitude:	-71.30392
Contact name:	Not reported
Contact address1:	Not reported
Contact address2:	Not reported
Contact city:	Not reported
Contact state:	Not reported
Contact zip:	Not reported
Contact email:	Not reported
Update:	2012-03-28 00:00:00
Update by:	Not reported
Fac status:	CLOSED

Tank ID:	1
Tank Status:	**Tank Removed**
Status Date:	08/30/2007
Date Installed:	11/25/1985
Capacity:	6000.00000
Contents:	Gasoline
Tank Usage:	Motor Vehi
Tank Leak Detection:	In-Tank Monitoring System
Pipe Leak Detection:	Annual Automatic Line Leak Detection Test
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct:	Single-walled non-corrodible material (No corrosion protection required)
Ptype:	Not reported
Number of compartment:	Not reported
Pipe install date:	Not reported
Pipe leak install date:	Not reported
Submersible sump:	N
Submersible sump install date:	Not reported
Turbine sump:	N
Turbine sump sensor:	N
Intermediate sump:	N
Intermediate sump sensor:	N
Spill bucket installed date:	Not reported
Spill bucket sensor:	N
Overfill protect install:	Not reported
Overfill protect type:	Not reported
Automatic line leak detect:	Not reported
Tank corrosion type:	Not reported
Leak corrosion type:	Not reported

Tank ID:	2

BRIDGE STREET SUNOCO (Continued) **U004126748**

Tank Status:	**Tank Removed**
Status Date:	08/30/2007
Date Installed:	11/25/1985
Capacity:	6000.00000
Contents:	Gasoline
Tank Usage:	Motor Vehi
Tank Leak Detection:	In-Tank Monitoring System
Pipe Leak Detection:	Annual Automatic Line Leak Detection Test
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct:	Single-walled non-corrodible material (No corrosion protection required)
Ptype:	Not reported
Number of compartment:	Not reported
Pipe install date:	Not reported
Pipe leak install date:	Not reported
Submersible sump:	N
Submersible sump install date:	Not reported
Turbine sump:	N
Turbine sump sensor:	N
Intermediate sump:	N
Intermediate sump sensor:	N
Spill bucket installed date:	Not reported
Spill bucket sensor:	N
Overfill protect install:	Not reported
Overfill protect type:	Not reported
Automatic line leak detect:	Not reported
Tank corrosion type:	Not reported
Leak corrosion type:	Not reported

Tank ID:	3
Tank Status:	**Tank Removed**
Status Date:	08/30/2007
Date Installed:	11/25/1985
Capacity:	6000.00000
Contents:	Gasoline
Tank Usage:	Motor Vehi
Tank Leak Detection:	In-Tank Monitoring System
Pipe Leak Detection:	Annual Automatic Line Leak Detection Test
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Single-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct:	Single-walled non-corrodible material (No corrosion protection required)
Ptype:	Not reported
Number of compartment:	Not reported
Pipe install date:	Not reported
Pipe leak install date:	Not reported
Submersible sump:	N
Submersible sump install date:	Not reported
Turbine sump:	N
Turbine sump sensor:	N
Intermediate sump:	N
Intermediate sump sensor:	N
Spill bucket installed date:	Not reported
Spill bucket sensor:	N
Overfill protect install:	Not reported

BRIDGE STREET SUNOCO (Continued) **U004126748**

Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 4
Tank Status: Tank Removed
Status Date: 12/29/1998
Date Installed: 02/11/1987
Capacity: 1000.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0001328 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/15/1989
Category: NONE
Status Date: 02/11/2008
Phase: PHASE V
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3A

BRIDGE STREET SUNOCO (Continued) **U004126748**

DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0001328
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	03/29/2006
ENF #:	ACO-NE-06-3A007
Document Type:	ACO
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

MA Financial Assurance 2:

Facility Id:	19524
Description:	Gas Station
Work Phone:	(603) 387-6321

W105 **PENSTOCK IN HAMILTON CANAL** **SHWS** **S114965529**
South **161 JACKSON STREET** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ENF**
0.306 mi.
1615 ft. **Site 2 of 4 in cluster W**

Relative:
Lower

Actual:
85 ft.

SHWS:

Release Tracking Number/Current Status:	3-0031862 / RAO
Release Town:	LOWELL
Notification Date:	11/12/2013
Category:	72 HR
Associated ID:	3-0026924
Current Status:	**Response Action Outcome**
Status Date:	01/15/2014
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported
Location Type:	WATERBODY

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM NOS
Quantity:	1 gallons

PENSTOCK IN HAMILTON CANAL (Continued) **S114965529**

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/15/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	10/10/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	IRA Assessment Only
Action Date:	11/12/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/12/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FLDD1U

PENSTOCK IN HAMILTON CANAL (Continued) **S114965529**

Action Date:	11/14/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of a Modified Plan
Action Date:	11/18/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	12/2/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	12/2/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	5/29/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	7/7/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	7/7/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0031862 / RAO
Primary ID:	3-0026924
Official City:	LOWELL
Notification:	11/12/2013
Category:	72 HR
Status Date:	01/15/2014
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

PENSTOCK IN HAMILTON CANAL (Continued) **S114965529**

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0031862
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	12/02/2013
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

W106 **APPLETON MILLS COMPLEX** **SHWS** **S111826328**
South **193 JACKSON STREET** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ENF**
0.317 mi.
1673 ft. **Site 3 of 4 in cluster W**

Relative:
Lower

Actual:
86 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030781 / RAONR
Release Town:	LOWELL
Notification Date:	04/19/2012
Category:	72 HR
Associated ID:	3-0026095
Current Status:	**Response Action Outcome Not Required**
Status Date:	04/05/2013
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	MUNICIPAL
Source:	INJECTION
Source:	REMEDIAL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	POTASSIUM PERMANGANATE
Quantity:	10 pounds
Chemical:	POTASSIUM PERMANGANATE

APPLETON MILLS COMPLEX (Continued) **S111826328**

Quantity: 11 pounds

Actions:

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 2/13/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/6/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/6/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 4/19/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/19/2012
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 4/5/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/5/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 4/5/2013
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 5/11/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/11/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/13/2012
Response Action Outcome: Not reported

APPLETON MILLS COMPLEX (Continued) **S111826328**

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/13/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 6/13/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 6/18/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 6/19/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/31/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/31/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/17/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/20/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 9/11/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 9/2/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/2/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: EPETOP

APPLETON MILLS COMPLEX (Continued) **S111826328**

Action Date: 9/8/2009
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0030781 / RAONR
Primary ID: 3-0026095
Official City: LOWELL
Notification: 04/19/2012
Category: 72 HR
Status Date: 04/05/2013
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3C
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0030781
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 05/11/2012
ENF #: Not reported
Document Type: IDL
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Municipally Owned

Y107 **UNIV OF LOWELL** **SHWS** **S104482626**
NW **600 SUFFOLK ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA**
0.317 mi.
1675 ft. **Site 1 of 2 in cluster Y**

Relative:
Lower

Actual:
79 ft.

SHWS:

Release Tracking Number/Current Status:	3-0019314 / RAO
Release Town:	LOWELL
Notification Date:	02/24/2000
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/31/2001
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	DRUMS
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	OIL
Quantity:	Not reported
Chemical:	OIL
Quantity:	40 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	10/31/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/31/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	FLDISS
Action Date:	2/24/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	2/24/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FLDD1A
Action Date:	2/24/2000

UNIV OF LOWELL (Continued) **S104482626**

Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/24/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 4/24/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/24/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/4/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 6/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0019314 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 02/24/2000
Category: TWO HR
Status Date: 10/31/2001
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Y108 **U OF LOWELL PROPOSED MILL** **SHWS** **S109489917**
NW **AIKEN AVE PERKINS ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **INST CONTROL**
0.317 mi. **RELEASE**
1675 ft. **Site 2 of 2 in cluster Y**

Relative:
Lower

Actual:
79 ft.

SHWS:

Release Tracking Number/Current Status:	3-0000535 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/15/2005
Phase:	Not reported
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Not reported
Location Type:	FORMER
Location Type:	MANUFACT
Location Type:	INDUSTRIAL
Source:	UNCONTAIN
Source:	UST
Source:	TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PCBS
Quantity:	Not reported

Actions:

Action Type:	Activity and Use Limitation
Action Status:	Level I - Technical Screen Audit
Action Date:	1/13/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Partial RAO for this RTN
Action Status:	RAO Statement Received
Action Date:	1/24/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Phase 2
Action Status:	Completion Statement Received
Action Date:	1/27/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/12/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 10/31/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 10/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 10/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/17/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/10/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: As-Built Construction Report Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 2/19/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/19/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Work Started
Action Date: 2/27/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/4/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 3/1/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 3/20/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level III - Comprehensive Audit
Action Date: 3/20/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/30/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVREC
Action Date: 4/27/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Status: Level II - Audit Inspection
Action Date: 4/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/14/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/15/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 5/28/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/29/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/29/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/23/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Date: 7/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 7/21/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 7/3/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 8/21/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/5/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/1/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVACC
Action Date: 9/1/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/1/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/5/2001

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0000535 / RAO
Status Date:	03/15/2005
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Not reported
Location Type:	FORMER
Location Type:	MANUFACT
Location Type:	INDUSTRIAL
Source:	UNCONTAIN
Source:	UST
Source:	TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PCBS
Quantity:	Not reported

Actions:

Action Type:	Activity and Use Limitation
Action Status:	Level I - Technical Screen Audit
Action Date:	1/13/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Partial RAO for this RTN
Action Status:	RAO Statement Received
Action Date:	1/24/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 1/27/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/12/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 10/31/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 10/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 10/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/17/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/10/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Status: Written Plan Received
Action Date: 12/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: As-Built Construction Report Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 2/19/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/19/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Work Started
Action Date: 2/27/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Action Date: 2/4/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 3/1/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 3/20/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level III - Comprehensive Audit
Action Date: 3/20/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/30/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVREC
Action Date: 4/27/1992

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 4/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/14/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/15/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 5/28/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/29/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Utility-related Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/29/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/23/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 7/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 7/21/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 7/3/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 8/21/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/5/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/1/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVACC
Action Date: 9/1/1992
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/1/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/5/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: ACTAUD
Action Date: 03/20/2013
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: LEGNOT
Action Date: 02/19/2013
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/15/2005
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: RECPT
Action Date: 02/19/2013
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: RECPT
Action Date: 03/15/2005
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: SNAUDI
Action Date: 04/03/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL)

U OF LOWELL PROPOSED MILL (Continued) **S109489917**

has been implemented.

Release Tracking Number: 3-0000535
Action Type: AUL
Action Stat: TSAUD
Action Date: 01/13/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0000535 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1987
Category: NONE
Status Date: 03/15/2005
Phase: Not reported
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

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109 SSW 1/4-1/2 0.326 mi. 1723 ft.

Relative: Lower

Actual: 86 ft.

NO LOCATION AID **SHWS S108348069**
169-171 JACKSON ST **RELEASE N/A**
LOWELL, MA 01852

SHWS:
Release Tracking Number/Current Status: 3-0026422 / RAO
Release Town: LOWELL
Notification Date: 11/24/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/08/2007
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: CADMIUM
Quantity: 4 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 250 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit

NO LOCATION AID (Continued) **S108348069**

Action Date: 11/20/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2006
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/8/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 6/8/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0026422 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/24/2006
Category: 120 DY
Status Date: 06/08/2007
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

110 SW 1/4-1/2 0.329 mi. 1739 ft.

NO LOCATION AID
365 DUTTON ST
LOWELL, MA 01852

SHWS RELEASE

S102086884
N/A

Relative: Lower

Actual: 88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0012739 / RAO
Release Town:	LOWELL
Notification Date:	07/27/1995
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/25/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported
Location Type:	COMMERCIAL
Source:	VEHICLE
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	HYDRAULIC OIL
Quantity:	20 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	7/27/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/27/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	7/27/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	8/14/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	9/25/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S102086884**

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	9/25/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status:	3-0013263 / RAO
Release Town:	LOWELL
Notification Date:	12/12/1995
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/13/2006
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	#6 FUEL OIL
Quantity:	29900 parts per million

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/13/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/12/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	12/12/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	12/12/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	Periodic Review Opinion Evaluating Temp Solution
Action Date:	12/5/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S102086884**

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 6/23/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/28/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0012739 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/27/1995
Category: TWO HR
Status Date: 09/25/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0013263 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/12/1995
Category: 120 DY
Status Date: 11/13/2006
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

W111 **FORMER HAMILTON MILL BUILDING** **SHWS** **S107296958**
South **165 JACKSON ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852** **LEAD**
0.330 mi.
1741 ft. **Site 4 of 4 in cluster W**

Relative: Higher

Actual: 89 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026673 / RAO
Release Town: LOWELL
Notification Date: 03/08/2007
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/08/2007
Phase: Not reported

FORMER HAMILTON MILL BUILDING (Continued) **S107296958**

Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: NAPHTHALENE
Quantity: 4.1 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/8/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/8/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/8/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release Tracking Number/Current Status: 3-0026030 / RAO
Release Town: LOWELL
Notification Date: 07/06/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 09/25/2006
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Not reported
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MINERAL OIL DIELECTRIC FLUID
Quantity: 1300 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

FORMER HAMILTON MILL BUILDING (Continued) **S107296958**

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	7/6/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/6/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	8/3/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Fee Received - FMCRA Use Only
Action Date:	8/8/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	9/25/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	9/25/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status:	3-0032607 / URAM
Release Town:	LOWELL
Notification Date:	11/18/2014
Category:	120 DY
Associated ID:	Not reported
Current Status:	**URAM**
Status Date:	11/25/2014
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	COMMERCIAL
Location Type:	PRIVPROP
Source:	3-26673
Source:	RTN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO(A)PYRENE

FORMER HAMILTON MILL BUILDING (Continued) **S107296958**

Quantity: 19.8 milligrams per kilogram

Actions:

Action Type: Utility-related Abatement Measure
Action Status: Completion Statement Received
Action Date: 1/28/2015
Response Action Outcome: Not reported

Action Type: Utility-related Abatement Measure
Action Status: Notice of Intent to Conduct a URAM
Action Date: 11/18/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/18/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: URAMLR
Action Date: 11/20/2014
Response Action Outcome: Not reported

Action Type: Utility-related Abatement Measure
Action Status: Notification of URAM Received
Action Date: 11/25/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/11/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/2/2014
Response Action Outcome: Not reported

Release:

Release Tracking Number/Current Status: 3-0026030 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/06/2006
Category: 120 DY
Status Date: 09/25/2006
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0026673 / RAO
Primary ID: Not reported
Official City: LOWELL

FORMER HAMILTON MILL BUILDING (Continued) **S107296958**

Notification:	03/08/2007
Category:	120 DY
Status Date:	03/08/2007
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0032607 / URAM
Primary ID:	Not reported
Official City:	LOWELL
Notification:	11/18/2014
Category:	120 DY
Status Date:	11/25/2014
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

LEAD:

Community:	Lowell
Unit:	1
Inspector Name:	Raymond Descheneaux
Inspector License Number:	1758
Activity Type:	INSPECT
Activity Date:	09/03/1997
Start Work Date:	11/24/1997
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

Community:	Lowell
Unit:	1
Inspector Name:	Raymond Descheneaux
Inspector License Number:	1758
Activity Type:	COMPLIANCE
Activity Date:	12/23/1997
Start Work Date:	11/24/1997
Activity Descriptions:	Letter of Full Deleading Comp
Outcomes:	Issued

Z112 **LOWELL SUN** **SHWS** **S101039201**
ESE **24 HOWE ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01853** **RELEASE**
0.331 mi. **SPILLS**
1749 ft. **Site 1 of 2 in cluster Z**

Relative:
Lower

Actual:
75 ft.

SHWS:

Release Tracking Number/Current Status:	3-0032350 / TIERII
Release Town:	LOWELL
Notification Date:	08/06/2014
Category:	120 DY
Associated ID:	Not reported

LOWELL SUN (Continued) **S101039201**

Current Status: **Tier II, A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.**
Status Date: 08/13/2015
Phase: PHASE II
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: CHROMIUM
Quantity: 370 milligrams per kilogram
Chemical: LEAD
Quantity: 1500 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 2300 milligrams per kilogram
Chemical: ARSENIC
Quantity: 700 milligrams per kilogram
Chemical: C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity: 8300 milligrams per kilogram
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 100 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 6/4/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/6/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 6/6/2016
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/13/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/13/2015
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received

LOWELL SUN (Continued) **S101039201**

Action Date: 8/13/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/21/2014
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/6/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/6/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/6/2014
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0010673 / RAO
Status Date: 03/03/1995
Source Type: UST
Release Town: LOWELL
Notification Date: 03/14/1994
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil and Hazardous Material

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: 400 parts per million
Chemical: GASOLINE
Quantity: 400 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/14/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

LOWELL SUN (Continued) **S101039201**

reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/14/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 3/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/29/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/3/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/3/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 3/6/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 5/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition

LOWELL SUN (Continued) **S101039201**

Action Status: Reportable Release under MGL 21E
Action Date: 6/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 9/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0010673 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 03/14/1994
Category: 72 HR
Status Date: 03/03/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0032350 / TIERII
Primary ID: Not reported
Official City: LOWELL
Notification: 08/06/2014
Category: 120 DY
Status Date: 08/13/2015
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N91-0674
Staff Lead:	MACAFEE, K	Date Entered:	19911003
Last Entered:	19920304	First Response:	19910520
Spill Date:	19910519	Spill Time:	05:30AM
Report Date:	19910520	Report Time:	09:00AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported

LOWELL SUN (Continued) **S101039201**

Qty Reported:	11-50	Qty Actual:	----------
Qty Reported:	GALLONS	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	SPILL	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	1
Notifier:	H TRACY/LOWELL SUN		
Notif Tel:	Not reported		
Days/Close:	1		

X113 **101 MIDDLESEX STREET** **US BROWNFIELDS** **1016349165**
South **101 MIDDLESEX STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ECHO**
0.338 mi.
1784 ft. **Site 2 of 2 in cluster X**

Relative:
Higher

Actual:
93 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	101 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	.88
Property Description:	Surface Parking Lot for Verizon.
Latitude:	42.641786
Longitude:	-71.310383
HCM label:	Interpolation-Photo
Map scale:	Not reported
Point of reference:	Center of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	61161
Start date:	12/01/2005 00:00:00
Completed date:	03/17/2008 00:00:00
Acres cleaned up:	Not reported
Cleanup funding:	28592
Cleanup funding source:	Local Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	21605000
Redev. funding source:	Local Funding
Redev. funding entity name:	City of Lowell
Redevelopment start date:	06/16/2006 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	City of Lowell
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97131801
Ownership entity:	Government
Current owner:	City of Lowell, MA
Did owner change:	N
Cleanup required:	Yes
Video available:	No
Photo available:	Yes
Institutional controls required:	Y
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Y

101 MIDDLESEX STREET (Continued) **1016349165**

IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	No
State/tribal program date:	11/15/2005 00:00:00
State/tribal program ID:	3-25403
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Y
Asbestos cleaned:	Y
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Y
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Y
Petro products cleaned:	Y
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	35
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	.88
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported

101 MIDDLESEX STREET (Continued) **1016349165**

nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	101 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	.88
Property Description:	Surface Parking Lot for Verizon.
Latitude:	42.641786
Longitude:	-71.310383
HCM label:	Interpolation-Photo
Map scale:	Not reported
Point of reference:	Center of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	61161
Start date:	12/01/2005 00:00:00
Completed date:	03/17/2008 00:00:00
Acres cleaned up:	Not reported
Cleanup funding:	142960
Cleanup funding source:	US EPA - Brownfields Cleanup Cooperative Agreement
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	21605000
Redev. funding source:	Local Funding
Redev. funding entity name:	City of Lowell
Redevelopment start date:	06/16/2006 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97131801
Ownership entity:	Government

101 MIDDLESEX STREET (Continued) **1016349165**

Current owner:	City of Lowell, MA
Did owner change:	N
Cleanup required:	Yes
Video available:	No
Photo available:	Yes
Institutional controls required:	Y
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Y
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	No
State/tribal program date:	11/15/2005 00:00:00
State/tribal program ID:	3-25403
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Y
Asbestos cleaned:	Y
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Y
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Y
Petro products cleaned:	Y
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	35
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	.88
Future use industrial acreage:	Not reported

101 MIDDLESEX STREET (Continued) **1016349165**

Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110038754835

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016349165
Registry ID:	110038754835
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110038754835

114 West 1/4-1/2 0.340 mi. 1797 ft. — **MORKLAND SCHOOL**, **350 ADAMS ST**, **LOWELL, MA** — **SHWS RELEASE** — **S103043510 / N/A**

Relative: Higher

Actual: 105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0016661 / RAO
Release Town:	LOWELL
Notification Date:	04/02/1998
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	05/27/1998
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	DIESEL FUEL
Quantity:	40 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	4/2/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	4/2/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/21/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	5/27/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	5/27/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

MORKLAND SCHOOL (Continued) **S103043510**

Release:
- Release Tracking Number/Current Status: 3-0016661 / RAO
- Primary ID: Not reported
- Official City: LOWELL
- Notification: 04/02/1998
- Category: TWO HR
- Status Date: 05/27/1998
- Phase: Not reported
- Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
- Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AA115 **JAM PARKING GARAGE** **LUST S108117343**
South **115 MIDDLESEX ST** **RELEASE N/A**
1/4-1/2 **LOWELL, MA 01852**
0.341 mi.
1800 ft. **Site 1 of 3 in cluster AA**

Relative: Higher

Actual: 93 ft.

LUST:

Facility:
- Release Tracking Number/Current Status: 3-0026258 / RAONR
- Status Date: 11/30/2006
- Source Type: UST
- Release Town: LOWELL
- Notification Date: 09/27/2006
- Category: 72 HR
- Associated ID: 3-0025403
- Phase: Not reported
- Response Action Outcome: -
- Oil Or Haz Material: Oil

- Location Type: COMMERCIAL
- Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
- Chemical: FUEL OIL
- Quantity: 133 parts per million
- Chemical: PETROLEUM NOS
- Quantity: 133 parts per million

Actions:
- Action Type: Tier Classification
- Action Status: Transmittal, Notice, or Notification Received
- Action Date: 11/22/2006
- Response Action Outcome: Not reported

- Action Type: Tier Classification
- Action Status: Tier 2 Classification
- Action Date: 11/22/2006
- Response Action Outcome: Not reported

JAM PARKING GARAGE (Continued) **S108117343**

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 11/22/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 11/30/2006
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 11/30/2006
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/30/2006
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 11/30/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/6/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/28/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/27/2006
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/27/2006
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0026258 / RAONR
Primary ID: 3-0025403
Official City: LOWELL
Notification: 09/27/2006
Category: 72 HR
Status Date: 11/30/2006
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

JAM PARKING GARAGE (Continued) **S108117343**

Click here to access the MA DEP site for this facility:

AA116 **115 MIDDLESEX STREET** **US BROWNFIELDS** **1016349166**
South **115 MIDDLESEX STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ECHO**
0.341 mi.
1800 ft. **Site 2 of 3 in cluster AA**

Relative:
Higher

Actual:
93 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	115 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	.87
Property Description:	Surface Parking Lot
Latitude:	42.641529
Longitude:	-71.311055
HCM label:	Interpolation-Photo
Map scale:	Not reported
Point of reference:	Center of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	61181
Start date:	12/01/2005 00:00:00
Completed date:	03/17/2008 00:00:00
Acres cleaned up:	.87
Cleanup funding:	22416
Cleanup funding source:	Local Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	06/16/2006 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	City of Lowell
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97132001
Ownership entity:	Government
Current owner:	City of Lowell, MA
Did owner change:	N
Cleanup required:	Yes
Video available:	No
Photo available:	Yes
Institutional controls required:	Y
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Y
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	No
State/tribal program date:	11/15/2005 00:00:00
State/tribal program ID:	3-25403
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported

115 MIDDLESEX STREET (Continued) **1016349166**

Asbestos found:	Y
Asbestos cleaned:	Y
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Y
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Y
Other metals cleaned:	Y
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Y
Petro products cleaned:	Y
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Y
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	.87
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported

115 MIDDLESEX STREET (Continued) **1016349166**

Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	115 MIDDLESEX STREET
Property #:	Not reported
Parcel size:	.87
Property Description:	Surface Parking Lot
Latitude:	42.641529
Longitude:	-71.311055
HCM label:	Interpolation-Photo
Map scale:	Not reported
Point of reference:	Center of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	61181
Start date:	12/01/2005 00:00:00
Completed date:	03/17/2008 00:00:00
Acres cleaned up:	.87
Cleanup funding:	112080
Cleanup funding source:	US EPA - Brownfields Cleanup Cooperative Agreement
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	06/16/2006 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97132001
Ownership entity:	Government
Current owner:	City of Lowell, MA
Did owner change:	N
Cleanup required:	Yes
Video available:	No
Photo available:	Yes
Institutional controls required:	Y
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Y
IC cat. gov. controls:	Not reported

115 MIDDLESEX STREET (Continued) **1016349166**

IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	No
State/tribal program date:	11/15/2005 00:00:00
State/tribal program ID:	3-25403
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Y
Asbestos cleaned:	Y
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Y
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Y
Other metals cleaned:	Y
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Y
Petro products cleaned:	Y
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Y
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	.87
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported

115 MIDDLESEX STREET (Continued) **1016349166**

No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110038754844

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016349166
Registry ID:	110038754844
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110038754844

AA117 **PROPERTIES** **SHWS** **S108348003**
South **65-87 101 AND 115 MIDDLESEX ST** **INST CONTROL** **N/A**
1/4-1/2 **LOWELL, MA 01852** **RELEASE**
0.341 mi.
1800 ft. **Site 3 of 3 in cluster AA**

Relative:
Higher

Actual:
93 ft.

SHWS:

Release Tracking Number/Current Status:	3-0025403 / RAO
Release Town:	LOWELL
Notification Date:	11/15/2005
Category:	120 DY
Associated ID:	3-0025403
Current Status:	**Response Action Outcome**
Status Date:	09/16/2008
Phase:	PHASE II
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL)

PROPERTIES (Continued) **S108348003**

has been implemented.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]PYRENE
Quantity: 4.9 milligrams per kilogram
Chemical: DIBENZO[A,H]ANTHRACENE
Quantity: .79 milligrams per kilogram
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 2.7 milligrams per kilogram
Chemical: THALLIUM
Quantity: 10.2 milligrams per kilogram
Chemical: LEAD
Quantity: 30.2 micrograms per liter
Chemical: BENZO[A]ANTHRACENE
Quantity: 5.4 milligrams per kilogram
Chemical: BENZO[B]FLUORANTHENE
Quantity: 6 milligrams per kilogram
Chemical: SILVER
Quantity: 21.9 micrograms per liter
Chemical: BERYLLIUM
Quantity: 1 milligrams per kilogram
Chemical: LEAD
Quantity: 309 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 10/10/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 10/11/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/15/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

PROPERTIES (Continued) **S108348003**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 11/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 11/22/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 11/30/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/28/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/6/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 3/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure

PROPERTIES (Continued) **S108348003**

Action Status: Status or Interim Report Received
Action Date: 3/19/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 3/20/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 4/30/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 4/30/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 7/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/16/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 9/17/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection

PROPERTIES (Continued) **S108348003**

Action Date: 9/23/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 9/23/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number/Current Status: 3-0026530 / RAONR
Release Town: LOWELL
Notification Date: 01/16/2007
Category: 72 HR
Associated ID: 3-0025403
Current Status: **Response Action Outcome Not Required**
Status Date: 12/28/2007
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Location Type: PARKINGLOT
Source: UNKNOWN
Source: HISTORICAL

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 200 parts per million
Chemical: PETROLEUM
Quantity: 200 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/16/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/16/2007
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/30/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 11/22/2006
Response Action Outcome: Not reported

PROPERTIES (Continued) **S108348003**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/22/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/22/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 11/30/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 12/11/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 12/28/2007
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 12/28/2007
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/19/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/19/2007
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0025403
Action Type: AUL
Action Stat: LEGNOT
Action Date: 09/17/2008
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025403
Action Type: AUL
Action Stat: RECPT
Action Date: 09/18/2008
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

PROPERTIES (Continued) **S108348003**

Release Tracking Number: 3-0025403
Action Type: AUL
Action Stat: SNAUDI
Action Date: 09/23/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025403
Action Type: AUL
Action Stat: TSAUD
Action Date: 04/30/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0025403 / RAO
Primary ID: 3-0025403
Official City: LOWELL
Notification: 11/15/2005
Category: 120 DY
Status Date: 09/16/2008
Phase: PHASE II
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0026530 / RAONR
Primary ID: 3-0025403
Official City: LOWELL
Notification: 01/16/2007
Category: 72 HR
Status Date: 12/28/2007
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Z118 **PARKING LOT** **SHWS** **S105309407**
SE **30 HOWE ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852**
0.345 mi.
1824 ft. **Site 2 of 2 in cluster Z**

Relative:
Lower

Actual:
65 ft.

SHWS:
Release Tracking Number/Current Status: 3-0021465 / RAO
Release Town: LOWELL
Notification Date: 02/06/2002
Category: 120 DY
Associated ID: Not reported

PARKING LOT (Continued) **S105309407**

Current Status:	**Response Action Outcome**
Status Date:	10/03/2007
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[A]ANTHRACENE
Quantity:	17 milligrams per kilogram
Chemical:	BENZO[J,K]FLUORENE
Quantity:	32 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	19 milligrams per kilogram

Actions:

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	1/31/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	10/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	10/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/3/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Written Plan Received
Action Date:	12/1/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 3
Action Status:	Revised Statement or Transmittal Received
Action Date:	12/1/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 2
Action Status:	Revised Statement or Transmittal Received

PARKING LOT (Continued) **S105309407**

Action Date: 12/1/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/12/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 3/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 6/10/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/29/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 9/11/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

PARKING LOT (Continued) **S105309407**

Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	9/17/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	9/17/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	9/17/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	9/17/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0021465 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	02/06/2002
Category:	120 DY
Status Date:	10/03/2007
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

AB119 **ALBERT H NOTINI & SON INC** **SHWS U002009262**
WNW **225 AIKEN ST** **UST N/A**
1/4-1/2 **LOWELL, MA 01854** **RELEASE**
0.350 mi. **Financial Assurance**
1846 ft. **Site 1 of 2 in cluster AB**

Relative: Higher

Actual: 91 ft.

SHWS:

Release Tracking Number/Current Status:	3-0033517 / UNCLSS
Release Town:	LOWELL
Notification Date:	04/08/2016
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Unclassified**
Status Date:	04/08/2016
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

ALBERT H NOTINI & SON INC (Continued) **U002009262**

Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: LEAD
Quantity: 1170 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/21/2016
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/8/2016
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/8/2016
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/8/2016
Response Action Outcome: Not reported

UST:

Facility:
Facility ID: 19526
Owner Id: 179
Owner: ALBERT H NOTINI & SON INC
Owner Address: 225 AIKEN ST
Owner City,St,Zip: LOWELL, MA 01854
Telephone: Not reported
Description: Not reported
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.65078
Longitude: -71.31786
Contact name: Not reported
Contact address1: Not reported
Contact address2: Not reported
Contact city: Not reported
Contact state: Not reported
Contact zip: Not reported
Contact email: Not reported
Update: 2009-05-12 00:00:00
Update by: Not reported
Fac status: CLOSED

ALBERT H NOTINI & SON INC (Continued) **U002009262**

Tank ID: 1
Tank Status: Tank Removed
Status Date: 01/14/1991
Date Installed: 02/13/1973
Capacity: 5000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0033517 / UNCLSS
Primary ID: Not reported
Official City: LOWELL
Notification: 04/08/2016
Category: 120 DY
Status Date: 04/08/2016
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

MA Financial Assurance 2:
Facility Id: 19526
Description: Other
Work Phone: (508) 459-7151

AC120 **NO LOCATION AID** **SHWS** **S101019215**
SSW **221 JACKSON ST** **LAST** **N/A**
1/4-1/2 **LOWELL, MA 01852** **INST CONTROL**
0.351 mi. **RELEASE**
1853 ft. **Site 1 of 2 in cluster AC** **SPILLS**
AIRS

Relative:
Lower

Actual:
86 ft.

SHWS:

Release Tracking Number/Current Status:	3-0013252 / RAO
Release Town:	LOWELL
Notification Date:	12/11/1995
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	05/31/2002
Phase:	PHASE IV
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPHTHALENE
Quantity:	8.5 milligrams per kilogram
Chemical:	TPH
Quantity:	2800 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	47 milligrams per kilogram
Chemical:	BENZ[A]ANTHRACENE
Quantity:	45 milligrams per kilogram
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	26 milligrams per kilogram
Chemical:	PHENANTHRENE
Quantity:	100 milligrams per kilogram
Chemical:	BENZ[E]ACEPHENANTHRYLENE
Quantity:	39 milligrams per kilogram
Chemical:	CHRYSENE
Quantity:	20 milligrams per kilogram
Chemical:	DIBENZ[A,H]ANTHRACENE
Quantity:	20 milligrams per kilogram
Chemical:	LEAD
Quantity:	2320 milligrams per kilogram

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Periodic Review Opinion Evaluating Temp Solution
Action Date:	1/25/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/9/1996
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Release Disposition

NO LOCATION AID (Continued) **S101019215**

Action Status: Reportable Release under MGL 21E
Action Date: 12/11/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/11/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/18/1996
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/18/1996
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/18/1996
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 12/24/1998
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 12/24/1998
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 12/24/1998
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/31/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Passive O&M and/or Monitoring
Action Date: 6/5/2000
Response Action Outcome: Remedial actions have not been conducted because a level of No

NO LOCATION AID (Continued) **S101019215**

Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/5/2000
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 7/23/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release Tracking Number/Current Status: 3-0025687 / RAO
Release Town: LOWELL
Notification Date: 02/17/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/02/2010
Phase: PHASE II
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Oil

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 10000 parts per million
Chemical: C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity: 24000 parts per million
Chemical: C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity: 14000 parts per million

Actions:
Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 1/1/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 1/16/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/23/2006

NO LOCATION AID (Continued) **S101019215**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 11/13/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Evaluation of Changes in Land Uses/Site Conditions after RAO
Action Date: 12/31/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 2/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 2/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S101019215**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 2/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/26/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/26/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/26/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 2/26/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 3/21/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/12/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

NO LOCATION AID (Continued) **S101019215**

been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/12/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 6/18/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/2/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/2/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 7/9/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 9/7/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 9/7/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number/Current Status: 3-0011305 / RAO
Release Town: LOWELL
Notification Date: 07/13/1994
Category: TWO HR
Associated ID: Not reported

NO LOCATION AID (Continued) **S101019215**

Current Status:	**Response Action Outcome**
Status Date:	04/25/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material
Location Type:	WATERBODY
Source:	AST
Source:	PUMP

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity:	939 gallons
Chemical:	UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity:	Not reported
Chemical:	N-BUTYLBENZENESULFONAMIDE
Quantity:	500 gallons

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	4/25/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	Fee Received - FMCRA Use Only
Action Date:	4/26/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/13/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	7/13/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	RLFA
Action Status:	FOLFLD
Action Date:	7/13/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	7/14/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S101019215**

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/27/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status: 3-0022865 / RAO
Release Town: LOWELL
Notification Date: 05/19/2003
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/18/2003
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Hazardous Material
Location Type: INDUSTRIAL
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: 300 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/19/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/19/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

NO LOCATION AID (Continued) **S101019215**

to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/18/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/6/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LAST:
Release Tracking Number/Current Status: 3-0011305 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 07/13/1994
Category: TWO HR
Associated ID: Not reported
Status Date: 04/25/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Hazardous Material

Chemicals:
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: 939 gallons
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: Not reported
Chemical: N-BUTYLBENZENESULFONAMIDE
Quantity: 500 gallons
Location Type: WATERBODY
Source: AST
Source: PUMP

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/25/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/26/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S101019215**

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 7/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/14/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/27/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

INST CONTROL:
Release Tracking Number: 3-0025687
Action Type: AUL
Action Stat: EVALCH
Action Date: 12/31/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025687
Action Type: AUL
Action Stat: LEGNOT
Action Date: 07/09/2010
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not

NO LOCATION AID (Continued) **S101019215**

been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025687
Action Type: AUL
Action Stat: RECPT
Action Date: 07/02/2010
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025687
Action Type: AUL
Action Stat: SNAUDI
Action Date: 02/10/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0025687
Action Type: AUL
Action Stat: TSAUD
Action Date: 09/07/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0011305 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/13/1994
Category: TWO HR
Status Date: 04/25/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0013252 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/11/1995
Category: 120 DY
Status Date: 05/31/2002
Phase: PHASE IV
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0022865 / RAO

NO LOCATION AID (Continued) **S101019215**

Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/19/2003
Category:	TWO HR
Status Date:	07/18/2003
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0025687 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	02/17/2006
Category:	120 DY
Status Date:	07/02/2010
Phase:	PHASE II
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N88-1280
Staff Lead:	LARSON, J	Date Entered:	19880923
Last Entered:	19880923	First Response:	19880818
Spill Date:	19880818	Spill Time:	11:00AM
Report Date:	19880818	Report Time:	11:55AM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	POLYSILOXANE SOLUTION	Other Material:	Not reported
Qty Reported:	101-250	Qty Actual:	101-250
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	Not reported
Source:	DRUM	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	Not reported
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	1		

Facility ID:	0000	Spill ID:	N90-0135
Staff Lead:	CHU, R	Date Entered:	19900227
Last Entered:	19900716	First Response:	19900126
Spill Date:	19900126	Spill Time:	Not reported
Report Date:	19900126	Report Time:	07:19PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported

NO LOCATION AID (Continued) **S101019215**

Env Impact:	Not reported	Other Impact:	Not reported
Material:	HYDRAULIC FLUID	Other Material:	Not reported
Qty Reported:	10-50	Qty Actual:	----------
Qty Reported:	GALLONS	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	OTHER SOURCE >	Other Source:	TRASH COMPACTOR
Incident:	OTHER RELEASE >	Other Incdnt:	?
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	MAT RICHARSON		
Notif Tel:	Not reported		
Days/Close:	-1		

Facility ID:	0000	Spill ID:	N93-0948
Staff Lead:	BOYLE, T	Date Entered:	Not reported
Last Entered:	19930810	First Response:	19930707
Spill Date:	19930707	Spill Time:	01:30PM
Report Date:	19930707	Report Time:	05:00PM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	FREON
Qty Reported:	251-500	Qty Actual:	----------
Qty Reported:	LBS	Qty Actual:	LBS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	OTHER SOURCE >	Other Source:	VALVE
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	MARK RICHARDSON/FRIERBERG CORP		
Notif Tel:	Not reported		
Days/Close:	0		

AIRS:

Facility Status:	APPROV
Permit Code:	AQ01
Permit Name:	Plan Application Limited
DEP Region:	NE
Application Tracking Number:	123956
Date Closed:	06/10/1997
Applicant Name:	FREUDENBERG NONWOVENS LTD PART
Applicant Address:	221 JACKSON ST
Applicant City,St,Zip:	LOWELL, MA 01852
Applicant Telephone:	9784540461

AD121 **NO LOCATION AID** **SHWS** **S107678232**
SE **148 WARREN 242 CHURCH STS** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852**
0.352 mi.
1861 ft. **Site 1 of 5 in cluster AD**

Relative:
Lower

Actual:
75 ft.

SHWS:

Release Tracking Number/Current Status:	3-0025738 / RAO
Release Town:	LOWELL
Notification Date:	03/17/2006

NO LOCATION AID (Continued) **S107678232**

Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/17/2006
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPHTHALENE
Quantity:	10.7 milligrams per kilogram

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/17/2006
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/17/2006
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/17/2006
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/3/2006
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:

Release Tracking Number/Current Status:	3-0025738 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/17/2006
Category:	120 DY
Status Date:	03/17/2006
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

AD122 **BAGSHAW MILLS** **SHWS** **S102086644**
SE **128-132 WARREN ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01853** **RELEASE**
0.359 mi.
1897 ft. **Site 2 of 5 in cluster AD**

Relative:
Lower

Actual:
67 ft.

SHWS:

Release Tracking Number/Current Status:	3-0012428 / RAONR
Release Town:	LOWELL
Notification Date:	04/28/1995
Category:	72 HR
Associated ID:	3-0003213
Current Status:	**Response Action Outcome Not Required**
Status Date:	08/09/1996
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source:	UNKNOWN
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	#2 FUEL OIL
Quantity:	Not reported
Chemical:	HYDRAULIC OIL
Quantity:	Not reported

Actions:

Action Type:	RAO Not Required
Action Status:	Level III - Comprehensive Audit
Action Date:	12/14/2004
Response Action Outcome:	Not reported
Action Type:	An activity type that is related to an Audit
Action Status:	NOA
Action Date:	12/14/2004
Response Action Outcome:	Not reported
Action Type:	An activity type that is related to an Audit
Action Status:	RFI
Action Date:	12/14/2004
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	12/4/2001
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	2/28/1996
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E

BAGSHAW MILLS (Continued) **S102086644**

Action Date: 4/28/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/28/1995
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/17/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Transition Site - Obsolete Status
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 6/27/1995
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/27/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 7/18/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/28/1995
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 8/9/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/9/1996
Response Action Outcome: Not reported

BAGSHAW MILLS (Continued) **S102086644**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/9/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/9/1996
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0012428 / RAONR
Status Date: 08/09/1996
Source Type: UST
Release Town: LOWELL
Notification Date: 04/28/1995
Category: 72 HR
Associated ID: 3-0003213
Phase: PHASE II
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Location Type: RESIDNTIAL
Source: UNKNOWN
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: #2 FUEL OIL
Quantity: Not reported
Chemical: HYDRAULIC OIL
Quantity: Not reported

Actions:
Action Type: RAO Not Required
Action Status: Level III - Comprehensive Audit
Action Date: 12/14/2004
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 12/14/2004
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: RFI
Action Date: 12/14/2004
Response Action Outcome: Not reported

Action Type: Tier Classification

BAGSHAW MILLS (Continued) **S102086644**

Action Status: Tier 2 Extension
Action Date: 12/4/2001
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/28/1996
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/28/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/28/1995
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/17/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Transition Site - Obsolete Status
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 5/6/1996
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 6/27/1995
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/27/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 7/18/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/28/1995

BAGSHAW MILLS (Continued) **S102086644**

Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 8/9/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/9/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/9/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/9/1996
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0012428 / RAONR
Primary ID: 3-0003213
Official City: LOWELL
Notification: 04/28/1995
Category: 72 HR
Status Date: 08/09/1996
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AD123 **PROPERTY** **LUST** **S100363009**
SE **128 WARREN ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850**
0.359 mi.
1897 ft. **Site 3 of 5 in cluster AD**

Relative:
Lower

Actual:
67 ft.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0003213 / RAO
Status Date: 07/05/2002
Source Type: UST
Release Town: LOWELL
Notification Date: 07/15/1990
Category: NONE
Associated ID: 3-0003213
Phase: PHASE III
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

PROPERTY (Continued) **S100363009**

Location Type: COMMERCIAL
Location Type: RESIDNTIAL
Location Type: FORMER
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PETROLEUM
Quantity: Not reported

Actions:
Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 1/25/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 10/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/29/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 11/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/9/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level III - Comprehensive Audit
Action Date: 12/14/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: RFI
Action Date: 12/14/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit

PROPERTY (Continued) **S100363009**

Action Status: NOA
Action Date: 12/14/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 12/29/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 12/4/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/12/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/15/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 5/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: LSPFA
Action Date: 5/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 7/15/1990
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/5/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: LSPFA
Action Date: 8/8/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

PROPERTY (Continued) **S100363009**

reduced to background.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/9/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/9/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/9/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 8/9/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level III - Comprehensive Audit
Action Date: 8/9/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 9/24/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0003213 / RAO
Primary ID: 3-0003213
Official City: LOWELL
Notification: 07/15/1990
Category: NONE
Status Date: 07/05/2002
Phase: PHASE III
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

124
SSE
1/4-1/2
0.363 mi.
1918 ft.

38 GORHAM STREET
38 GORHAM ST
LOWELL, MA 01852

LUST **U003974391**
UST **N/A**
RELEASE
ENF
Financial Assurance

Relative:
Higher

Actual:
91 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0023698 / PSC
Status Date:	06/22/2015
Source Type:	UST
Release Town:	LOWELL
Notification Date:	03/24/2004
Category:	72 HR
Associated ID:	3-0023698
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	MUNICIPAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	1300 parts per million

Actions:

Action Type:	FTLI
Action Status:	APPACC
Action Date:	1/25/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/27/2005
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	1/27/2005
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Enforcement Conference
Action Date:	3/14/2011
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/24/2004
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	3/24/2004

38 GORHAM STREET (Continued) **U003974391**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/24/2004
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 4/1/2005
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 4/1/2005
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 4/11/2005
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/12/2004
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/22/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 5/24/2004
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/24/2004
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/9/2011
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Legal Notice Published
Action Date: 6/17/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/2/2005
Response Action Outcome: Not reported

38 GORHAM STREET (Continued) **U003974391**

Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	6/2/2005
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	6/2/2005
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/2/2005
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	6/21/2005
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	PSARCD
Action Date:	6/22/2015
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Imminent Hazard Evaluation Received
Action Date:	6/6/2005
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	6/6/2005
Response Action Outcome:	Not reported
Action Type:	FTLI
Action Status:	APPACC
Action Date:	7/7/2014
Response Action Outcome:	Not reported
Action Type:	FTLI
Action Status:	Action Status or AUL Terminated
Action Date:	7/9/2013
Response Action Outcome:	Not reported
Action Type:	FTLI
Action Status:	Action Status or AUL Terminated
Action Date:	8/25/2015
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	9/15/2010
Response Action Outcome:	Not reported

38 GORHAM STREET (Continued) **U003974391**

Facility:

Release Tracking Number/Current Status:	3-0023852 / PSC
Status Date:	06/22/2015
Source Type:	UST
Release Town:	LOWELL
Notification Date:	05/12/2004
Category:	72 HR
Associated ID:	3-0023698
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	OPENSPACE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	Not reported
Chemical:	PETROLEUM
Quantity:	1.2 inches

Actions:

Action Type:	FTLI
Action Status:	APPACC
Action Date:	1/25/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/27/2005
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	1/27/2005
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	4/1/2005
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Modified Revised or Updated Plan Received
Action Date:	4/1/2005
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Imminent Hazard Evaluation Received
Action Date:	4/1/2005
Response Action Outcome:	Not reported
Action Type:	Release Disposition

38 GORHAM STREET (Continued) **U003974391**

Action Status: Reportable Release under MGL 21E
Action Date: 5/12/2004
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 5/12/2004
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/22/2014
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/9/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/14/2004
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Legal Notice Published
Action Date: 6/17/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/2/2005
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 6/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/2/2005
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSARCD
Action Date: 6/22/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/29/2004

38 GORHAM STREET (Continued) **U003974391**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 6/29/2004
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 6/6/2005
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 6/6/2005
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 7/7/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/8/2004
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: Action Status or AUL Terminated
Action Date: 7/9/2013
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: Action Status or AUL Terminated
Action Date: 8/25/2015
Response Action Outcome: Not reported

UST:

Facility:
Facility ID: 22209
Owner Id: 9500
Owner: CITY OF LOWELL
Owner Address: 50 ARCAND DRIVE
Owner City,St,Zip: LOWELL, MA 01852
Telephone: Not reported
Description: Not reported
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.64128
Longitude: -71.30854
Contact name: Not reported
Contact address1: Not reported
Contact address2: Not reported
Contact city: Not reported
Contact state: Not reported

38 GORHAM STREET (Continued) **U003974391**

Contact zip: Not reported
Contact email: Not reported
Update: 2004-09-29 00:00:00
Update by: Not reported
Fac status: CLOSED

Tank ID: 1
Tank Status: Tank Removed
Status Date: 03/23/2004
Date Installed: Not reported
Capacity: 2000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 03/23/2004
Date Installed: Not reported
Capacity: 2000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N

38 GORHAM STREET (Continued) **U003974391**

Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: Tank Removed
Status Date: 03/23/2004
Date Installed: Not reported
Capacity: 2000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0023698 / PSC
Primary ID: 3-0023698
Official City: LOWELL
Notification: 03/24/2004
Category: 72 HR
Status Date: 06/22/2015
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Oil

38 GORHAM STREET (Continued) **U003974391**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0023852 / PSC
Primary ID:	3-0023698
Official City:	LOWELL
Notification:	05/12/2004
Category:	72 HR
Status Date:	06/22/2015
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3R
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0023698
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	09/15/2010
ENF #:	NON-NE-10-3R030
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

MA Financial Assurance 2:

Facility Id:	22209
Description:	Other
Work Phone:	(781) 970-4258

AB125 **AUTO GARAGE FMR** **SHWS** **S100830500**
WNW **220 AIKEN ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850** **HW GEN**
0.372 mi.
1964 ft. **Site 2 of 2 in cluster AB**

Relative:
Higher

Actual:
91 ft.

SHWS:

Release Tracking Number/Current Status:	3-0002153 / DEPNFA
Release Town:	LOWELL
Notification Date:	04/15/1989
Category:	NONE
Associated ID:	Not reported
Current Status:	**No Further Action (DEP Determined)**
Status Date:	04/04/1996
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	4/15/1989
Response Action Outcome:	Not reported

Action Type:	TREGS
Action Status:	DEPNFA
Action Date:	4/4/1996
Response Action Outcome:	Not reported

Release Tracking Number/Current Status:	3-0018429 / RAO
Release Town:	LOWELL
Notification Date:	06/21/1999
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	08/23/1999
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Source:	ENGINES

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	OIL
Quantity:	Not reported
Chemical:	PETROLEUM
Quantity:	20 gallons

AUTO GARAGE FMR (Continued) **S100830500**

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	6/21/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	6/21/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	6/30/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/27/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	7/27/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	8/18/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/23/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0002153 / DEPNFA
Primary ID:	Not reported
Official City:	LOWELL
Notification:	04/15/1989
Category:	NONE
Status Date:	04/04/1996
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

AUTO GARAGE FMR (Continued) **S100830500**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0018429 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	06/21/1999
Category:	TWO HR
Status Date:	08/23/1999
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

HW GEN:

EPA Id:	MAC300001179
RCRA Generator Status:	VSQG
State Generator Status:	VQG-MA

126
NE
1/4-1/2
0.375 mi.
1982 ft.

Relative:
Higher

Actual:
90 ft.

MOBIL @ 4TH & BRIDGE ST **SHWS** **S101033417**
443 BRIDGE ST **LUST** **N/A**
LOWELL, MA 01853 **INST CONTROL**
RELEASE

SHWS:

Release Tracking Number/Current Status:	3-0015387 / RAO
Release Town:	LOWELL
Notification Date:	08/13/1997
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/20/1997
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	RESIDNTIAL
Location Type:	COMMERCIAL
Source:	SEPERATOR
Source:	UST
Source:	OVERFLOW

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	OIL
Quantity:	30 gallons
Chemical:	WASTE OIL
Quantity:	30 gallons

Actions:

Action Type:	Compliance and Enforcement Action

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Action Status: Notice of Non-Compliance Issued
Action Date: 10/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 3/22/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/19/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/19/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 9/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 9/21/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 9/8/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0002593 / RAO
Status Date: 09/16/1997
Source Type: UST
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Not reported

Location Type: GASSTATION
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/27/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Action Status: Fee Not Required - Fee Credited-FMCRA Use Only
Action Date: 1/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 11/27/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/30/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVACC
Action Date: 11/30/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/30/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 3/22/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 4/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NOA

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Action Date: 6/28/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 8/3/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 8/31/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: TREGS
Action Status: WAVREC
Action Date: 8/31/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 9/10/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/16/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: Audit Follow-up Completion Statement Received
Action Date: 9/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 9/20/2001

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 9/21/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 9/30/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Facility:
Release Tracking Number/Current Status: 3-0015387 / RAO
Status Date: 10/20/1997
Source Type: UST
Release Town: LOWELL
Notification Date: 08/13/1997
Category: TWO HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil

Location Type: RESIDNTIAL
Location Type: COMMERCIAL
Source: SEPERATOR
Source: UST
Source: OVERFLOW

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: OIL
Quantity: 30 gallons
Chemical: WASTE OIL
Quantity: 30 gallons

Actions:
Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 10/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 3/22/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/13/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/19/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/19/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 9/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 9/21/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 9/8/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

INST CONTROL:
Release Tracking Number: 3-0002593
Action Type: AUL
Action Stat: AMEND
Action Date: 09/20/2001
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0002593
Action Type: AUL
Action Stat: LEGNOT
Action Date: 09/21/2001
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0002593
Action Type: AUL
Action Stat: RECPT
Action Date: 08/27/1997
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0002593
Action Type: AUL
Action Stat: SNAUDI
Action Date: 03/22/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0015387
Action Type: AUL
Action Stat: AMEND
Action Date: 09/20/2001
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number: 3-0015387
Action Type: AUL
Action Stat: LEGNOT
Action Date: 09/21/2001

MOBIL @ 4TH & BRIDGE ST (Continued) **S101033417**

Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number: 3-0015387
Action Type: AUL
Action Stat: RECPT
Action Date: 08/27/1997
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number: 3-0015387
Action Type: AUL
Action Stat: SNAUDI
Action Date: 03/22/2012
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0002593 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 09/16/1997
Phase: Not reported
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0015387 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 08/13/1997
Category: TWO HR
Status Date: 10/20/1997
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AE127 **291 JACKSON STREET** **US BROWNFIELDS** **1016349215**
SSW **291 JACKSON STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ECHO**
0.380 mi.
2009 ft. **Site 1 of 4 in cluster AE**

Relative:
Lower

Actual:
86 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: 291 JACKSON STREET

291 JACKSON STREET (Continued) **1016349215**

Property #:	1
Parcel size:	.75
Property Description:	Not reported
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79942
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	45814
Assessment funding source:	US EPA - Brownfields Assessment Cooperative Agreement
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	EPA
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Cleanup Planning
Accomplishment count:	1
Cooperative agreement #:	97179801
Ownership entity:	Government
Current owner:	City of Lowell
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	N
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	07/23/2009 00:00:00
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Y
No media affected:	Not reported
Unknown media affected:	Y

291 JACKSON STREET (Continued) **1016349215**

Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	.75
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported

291 JACKSON STREET (Continued) **1016349215**

Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported
Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	291 JACKSON STREET
Property #:	1
Parcel size:	.75
Property Description:	Not reported
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79942
Start date:	10/01/2007 00:00:00
Completed date:	07/23/2009 00:00:00
Acres cleaned up:	.75
Cleanup funding:	40000
Cleanup funding source:	Local Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	10/21/2009 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	City of Lowell
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97176201
Ownership entity:	Government
Current owner:	City of Lowell
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	N
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	07/23/2009 00:00:00
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported

291 JACKSON STREET (Continued) **1016349215**

Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Y
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	.75
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported

291 JACKSON STREET (Continued) **1016349215**

No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	291 JACKSON STREET
Property #:	1
Parcel size:	.75
Property Description:	Not reported
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79942
Start date:	10/01/2007 00:00:00
Completed date:	07/23/2009 00:00:00
Acres cleaned up:	.75
Cleanup funding:	200000
Cleanup funding source:	US EPA - Brownfields Cleanup Cooperative Agreement
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	10/21/2009 00:00:00
Assessment funding entity:	Not reported
Cleanup funding entity:	EPA
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97176201
Ownership entity:	Government
Current owner:	City of Lowell
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	N
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported

291 JACKSON STREET (Continued) **1016349215**

State/tribal program ID:	Not reported
State/tribal NFA date:	07/23/2009 00:00:00
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Y
Lead cleaned up:	Y
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	.75
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported

291 JACKSON STREET (Continued) **1016349215**

Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110038756147

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an federal online database for Brownfields Grantees to electronically submit data directly to EPA.

ECHO:

Envid:	1016349215
Registry ID:	110038756147
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110038756147

AE128 **NO LOCATION AID** **SHWS** **S108348084**
SSW **291 JACKSON ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852**
0.380 mi.
2009 ft. **Site 2 of 4 in cluster AE**

Relative:
Lower

Actual:
86 ft.

SHWS:

Release Tracking Number/Current Status:	3-0027421 / RAO
Release Town:	LOWELL
Notification Date:	10/24/2008
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	07/23/2009
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S108348084**

Chemicals:
Chemical: LEAD
Quantity: 10200 milligrams per kilogram

Actions:
Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/2/2008
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/5/2010
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/24/2008
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/24/2008
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/23/2007
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 2/13/2012
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/23/2009
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 7/27/2009
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0026423 / RAO
Release Town: LOWELL
Notification Date: 11/24/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/23/2009
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Hazardous Material

NO LOCATION AID (Continued) **S108348084**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TRICHLOROETHYLENE
Quantity: 2.4 milligrams per kilogram

Actions:
Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/2/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/5/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 10/24/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/24/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 10/9/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S108348084**

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 2/13/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 4/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/26/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 6/27/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 6/30/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 7/27/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0026423 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/24/2006
Category: 120 DY
Status Date: 07/23/2009
Phase: Not reported

NO LOCATION AID (Continued) **S108348084**

Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0027421 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/24/2008
Category: 120 DY
Status Date: 07/23/2009
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AD129 **DICKS SERVICE** **SHWS** **1000272392**
SE **180 CHURCH ST** **RELEASE** **MAD982197063**
1/4-1/2 **LOWELL, MA 01852** **RCRA NonGen / NLR**
0.389 mi. **FINDS**
2056 ft. **Site 4 of 5 in cluster AD** **ENF**
ECHO

Relative:
Lower

Actual:
76 ft.

SHWS:
Release Tracking Number/Current Status: 3-0017036 / REMOPS
Release Town: LOWELL
Notification Date: 07/14/1998
Category: 120 DY
Associated ID: 3-0017036
Current Status: **Remedy Operation Status**
Status Date: 06/18/2012
Phase: PHASE V
Response Action Outcome: -
Oil Or Haz Material: Oil

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 1450 parts per million
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 5740 parts per billion

Actions:
Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 1/29/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 1/29/2014
Response Action Outcome: Not reported

DICKS SERVICE (Continued) **1000272392**

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 12/17/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/17/2009
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/17/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/21/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 12/21/2009
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/21/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 12/23/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/27/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINI
Action Date: 12/27/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/28/1998
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 3/11/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement

DICKS SERVICE (Continued) **1000272392**

Action Date: 3/25/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 3/27/2015
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 3/31/2010
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 4/16/2012
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 4/16/2012
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 4/19/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Amendment Received or Issued
Action Date: 5/19/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/22/2009
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 5/22/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 6/18/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Work Started
Action Date: 6/18/2012
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 6/18/2012
Response Action Outcome: Not reported

DICKS SERVICE (Continued) **1000272392**

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 6/18/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/14/1998
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/14/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/20/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/20/1999
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/20/1999
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 7/3/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 7/3/2013
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/17/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification

DICKS SERVICE (Continued) **1000272392**

Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/7/1999
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0028739 / RAONR
Release Town: LOWELL
Notification Date: 09/18/2009
Category: 72 HR
Associated ID: 3-0017036
Current Status: **Response Action Outcome Not Required**
Status Date: 03/25/2011
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material
Location Type: COMMERCIAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 28.33 inches
Chemical: KEROSENE
Quantity: 28.33 inches

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/2/2009
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1A
Action Date: 10/8/2009
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/17/2009
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/17/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 11/17/2009
Response Action Outcome: Not reported

DICKS SERVICE (Continued) **1000272392**

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 11/18/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/17/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 12/17/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/21/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 12/21/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 12/23/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/25/2011
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 3/25/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 3/25/2011
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 3/25/2011
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/11/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit

DICKS SERVICE (Continued) **1000272392**

Action Date: 5/12/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/20/1999
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/20/1999
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 7/8/2010
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/18/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/18/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/22/2010
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 9/22/2010
Response Action Outcome: Not reported

DICKS SERVICE (Continued) **1000272392**

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 9/27/2010
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0017036 / REMOPS
Primary ID: 3-0017036
Official City: LOWELL
Notification: 07/14/1998
Category: 120 DY
Status Date: 06/18/2012
Phase: PHASE V
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0028739 / RAONR
Primary ID: 3-0017036
Official City: LOWELL
Notification: 09/18/2009
Category: 72 HR
Status Date: 03/25/2011
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

RCRA NonGen / NLR:
Date form received by agency: 08/29/2007
Facility name: DICKS SERVICE
Facility address: 180 CHURCH ST
LOWELL, MA 01852
EPA ID: MAD982197063
Contact: RICHARD FALARDEAU
Contact address: 180 CHURCH ST
LOWELL, MA 018520000
Contact country: US
Contact telephone: (508) 458-9427
Contact email: Not reported
EPA Region: 01
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: DICKS SERVICE
Owner/operator address: 180 CHURCH ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported

DICKS SERVICE (Continued) **1000272392**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 12/08/1991
Owner/Op end date: Not reported

Owner/operator name: RICHARD FALARDEAU
Owner/operator address: 180 CHURCH ST
LOWELL, MA 01852
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 12/08/1991
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 06/15/1987
Site name: DICKS SERVICE
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID,

DICKS SERVICE (Continued) **1000272392**

AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 08/10/2007
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/13/2004
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110003477997

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3A
DEP Bureau: BWSC
Program: Not reported
Program Id: 3-0017036
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 05/22/2009
ENF #: NON-NE-09-3A041
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported

DICKS SERVICE (Continued) **1000272392**

ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0017036
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	05/19/2011
ENF #:	ACOP-NE-10-3A025-AMEND
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	03/01/2012
ACOP $:	7500
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	12500
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0017036
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	08/17/2010
ENF #:	ACOP-NE-10-3A025
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	08/08/2011
ACOP $:	5000

DICKS SERVICE (Continued) **1000272392**

PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

ECHO:

Envid:	1000272392
Registry ID:	110003477997
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110003477997

AE130 **NO LOCATION AID** **SHWS** **S105043506**
SSW **307 JACKSON ST** **INST CONTROL** **N/A**
1/4-1/2 **LOWELL, MA 01852** **BROWNFIELDS**
0.390 mi. **RELEASE**
2058 ft. **Site 3 of 4 in cluster AE** **ENF**

Relative:
Lower

Actual:
85 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026095 / RAO
Release Town:	LOWELL
Notification Date:	07/25/2006
Category:	120 DY
Associated ID:	3-0026095
Current Status:	**Response Action Outcome**
Status Date:	08/19/2011
Phase:	PHASE III
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	RESIDNTIAL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	CHROMIUM
Quantity:	33.2 parts per million
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	174 parts per million
Chemical:	BENZO[A]PYRENE
Quantity:	216 parts per million
Chemical:	CHRYSENE
Quantity:	157 parts per million
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	161 parts per million
Chemical:	2-METHYLNAPHTHALENE
Quantity:	31.2 parts per million
Chemical:	BENZO(K)FLUORANTHENE
Quantity:	167 parts per million
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	1180 parts per million
Chemical:	DIBENZO[A,H]ANTHRACENE

NO LOCATION AID (Continued) **S105043506**

Quantity:	37.6 parts per million
Chemical:	NICKEL
Quantity:	34.7 parts per million
Chemical:	TETRACHLOROETHYLENE
Quantity:	6.26 parts per million
Chemical:	TRICHLOROETHENE
Quantity:	.419 parts per million
Chemical:	BENZO[A]ANTHRACENE
Quantity:	187 parts per million
Chemical:	NAPHTHALENE
Quantity:	966 parts per million
Chemical:	ZINC
Quantity:	7640 parts per million
Chemical:	ACENAPHTHENE
Quantity:	40.3 parts per million
Chemical:	AROCLOR 1254
Quantity:	4.88 parts per million
Chemical:	C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity:	3200 parts per million
Chemical:	CADMIUM
Quantity:	8.38 parts per million
Chemical:	TETRACHLOROETHYLENE
Quantity:	1.11 parts per million
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	2700 parts per million
Chemical:	PHENANTHRENE
Quantity:	309 parts per million
Chemical:	VINYL CHLORIDE
Quantity:	.0046 parts per million

Actions:

Action Type:	Release Abatement Measure
Action Status:	RMRINT
Action Date:	1/4/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/4/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	1/6/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/6/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

NO LOCATION AID (Continued) **S105043506**

Action Type: Release Abatement Measure
Action Status: RMRINT
Action Date: 1/6/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/6/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 10/20/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/20/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 10/20/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 10/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/27/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 10/28/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure

NO LOCATION AID (Continued) **S105043506**

Action Status: Written Plan Received
Action Date: 10/9/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/20/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/20/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/13/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Approval of Plan
Action Date: 12/21/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 12/27/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 2/28/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/5/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received

NO LOCATION AID (Continued) **S105043506**

Action Date: 4/23/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/5/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/5/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/21/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 6/7/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: RMRINT
Action Date: 7/3/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 7/3/2013

NO LOCATION AID (Continued) **S105043506**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 7/31/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 7/6/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: RMRINI
Action Date: 7/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 7/6/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S105043506**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 8/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 8/22/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/28/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 9/10/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 9/11/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/12/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

NO LOCATION AID (Continued) **S105043506**

been implemented.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/13/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 9/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 9/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 9/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/2/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 9/24/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: EPETOP
Action Date: 9/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number/Current Status: 3-0026424 / RAONR
Release Town: LOWELL
Notification Date: 11/24/2006
Category: 120 DY
Associated ID: 3-0026095

NO LOCATION AID (Continued) **S105043506**

Current Status:	**Response Action Outcome Not Required**
Status Date:	09/02/2009
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	2200 milligrams per kilogram
Chemical:	VINYL CHLORIDE
Quantity:	.002 milligrams per liter
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	2.1 milligrams per liter
Chemical:	LEAD
Quantity:	.011 milligrams per liter
Chemical:	ETHENE, 1,2-DICHLORO-, (Z)
Quantity:	.13 milligrams per liter
Chemical:	NAPHTHALENE
Quantity:	22 milligrams per kilogram
Chemical:	2-METHYLNAPHTHALENE
Quantity:	5.8 milligrams per kilogram
Chemical:	TETRACHLOROETHYLENE
Quantity:	4.1 milligrams per kilogram

Actions:

Action Type:	SPECPR
Action Status:	Permit Effective Date
Action Date:	1/2/2008
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	10/9/2007
Response Action Outcome:	Not reported
Action Type:	SPECPR
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	11/23/2007
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	11/24/2006
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/24/2006
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	12/19/2006
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S105043506**

Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	4/5/2013
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	7/31/2007
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	7/31/2007
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	9/11/2009
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Revised Statement or Transmittal Received
Action Date:	9/2/2009
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	9/2/2009
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	9/2/2009
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	EPETOP
Action Date:	9/8/2009
Response Action Outcome:	Not reported

Release Tracking Number/Current Status:	3-0020636 / RAO
Release Town:	LOWELL
Notification Date:	04/27/2001
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	07/25/2006
Phase:	PHASE III
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Hazardous Material
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source:	DEMOLITION

NO LOCATION AID (Continued) **S105043506**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: ASBESTOS
Quantity: Not reported

Actions:
Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 1/26/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/1/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/16/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/17/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 11/20/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/15/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 3/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/12/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NO LOCATION AID (Continued) **S105043506**

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/14/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/27/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/27/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 4/4/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 5/24/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 5/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 5/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/6/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 7/17/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 7/2/2001

NO LOCATION AID (Continued) **S105043506**

Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Submittal Retracted
Action Date: 7/23/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 7/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 8/17/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 8/20/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 8/31/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 8/31/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

INST CONTROL:
Release Tracking Number: 3-0026095
Action Type: AUL
Action Stat: LEGNOT
Action Date: 08/22/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026095
Action Type: AUL

NO LOCATION AID (Continued) **S105043506**

Action Stat: LEGNOT
Action Date: 10/23/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026095
Action Type: AUL
Action Stat: RECPT
Action Date: 08/18/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026095
Action Type: AUL
Action Stat: RECPT
Action Date: 10/20/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0026095
Action Type: AUL
Action Stat: SNAUDI
Action Date: 09/10/2010
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

BROWNFIELDS:
SR Num: 9
Year: 2009
Applicants: Developers Trinity Appleton Limited Partnership and Trinity Appleton Four Limited Partnership
Project: Trinity Appleton Limited Partnership is redeveloping the former Appleton Mills complex at 307 Jackson Street in the historic Hamilton Canal District of Lowell into 130 units of affordable rental housing to be marketed as artist live/work space. The project will feature many environmentally-friendly components, including a green roof, efficient systems and Energy Star appliances. It will also include a historic rehabilitation of existing mill buildings, and improvements to area infrastructure, including sidewalks and new and rehabilitated bridges over canals that will connect the building to the downtown neighborhood.

Release:
Release Tracking Number/Current Status: 3-0020636 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/27/2001
Category: TWO HR
Status Date: 07/25/2006
Phase: PHASE III
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Hazardous Material

NO LOCATION AID (Continued) **S105043506**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0026095 / RAO
Primary ID:	3-0026095
Official City:	LOWELL
Notification:	07/25/2006
Category:	120 DY
Status Date:	08/19/2011
Phase:	PHASE III
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0026424 / RAONR
Primary ID:	3-0026095
Official City:	LOWELL
Notification:	11/24/2006
Category:	120 DY
Status Date:	09/02/2009
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0020636
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	01/26/2006
ENF #:	NON-NE-05-3A177
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported

NO LOCATION AID (Continued) **S105043506**

Suspended $: Not reported
Ownership: Commercially Owned

AE131 **HAMILTON CANAL DISTRICT** **SHWS** **S108962764**
SSW **291 AND 307 JACKSON ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA**
0.390 mi.
2058 ft. **Site 4 of 4 in cluster AE**

Relative:
Lower

Actual:
85 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027420 / RAONR
Release Town: LOWELL
Notification Date: 11/23/2007
Category: 120 DY
Associated ID: 3-0026095
Current Status: **Response Action Outcome Not Required**
Status Date: 09/02/2009
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Source: OPERATION
Source: UNKNOWN
Source: HISTORIC

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: CVOCS
Quantity: Not reported
Chemical: PAHS
Quantity: Not reported
Chemical: EPH
Quantity: Not reported
Chemical: LEAD
Quantity: Not reported

Actions:
Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/2/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/24/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 10/24/2008
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/23/2007

HAMILTON CANAL DISTRICT (Continued) **S108962764**

Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/23/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 4/23/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/5/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/26/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 6/27/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 6/30/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/31/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/31/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 9/11/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 9/2/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 9/2/2009
Response Action Outcome: Not reported

HAMILTON CANAL DISTRICT (Continued) **S108962764**

Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	9/2/2009
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	EPETOP
Action Date:	9/8/2009
Response Action Outcome:	Not reported
Action Type:	BWS50
Action Status:	APPROV
Action Date:	Not reported
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0027420 / RAONR
Primary ID:	3-0026095
Official City:	LOWELL
Notification:	11/23/2007
Category:	120 DY
Status Date:	09/02/2009
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

AD132 **ZAYRE STORE** **SHWS** **S101023730**
SE **125 CHURCH ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **SPILLS**
0.390 mi. **RELEASE**
2059 ft. **Site 5 of 5 in cluster AD** **HW GEN**

Relative:
Lower

Actual:
88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0002798 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/17/1997
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UST
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	Not reported

ZAYRE STORE (Continued) **S101023730**

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1990
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	RAOEQ
Action Date:	9/17/1997
Response Action Outcome:	Not reported

LUST:

Facility:

Release Tracking Number/Current Status:	3-0002798 / RAO
Status Date:	09/17/1997
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UST
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1990
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	RAOEQ
Action Date:	9/17/1997
Response Action Outcome:	Not reported

MA Spills:

Facility ID:	3-2798	Spill ID:	N89-1199
Staff Lead:	NDI, K	Date Entered:	19890809
Last Entered:	19940202	First Response:	19890725
Spill Date:	19890725	Spill Time:	Not reported
Report Date:	19890725	Report Time:	04:20PM

ZAYRE STORE (Continued) **S101023730**

Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	251-500	Qty Actual:	251-500
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SA	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	DAVE MAKER FD		
Notif Tel:	Not reported		
Days/Close:	0		

Release:

Release Tracking Number/Current Status:	3-0002798 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1990
Category:	NONE
Status Date:	09/17/1997
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

HW GEN:

EPA Id:	MV9784595204
RCRA Generator Status:	VSQG
State Generator Status:	Not reported

AF133 **UMASS LOWELL** **SHWS** **S111460203**
NW **333 AIKEN ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01854** **RELEASE**
0.396 mi.
2090 ft. **Site 1 of 2 in cluster AF**

Relative:
Lower

Actual:
78 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030594 / RAO
Release Town:	LOWELL
Notification Date:	01/24/2012
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/26/2012
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	SCHOOL
Source:	UNKNOWN
Source:	UST

UMASS LOWELL (Continued) **S111460203**

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	TPH
Quantity:	1380 milligrams per kilogram
Chemical:	LEAD
Quantity:	350 milligrams per kilogram
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	228 milligrams per kilogram
Chemical:	ACENAPHTHYLENE
Quantity:	2.7 milligrams per kilogram
Chemical:	TRICHLOROETHYLENE
Quantity:	8.2 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	4.7 milligrams per kilogram
Chemical:	CADMIUM
Quantity:	13 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	9.13 milligrams per kilogram

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	BOL
Action Status:	SHPFAC
Action Date:	10/4/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	11/26/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/26/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

UMASS LOWELL (Continued) **S111460203**

reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 11/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 2/1/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 2/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/8/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/31/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: SHPFAC
Action Date: 8/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0030594 / RAO
Status Date: 11/26/2012
Source Type: UST

UMASS LOWELL (Continued) **S111460203**

Release Town:	LOWELL
Notification Date:	01/24/2012
Category:	120 DY
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	SCHOOL
Source:	UNKNOWN
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	TPH
Quantity:	1380 milligrams per kilogram
Chemical:	LEAD
Quantity:	350 milligrams per kilogram
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	228 milligrams per kilogram
Chemical:	ACENAPHTHYLENE
Quantity:	2.7 milligrams per kilogram
Chemical:	TRICHLOROETHYLENE
Quantity:	8.2 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	4.7 milligrams per kilogram
Chemical:	CADMIUM
Quantity:	13 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	9.13 milligrams per kilogram

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	BOL
Action Status:	SHPFAC
Action Date:	10/4/2012

UMASS LOWELL (Continued) **S111460203**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 11/26/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/26/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 11/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 2/1/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 2/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/8/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/31/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

UMASS LOWELL (Continued) **S111460203**

Action Type:	BOL
Action Status:	SHPFAC
Action Date:	8/7/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Facility:

Release Tracking Number/Current Status:	3-0030712 / RAO
Status Date:	11/27/2012
Source Type:	UST
Release Town:	LOWELL
Notification Date:	03/15/2012
Category:	72 HR
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Location Type:	STATE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	1700 parts per million
Chemical:	PETROLEUM (NOS)
Quantity:	1700 parts per million

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/27/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	3/15/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/15/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	3/30/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

UMASS LOWELL (Continued) **S111460203**

reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 5/2/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 5/3/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 7/10/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BOL
Action Status: SHPFAC
Action Date: 8/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0030594 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/24/2012
Category: 120 DY
Status Date: 11/26/2012
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

UMASS LOWELL (Continued) **S111460203**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0030712 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/15/2012
Category:	72 HR
Status Date:	11/27/2012
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

134
ESE
1/4-1/2
0.397 mi.
2095 ft.

INTERSEC OF E MERRIMAC AND HIGH ST **LUST** **S103812188**
219 EAST MERRIMAC ST **RELEASE** **N/A**
LOWELL, MA 01852 **ENF**

Relative:
Higher

Actual:
97 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0018128 / RAO
Status Date:	03/30/2009
Source Type:	UST
Release Town:	LOWELL
Notification Date:	03/26/1999
Category:	72 HR
Associated ID:	Not reported
Phase:	PHASE IV
Response Action Outcome:	C2 - C2
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	198 parts per million
Chemical:	GASOLINE
Quantity:	280 parts per million

Actions:

Action Type:	Tier Classification
Action Status:	TCEXT
Action Date:	1/22/2016
Response Action Outcome:	C2
Action Type:	Phase 2
Action Status:	Completion Statement Received

INTERSEC OF E MERRIMAC AND HIGH ST (Continued) **S103812188**

Action Date: 10/30/2008
Response Action Outcome: C2

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 12/20/2007
Response Action Outcome: C2

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 2/29/2008
Response Action Outcome: C2

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/26/1999
Response Action Outcome: C2

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/26/1999
Response Action Outcome: C2

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 3/30/2009
Response Action Outcome: C2

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/30/2009
Response Action Outcome: C2

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 3/30/2009
Response Action Outcome: C2

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/31/2008
Response Action Outcome: C2

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/31/2008
Response Action Outcome: C2

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 4/15/2008
Response Action Outcome: C2

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/9/1999
Response Action Outcome: C2

INTERSEC OF E MERRIMAC AND HIGH ST (Continued) **S103812188**

Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	8/14/2000
Response Action Outcome:	C2

Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	8/3/2000
Response Action Outcome:	C2

Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	8/3/2000
Response Action Outcome:	C2

Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	8/3/2000
Response Action Outcome:	C2

Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	8/3/2000
Response Action Outcome:	C2

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	8/3/2000
Response Action Outcome:	C2

Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	8/3/2000
Response Action Outcome:	C2

Release:

Release Tracking Number/Current Status:	3-0018128 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/26/1999
Category:	72 HR
Status Date:	03/30/2009
Phase:	PHASE IV
Response Action Outcome:	C2 - C2
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported

INTERSEC OF E MERRIMAC AND HIGH ST (Continued) **S103812188**

Program Id:	3-0018128
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	12/20/2007
ENF #:	NON-NE-07-3A166
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0018128
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	04/15/2008
ENF #:	ACOP-NE-08-3A007
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	04/15/2009
ACOP $:	2500
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	7500
Ownership:	Commercially Owned

AC135 **NO LOCATION AID** **SHWS** **S109682913**
SSW **225 MIDDLESEX ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01852** **RELEASE**
0.399 mi. **ENF**
2106 ft. **Site 2 of 2 in cluster AC**

Relative:
Higher

Actual:
99 ft.

SHWS:

Release Tracking Number/Current Status:	3-0029573 / RAONR
Release Town:	LOWELL
Notification Date:	10/13/2010
Category:	72 HR
Associated ID:	3-0028616
Current Status:	**Response Action Outcome Not Required**
Status Date:	10/04/2011
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	CONDITION
Source:	HISTORICL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	#6 FUEL OIL
Quantity:	.5 inches

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	10/13/2010
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/13/2010
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	10/4/2011
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	10/4/2011
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	11/2/2010
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	11/23/2011
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S109682913**

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 11/28/2011
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/13/2010
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/13/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/13/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 12/14/2010
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 4/20/2011
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 5/18/2011
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/18/2011
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/23/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 5/24/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/14/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification

NO LOCATION AID (Continued) **S109682913**

Action Date: 7/14/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 7/21/2010
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/23/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/8/2011
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 9/30/2011
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0028616 / RAO
Status Date: 05/23/2012
Source Type: UST
Release Town: LOWELL
Notification Date: 07/14/2009
Category: 72 HR
Associated ID: 3-0028616
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: #6 FUEL OIL
Quantity: 100 parts per million
Chemical: #6 FUEL OIL
Quantity: 150 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 1/18/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S109682913**

reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 1/18/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/4/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/3/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 4/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/23/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 5/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification

NO LOCATION AID (Continued) **S109682913**

Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 7/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/14/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 7/21/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/22/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 7/22/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/24/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 7/24/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 7/31/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/31/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S109682913**

reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/7/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/14/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0028616 / RAO
Primary ID: 3-0028616
Official City: LOWELL
Notification: 07/14/2009
Category: 72 HR
Status Date: 05/23/2012
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0029573 / RAONR
Primary ID: 3-0028616
Official City: LOWELL
Notification: 10/13/2010
Category: 72 HR
Status Date: 10/04/2011
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3C
DEP Bureau: BWSC
Program: Not reported
Program Id: 3-0029573

NO LOCATION AID (Continued) **S109682913**

High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	04/20/2011
ENF #:	NON-NE-11-3C017
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

AG136 **CROSS ST AND FLETCHER ST** **SHWS** **S105199963**
WSW **276 BROADWAY** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01852** **RELEASE**
0.399 mi.
2109 ft. **Site 1 of 5 in cluster AG**

Relative:
Higher

Actual:
104 ft.

SHWS:

Release Tracking Number/Current Status:	3-0020993 / RAO
Release Town:	LOWELL
Notification Date:	08/12/2001
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/18/2001
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source:	VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	DIESEL FUEL
Quantity:	90 gallons
Chemical:	DIESEL FUEL
Quantity:	95 gallons

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/18/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced

CROSS ST AND FLETCHER ST (Continued) **S105199963**

to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/11/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/12/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/12/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0020995 / RAO
Status Date: 07/24/2002
Source Type: UST
Release Town: LOWELL
Notification Date: 08/13/2001
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: MUNICIPAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: FUEL OIL #2
Quantity: 200 parts per million
Chemical: FUEL OIL #2
Quantity: 173 parts per million

Actions:
Action Type: RNF

CROSS ST AND FLETCHER ST (Continued) **S105199963**

Action Status: Reportable Release under MGL 21E
Action Date: 10/15/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 10/15/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 12/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/20/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 4/2/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 7/19/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/24/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/13/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/13/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/17/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CROSS ST AND FLETCHER ST (Continued) **S105199963**

reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/28/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Facility:
Release Tracking Number/Current Status: 3-0021274 / RAO
Status Date: 06/21/2002
Source Type: UST
Release Town: LOWELL
Notification Date: 11/27/2001
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 111 parts per million
Chemical: GASOLINE
Quantity: 120 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 1/30/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/30/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/27/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 11/27/2001

CROSS ST AND FLETCHER ST (Continued) **S105199963**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/31/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 12/6/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/6/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 4/2/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/30/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/21/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0020993 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 08/12/2001
Category: TWO HR
Status Date: 10/18/2001
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0020995 / RAO
Primary ID: Not reported

CROSS ST AND FLETCHER ST (Continued) **S105199963**

Official City:	LOWELL
Notification:	08/13/2001
Category:	72 HR
Status Date:	07/24/2002
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0021274 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	11/27/2001
Category:	72 HR
Status Date:	06/21/2002
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

AG137 **276 BROADWAY STREET** **US BROWNFIELDS** **1014948420**
WSW **276 BROADWAY STREET** **N/A**
1/4-1/2 **LOWELL, MA**
0.399 mi.
2109 ft. **Site 2 of 5 in cluster AG**

Relative:
Higher

Actual:
104 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	276 BROADWAY STREET
Property #:	Not reported
Parcel size:	1.6
Property Description:	stables, blacksmith shop, office space
Latitude:	42.643921
Longitude:	-71.319797
HCM label:	Address Matching-House Number
Map scale:	100000
Point of reference:	Entrance Point of a Facility or Station
Datum:	North American Datum of 1983
ACRES property ID:	12885
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported

276 BROADWAY STREET (Continued) **1014948420**

Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	99177901
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	No
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Y
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported

276 BROADWAY STREET (Continued) **1014948420**

Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

AH138 **COMP U TUNE FMR** **SHWS** **S101046995**
SE **205 CHURCH ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **LAST**
0.412 mi. **SPILLS**
2177 ft. **Site 1 of 2 in cluster AH** **RELEASE**
ENF
Relative: **HW GEN**
Lower

Actual: SHWS:
80 ft.

Release Tracking Number/Current Status:	3-0004664 / RAO
Release Town:	LOWELL
Notification Date:	06/07/1993
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/05/2012
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not

COMP U TUNE FMR (Continued) **S101046995**

been reduced to background.
Oil Or Haz Material: Oil
Location Type: AUTOREPAIR
Location Type: FORMER
Source: UNKNOWN
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: WASTE OIL
Quantity: Not reported

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/10/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 1/24/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 11/6/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/7/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 5/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/8/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

COMP U TUNE FMR (Continued) **S101046995**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/7/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 6/7/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/4/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/5/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/5/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0004664 / RAO
Status Date: 09/05/2012
Source Type: UST
Release Town: LOWELL
Notification Date: 06/07/1993

COMP U TUNE FMR (Continued) **S101046995**

Category:	NONE
Associated ID:	Not reported
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	AUTOREPAIR
Location Type:	FORMER
Source:	UNKNOWN
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	WASTE OIL
Quantity:	Not reported

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	1/10/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	1/24/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	ACO
Action Date:	11/6/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	5/7/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/8/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	5/8/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

COMP U TUNE FMR (Continued) **S101046995**

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/8/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/7/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 6/7/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/4/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/5/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/5/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LAST:
Release Tracking Number/Current Status: 3-0011311 / RAO

COMP U TUNE FMR (Continued) **S101046995**

Source Type: AST
Release Town: LOWELL
Notification Date: 07/15/1994
Category: TWO HR
Associated ID: Not reported
Status Date: 09/12/1994
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Chemicals:
Chemical: WASTE OIL
Quantity: 200 gallons
Chemical: WASTE OIL
Quantity: 150 gallons
Location Type: COMMERCIAL
Source: AST

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 7/15/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/12/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

COMP U TUNE FMR (Continued) **S101046995**

MA Spills:

Facility ID:	3-4664		Spill ID:	N93-0706
Staff Lead:	FAGAN, J		Date Entered:	19940127
Last Entered:	19940127		First Response:	19930526
Spill Date:	19930514		Spill Time:	Not reported
Report Date:	19930526		Report Time:	02:30PM
Case Closed:	YES		Mat Type:	HAZARDOUS
Virgin Waste:	WASTE		Contam Soil:	Not reported
Env Impact:	----------		Other Impact:	Not reported
Material:	OTHER MATERIAL	-->	Other Material:	WASTE OIL
Qty Reported:	----------		Qty Actual:	UNKNOWN
Qty Reported:	----------		Qty Actual:	----------
CAS No:	Not reported		PCB Lev (ppm):	UNKNOWN
Source:	PIPE/HOSE/LINE		Other Source:	Not reported
Incident:	LEAK		Other Incdnt:	Not reported
Cleanup Type:	Not reported		Contractor:	NOT USED
Referral:	SA		LUST Elig:	NO
Report Prep:	Not reported		Category:	Not reported
Notifier:	JOHN VALE/FD			
Notif Tel:	Not reported			
Days/Close:	0			

Release:

Release Tracking Number/Current Status:	3-0004664 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	06/07/1993
Category:	NONE
Status Date:	09/05/2012
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0011311 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	07/15/1994
Category:	TWO HR
Status Date:	09/12/1994
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC

COMP U TUNE FMR (Continued) **S101046995**

Program:	Not reported
Program Id:	3-0004664
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	08/04/2006
ENF #:	NON-NE-06-3A134
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0004664
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	11/06/2006
ENF #:	ACO-NE-06-3A028
Document Type:	ACO
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported

COMP U TUNE FMR (Continued) **S101046995**

Program Id: 3-0004664
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 05/08/2006
ENF #: Not reported
Document Type: IDL
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

Region: NERO
DEP Region: NERO
DEP Program: 3A
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0004664
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 01/24/2012
ENF #: NON-NE-12-3A005
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: T

HW GEN:
EPA Id: MV9782759502
RCRA Generator Status: Not reported
State Generator Status: SQG-MA

EPA Id: MV6175906611

COMP U TUNE FMR (Continued) **S101046995**

RCRA Generator Status: Not reported
State Generator Status: VQG-MA

AI139 **351 JACKSON STREET** **US BROWNFIELDS** **1016350339**
SSW **351 JACKSON STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01852** **ECHO**
0.413 mi.
2181 ft. **Site 1 of 4 in cluster AI**

Relative:
Higher

Actual:
89 ft.

US BROWNFIELDS:

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	351 JACKSON STREET
Property #:	1
Parcel size:	2.02
Property Description:	Property was site of former railroad round house. Now, unimporved dirt/partially paved lot to be redeveloped into Lowell Trial Court complex
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79941
Start date:	10/01/2007 00:00:00
Completed date:	01/23/2012 00:00:00
Acres cleaned up:	2.02
Cleanup funding:	40000
Cleanup funding source:	Local Funding
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	City of Lowell
Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97176101
Ownership entity:	Government
Current owner:	City of Lowell/DCAM state
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported

351 JACKSON STREET (Continued) **1016350339**

Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Y
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Y
Other contams found description:	arsenic
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	arsenic
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	.46
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	2.02
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	N
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported

351 JACKSON STREET (Continued) **1016350339**

Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

Recipient name:	Lowell, City of
Grant type:	Assessment
Property name:	351 JACKSON STREET
Property #:	1
Parcel size:	2.02
Property Description:	Property was site of former railroad round house. Now, unimporved dirt/partially paved lot to be redeveloped into Lowell Trial Court complex
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79941
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	65000
Assessment funding source:	US EPA - Brownfields Assessment Cooperative Agreement
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	EPA
Cleanup funding entity:	Not reported
Grant type:	Hazardous
Accomplishment type:	Cleanup Planning
Accomplishment count:	1
Cooperative agreement #:	97179801
Ownership entity:	Government
Current owner:	City of Lowell/DCAM state
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported

351 JACKSON STREET (Continued) **1016350339**

Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Y
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Y
Other contams found description:	arsenic
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	arsenic
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	.46
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	2.02
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	N
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported

351 JACKSON STREET (Continued) **1016350339**

Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

Recipient name:	Lowell, City of
Grant type:	Cleanup
Property name:	351 JACKSON STREET
Property #:	1
Parcel size:	2.02
Property Description:	Property was site of former railroad round house. Now, unimporved dirt/partially paved lot to be redeveloped into Lowell Trial Court complex
Latitude:	42.64147
Longitude:	-71.31387
HCM label:	Address Matching-House Number
Map scale:	1:24000
Point of reference:	Entrance Point of a Facility or Station
Datum:	World Geodetic System of 1984
ACRES property ID:	79941
Start date:	10/01/2007 00:00:00
Completed date:	01/23/2012 00:00:00
Acres cleaned up:	2.02
Cleanup funding:	200000
Cleanup funding source:	US EPA - Brownfields Cleanup Cooperative Agreement
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	EPA

351 JACKSON STREET (Continued) **1016350339**

Grant type:	Hazardous
Accomplishment type:	Not reported
Accomplishment count:	0
Cooperative agreement #:	97176101
Ownership entity:	Government
Current owner:	City of Lowell/DCAM state
Did owner change:	N
Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Y
Other cleaned up:	Y
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Y
Other contams found description:	arsenic
PAHs found:	Y
PAHs cleaned up:	Y
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	arsenic
Num. of cleanup and re-dev. jobs:	0
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported

351 JACKSON STREET (Continued) **1016350339**

Past use industrial acreage:	.46
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	2.02
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	N
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039062830

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to
electronically submit data directly to EPA.

ECHO:

Envid:	1016350339
Registry ID:	110039062830
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039062830

AI140 **NO LOCATION AID** **SHWS** **S108348091**
SSW **351 JACKSON ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852**
0.413 mi.
2181 ft. **Site 2 of 4 in cluster AI**

Relative:
Higher

Actual:
89 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026421 / RAO
Release Town:	LOWELL
Notification Date:	11/24/2006
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	01/23/2012
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	2-METHYLNAPHTHALENE
Quantity:	5.1 milligrams per kilogram
Chemical:	ARSENIC
Quantity:	220 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	16 milligrams per kilogram
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	520 milligrams per kilogram

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	1/23/2012
Response Action Outcome:	Not reported
Action Type:	SPECPR
Action Status:	Permit Extension Received
Action Date:	1/25/2010
Response Action Outcome:	Not reported
Action Type:	SPECPR
Action Status:	Permit Effective Date
Action Date:	1/9/2008
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	10/9/2007
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/24/2006
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S108348091**

Action Date: 11/24/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2006
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/3/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 3/30/2009
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 3/31/2009
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/1/2009
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 6/18/2009
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0026421 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/24/2006
Category: 120 DY
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AG141 **GASOLINE STATION** **SHWS** **S100830507**
WSW **FLETCHER STREET BROADWAY** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850**
0.413 mi.
2183 ft. **Site 3 of 5 in cluster AG**

Relative:
Higher

Actual:
105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001143 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	08/05/1996
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1990
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	10/2/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/5/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	An activity type that is related to an Audit
Action Status:	NOA
Action Date:	9/4/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0001143 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1990
Category:	NONE
Status Date:	08/05/1996

GASOLINE STATION (Continued) **S100830507**

Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

AH142 **CONSTRUCTION SITE** **SHWS** **S100831651**
SE **WARREN ST CHURCH ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **RELEASE**
0.419 mi. **ENF**
2212 ft. **Site 2 of 2 in cluster AH**

Relative:
Lower

Actual:
69 ft.

SHWS:
Release Tracking Number/Current Status: 3-0000356 / RAO
Release Town: LOWELL
Notification Date: 01/15/1987
Category: NONE
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 12/31/2010
Phase: PHASE IV
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: OPENSPACE
Source: UNCONTAIN
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: VOCS
Quantity: Not reported

Actions:
Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site

CONSTRUCTION SITE (Continued) **S100831651**

Action Date: 1/15/1987
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/8/1988
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 10/13/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/25/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 11/1/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 11/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 11/13/1990
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Level II - Audit Inspection
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/27/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

CONSTRUCTION SITE (Continued) **S100831651**

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 12/13/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 12/23/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/3/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/30/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 12/31/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/31/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/4/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/19/1986
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/22/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/19/2011

CONSTRUCTION SITE (Continued) **S100831651**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/2/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 4/20/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/19/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Level III - Comprehensive Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: Notice of Non-compliance related to an Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Action Status or AUL Terminated
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Partial RAO for this RTN
Action Status: Level III - Comprehensive Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 5/4/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 5/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

CONSTRUCTION SITE (Continued) **S100831651**

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/7/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 5/7/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: LSPFA
Action Date: 6/15/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVREC
Action Date: 8/18/1989

CONSTRUCTION SITE (Continued) **S100831651**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status: 3-0000070 / DEPNDS
Release Town: LOWELL
Notification Date: 01/10/1990
Category: NONE
Associated ID: Not reported
Current Status: **Not a Disposal Site (DEP)**
Status Date: 07/23/1993
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/10/1990
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: DEPNDS
Action Date: 7/23/1993
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0000356 / RAO
Status Date: 12/31/2010
Source Type: UST
Release Town: LOWELL
Notification Date: 01/15/1987
Category: NONE
Associated ID: Not reported
Phase: PHASE IV
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: OPENSPACE
Source: UNCONTAIN
Source: UST

Click here to access the MA DEP site for this facility:

CONSTRUCTION SITE (Continued) **S100831651**

Chemicals:
Chemical: VOCS
Quantity: Not reported

Actions:
Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1987
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/8/1988
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 10/13/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/25/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 11/1/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 11/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CONSTRUCTION SITE (Continued) **S100831651**

reduced to background.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 11/13/1990
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Level II - Audit Inspection
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/27/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 12/13/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 12/23/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/3/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/30/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 12/31/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO

CONSTRUCTION SITE (Continued) **S100831651**

Action Status: RAO Statement Received
Action Date: 12/31/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/4/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/19/1986
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/22/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/19/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/2/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 4/20/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/19/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Downgradient Property Status
Action Status: Level III - Comprehensive Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: Notice of Non-compliance related to an Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CONSTRUCTION SITE (Continued) **S100831651**

reduced to background.

Action Type: Downgradient Property Status
Action Status: Action Status or AUL Terminated
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Partial RAO for this RTN
Action Status: Level III - Comprehensive Audit
Action Date: 5/26/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 5/4/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 5/6/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/7/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 5/7/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: LSPFA
Action Date: 6/15/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1

CONSTRUCTION SITE (Continued) **S100831651**

Action Status: Completion Statement Received
Action Date: 6/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/17/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVREC
Action Date: 8/18/1989
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0000070 / DEPNDS
Primary ID: Not reported
Official City: LOWELL
Notification: 01/10/1990
Category: NONE
Status Date: 07/23/1993
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0000356 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1987
Category: NONE
Status Date: 12/31/2010
Phase: PHASE IV
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

CONSTRUCTION SITE (Continued) **S100831651**

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0000356
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	05/26/2009
ENF #:	NON-NE-09-3A040
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0000356
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	08/17/2010
ENF #:	ACOP-NE-10-3A027
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	08/08/2011
ACOP $:	5000
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported

CONSTRUCTION SITE (Continued) **S100831651**

Suspended $: Not reported
Ownership: Commercially Owned

AJ143 **LOWELL HOUSING AUTHORITY** **LUST** **1001315918**
SW **ADAMS ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850**
0.419 mi.
2214 ft. **Site 1 of 2 in cluster AJ**

Relative:
Higher

Actual:
107 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0000573 / PENNFA
Status Date:	12/17/1993
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	RESIDNTIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	Level I - Technical Screen Audit
Action Date:	1/31/2012
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	PENNFA
Action Date:	12/17/1993
Response Action Outcome:	Not reported
Action Type:	An activity type that is related to an Audit
Action Status:	NAFVIO
Action Date:	5/23/1996
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	5/23/1996

LOWELL HOUSING AUTHORITY (Continued) **1001315918**

Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000573 / PENNFA
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1987
Category: NONE
Status Date: 12/17/1993
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

AF144 **450 AIKEN ST LELACHEUR PARK** **US BROWNFIELDS** **1016351800**
NW **450 AIKEN STREET** **FINDS** **N/A**
1/4-1/2 **LOWELL, MA 01854** **ECHO**
0.420 mi.
2220 ft. **Site 2 of 2 in cluster AF**

Relative:
Lower

Actual:
74 ft.

US BROWNFIELDS:
Recipient name: Lowell, City of
Grant type: Assessment
Property name: 450 AIKEN ST [LELACHEUR PARK]
Property #: Not reported
Parcel size: 1
Property Description: Not reported
Latitude: 42.645882
Longitude: -71.31282
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 12897
Start date: 03/31/1998 00:00:00
Completed date: 03/31/1998 00:00:00
Acres cleaned up: Not reported
Cleanup funding: 1000000
Cleanup funding source: Private/Other Funding
Assessment funding: Not reported
Assessment funding source: Not reported
Redevelopment funding: 10200000
Redev. funding source: Other Federal Funding
Redev. funding entity name: Not reported
Redevelopment start date: 09/01/1996 00:00:00
Assessment funding entity: Not reported
Cleanup funding entity: Not reported
Grant type: Hazardous
Accomplishment type: Phase I Environmental Assessment
Accomplishment count: 0
Cooperative agreement #: 99177901
Ownership entity: Not reported
Current owner: Not reported
Did owner change: Not reported

450 AIKEN ST LELACHEUR PARK (Continued) **1016351800**

Cleanup required:	Yes
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	U
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Not reported
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Y
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	110
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported

450 AIKEN ST LELACHEUR PARK (Continued) **1016351800**

Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

FINDS:

Registry ID: 110039541225

Environmental Interest/Information System
US EPA Assessment, Cleanup and Redevelopment Exchange System (ACRES)
is an federal online database for Brownfields Grantees to
electronically submit data directly to EPA.

ECHO:

Envid:	1016351800
Registry ID:	110039541225
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110039541225

AG145 **CITY OF LOWELL DPW** **SHWS** **S103812149**
WSW **261 AND 295 BROADWAY ST** **LUST** **N/A**
1/4-1/2 **LOWELL, MA 01853** **RELEASE**
0.421 mi.
2222 ft. **Site 4 of 5 in cluster AG**

Relative:
Higher

Actual:
107 ft.

SHWS:

Release Tracking Number/Current Status:	3-0013249 / RAO
Release Town:	LOWELL
Notification Date:	12/11/1995
Category:	120 DY
Associated ID:	3-0013249
Current Status:	**Response Action Outcome**
Status Date:	03/23/2007
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZENE
Quantity:	5380 parts per billion
Chemical:	BENZO[A]ANTHRACENE
Quantity:	7.4 parts per million
Chemical:	BENZO[A]PYRENE
Quantity:	3.6 parts per million
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	4 parts per million
Chemical:	1,3,5-TRIMETHYL BENZENE
Quantity:	17.5 parts per million
Chemical:	LEAD
Quantity:	6.4 parts per million
Chemical:	CHRYSENE
Quantity:	10 parts per million
Chemical:	ETHYLBENZENE
Quantity:	159 parts per million
Chemical:	TPH
Quantity:	7800 parts per million
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	3.1 parts per million
Chemical:	XYLENE
Quantity:	6310 parts per billion
Chemical:	BENZO(K)FLUORANTHENE
Quantity:	2.7 parts per million
Chemical:	NAPHTHALENE
Quantity:	12 parts per million
Chemical:	2-METHYLNAPHTHALENE
Quantity:	12 parts per million
Chemical:	TOLUENE
Quantity:	9130 parts per billion

Actions:

Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/17/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

CITY OF LOWELL DPW (Continued) **S103812149**

reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/18/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 1/22/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 1/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 1/30/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 1/30/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/30/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 1/5/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 10/16/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 11/16/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4

CITY OF LOWELL DPW (Continued) **S103812149**

Action Status: Level II - Audit Inspection
Action Date: 11/21/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/11/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/11/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/11/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/11/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 1B Classification
Action Date: 12/11/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/28/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/13/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 2/3/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CITY OF LOWELL DPW (Continued) **S103812149**

reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Completion Statement Received
Action Date: 3/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Action Status or AUL Terminated
Action Date: 3/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 3/27/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 3/6/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 3/6/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 3/7/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 1C Classification
Action Date: 4/1/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: DEP Disagrees with Classification
Action Date: 4/1/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification

CITY OF LOWELL DPW (Continued) **S103812149**

Action Status: Permit Effective Date
Action Date: 4/1/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 4/25/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 4/3/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/25/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TAG
Action Status: GRNTEX
Action Date: 6/30/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TAG
Action Status: GRNTST
Action Date: 7/1/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Level II - Audit Inspection
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Permit Effective Date
Action Date: 7/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 7/24/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CITY OF LOWELL DPW (Continued) **S103812149**

reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 7/26/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 7/29/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 7/5/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 8/1/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/15/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 8/23/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 8/26/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 8/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/29/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3

CITY OF LOWELL DPW (Continued) **S103812149**

Action Status: Completion Statement Received
Action Date: 8/3/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 8/30/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 9/12/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BWS02
Action Status: APPROV
Action Date: Not reported
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BWS20
Action Status: APPROV
Action Date: Not reported
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0018083 / DEPNFA
Status Date: 03/23/2007
Source Type: UST
Release Town: LOWELL
Notification Date: 01/04/1996
Category: 120 DY
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TOLUENE
Quantity: 9.1 milligrams per liter
Chemical: BENZENE
Quantity: 5.4 milligrams per liter

CITY OF LOWELL DPW (Continued) **S103812149**

Actions:

Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	1/24/2012
Response Action Outcome:	Not reported
Action Type:	Downgradient Property Status
Action Status:	Action Status or AUL Terminated
Action Date:	1/25/1999
Response Action Outcome:	Not reported
Action Type:	Downgradient Property Status
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/4/1996
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/4/1996
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	DEPNFA
Action Date:	3/23/2007
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0013249 / RAO
Primary ID:	3-0013249
Official City:	LOWELL
Notification:	12/11/1995
Category:	120 DY
Status Date:	03/23/2007
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0018083 / DEPNFA
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/04/1996
Category:	120 DY
Status Date:	03/23/2007
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

AG146 **NO LOCATION AID** **SHWS** **S102086318**
WSW **297-299 BROADWAY** **LUST** **N/A**
1/4-1/2 **LOWELL, MA** **RELEASE**
0.422 mi.
2226 ft. **Site 5 of 5 in cluster AG**

Relative:
Higher

Actual:
107 ft.

SHWS:

Release Tracking Number/Current Status:	3-0011986 / RAO
Release Town:	LOWELL
Notification Date:	12/21/1994
Category:	72 HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	12/21/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	PIPE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/13/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/25/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	10/2/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	An activity type that is related to an Audit
Action Status:	NAFNVD
Action Date:	10/2/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	11/7/1995
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S102086318**

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 12/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 12/26/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/17/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 2/17/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 2/27/1995

NO LOCATION AID (Continued) **S102086318**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 8/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 9/4/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 9/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0011986 / RAO
Status Date: 12/21/1995
Source Type: UST
Release Town: LOWELL
Notification Date: 12/21/1994
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: PIPE

NO LOCATION AID (Continued) **S102086318**

Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/13/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/25/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 10/2/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 10/2/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 11/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 12/21/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S102086318**

reduced to background.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 12/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 12/26/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/17/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 2/17/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 2/27/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/21/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 8/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit

NO LOCATION AID (Continued) **S102086318**

Action Status:	NOA
Action Date:	9/4/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FLDRUN
Action Date:	9/5/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FLDRAN
Action Date:	9/5/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLFLD
Action Date:	9/5/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0011986 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	12/21/1994
Category:	72 HR
Status Date:	12/21/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

AI147 **HAMILTON CANAL DISTRICT** **SHWS** **S108962765**
SSW **JACKSON MIDDLESEX AND KING STS** **LUST** **N/A**
1/4-1/2 **LOWELL, MA** **BROWNFIELDS**
0.425 mi. **RELEASE**
2245 ft. **Site 3 of 4 in cluster AI**

Relative:
Higher

Actual:
92 ft.

SHWS:

Release Tracking Number/Current Status:	3-0027400 / RAO
Release Town:	LOWELL
Notification Date:	12/03/2007
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	01/23/2012
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material

HAMILTON CANAL DISTRICT (Continued) **S108962765**

Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source:	HISTORIC
Source:	OPERATION
Source:	UST
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	SVOCS
Quantity:	Not reported
Chemical:	METALS
Quantity:	Not reported
Chemical:	LEAD
Quantity:	Not reported
Chemical:	VPH
Quantity:	Not reported
Chemical:	EPH
Quantity:	Not reported
Chemical:	VOCS
Quantity:	Not reported

Actions:

Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	1/23/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	1/23/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	SPECPR
Action Status:	Permit Extension Received
Action Date:	1/25/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	SPECPR
Action Status:	Permit Effective Date
Action Date:	1/9/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	10/1/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	SPECPR
Action Status:	Transmittal, Notice, or Notification Received

HAMILTON CANAL DISTRICT (Continued) **S108962765**

Action Date: 12/3/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/3/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/16/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 3/30/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 3/31/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/1/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 6/18/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/22/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BWS50
Action Status: APPROV
Action Date: Not reported
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

HAMILTON CANAL DISTRICT (Continued) **S108962765**

LUST:

Facility:

Release Tracking Number/Current Status:	3-0027400 / RAO
Status Date:	01/23/2012
Source Type:	UST
Release Town:	LOWELL
Notification Date:	12/03/2007
Category:	120 DY
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	COMMERCIAL
Location Type:	INDUSTRIAL
Source:	HISTORIC
Source:	OPERATION
Source:	UST
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	SVOCS
Quantity:	Not reported
Chemical:	METALS
Quantity:	Not reported
Chemical:	LEAD
Quantity:	Not reported
Chemical:	VPH
Quantity:	Not reported
Chemical:	EPH
Quantity:	Not reported
Chemical:	VOCS
Quantity:	Not reported

Actions:

Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	1/23/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	1/23/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	SPECPR
Action Status:	Permit Extension Received
Action Date:	1/25/2010
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been

HAMILTON CANAL DISTRICT (Continued) **S108962765**

reduced to background.

Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/9/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 10/1/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/3/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/3/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/16/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 3/30/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 3/31/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/1/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure

HAMILTON CANAL DISTRICT (Continued) **S108962765**

Action Status: Completion Statement Received
Action Date: 6/18/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/22/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: BWS50
Action Status: APPROV
Action Date: Not reported
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

BROWNFIELDS 2:
RTN: 3-0027400
RAO Class: A2
Other RTNs: Not reported
Current Owner: City of Lowell / Commonwelth of Mass
MCP Status: RAO
AUL: No
COCs: EPH, Lead, Metals, SVOCs, VOCs, VPH
Former Use: Commercial, Industrial
Current Use: Not reported
Total Acreage: 4.22

Release:
Release Tracking Number/Current Status: 3-0027400 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/03/2007
Category: 120 DY
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AJ148 **NO LOCATION AID** **SHWS** **S107678264**
SW **36 ADAMS ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01854**
0.428 mi.
2260 ft. **Site 2 of 2 in cluster AJ**

Relative:
Higher

Actual:
105 ft.

SHWS:
Release Tracking Number/Current Status: 3-0025796 / RAO
Release Town: LOWELL
Notification Date: 03/31/2006
Category: 120 DY
Associated ID: Not reported

NO LOCATION AID (Continued) **S107678264**

Current Status:	**Response Action Outcome**
Status Date:	03/31/2006
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	359 milligrams per kilogram
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	361 milligrams per kilogram

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/31/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/31/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/31/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0025796 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/31/2006
Category:	120 DY
Status Date:	03/31/2006
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

AK149 **ST JOHNS PROPERTY** **LUST** **S105199566**
East **EAST MERRIMAC ST NESMITH ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01850**
0.430 mi.
2273 ft. **Site 1 of 2 in cluster AK**

Relative:
Lower

Actual:
78 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0002928 / RAO
Status Date:	07/30/1996
Source Type:	UST
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	FORMER
Location Type:	APARTMENT
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1990
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FLDRUN
Action Date:	1/23/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	1/27/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	Revised Statement or Transmittal Received
Action Date:	5/19/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	An activity type that is related to an Audit
Action Status:	NAFVIO

ST JOHNS PROPERTY (Continued) **S105199566**

Action Date: 5/23/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: RAOEQ
Action Date: 7/30/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0002928 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 07/30/1996
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AK150 **SAINTS MEMORIAL MEDICAL CENTER** **LUST** **S103811673**
East **HOSPITAL DR** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01853** **ENF**
0.442 mi.
2334 ft. **Site 2 of 2 in cluster AK**

Relative:
Lower

Actual:
80 ft.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0013635 / RAO
Status Date: 04/10/1997
Source Type: UST
Release Town: LOWELL
Notification Date: 04/05/1996
Category: 120 DY
Associated ID: Not reported
Phase: PHASE IV
Response Action Outcome: TN - TN
Oil Or Haz Material: Oil

Location Type: HOSPITAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TPH
Quantity: Not reported
Chemical: #6 FUEL OIL

SAINTS MEMORIAL MEDICAL CENTER (Continued) **S103811673**

Quantity: Not reported

Actions:

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 10/23/2009
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 10/7/2009
Response Action Outcome: TN

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 2/1/2016
Response Action Outcome: TN

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 2/26/2016
Response Action Outcome: TN

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 4/10/1997
Response Action Outcome: TN

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 4/10/1997
Response Action Outcome: TN

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 4/10/1997
Response Action Outcome: TN

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/10/1997
Response Action Outcome: TN

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/11/1997
Response Action Outcome: TN

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/16/1996
Response Action Outcome: TN

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/5/1996
Response Action Outcome: TN

SAINTS MEMORIAL MEDICAL CENTER (Continued) **S103811673**

Action Type: Release Abatement Measure
Action Status: Oral Approval of Plan or Action
Action Date: 4/5/1996
Response Action Outcome: TN

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/8/1996
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Oral Approval of Plan or Action
Action Date: 5/8/1996
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/1/2009
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 6/3/2009
Response Action Outcome: TN

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/4/1996
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 6/4/1996
Response Action Outcome: TN

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 6/6/1996
Response Action Outcome: TN

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/31/2009
Response Action Outcome: TN

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 9/1/2015
Response Action Outcome: TN

Release:
Release Tracking Number/Current Status: 3-0013635 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/05/1996
Category: 120 DY

SAINTS MEMORIAL MEDICAL CENTER (Continued) **S103811673**

Status Date:	04/10/1997
Phase:	PHASE IV
Response Action Outcome:	TN - TN
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3R
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0013635
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	02/01/2016
ENF #:	NON-NE-15-3R044
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3R
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0013635
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	09/01/2015
ENF #:	NON-NE-15-3R044
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported

SAINTS MEMORIAL MEDICAL CENTER (Continued) **S103811673**

EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0013635
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	08/31/2009
ENF #:	NON-NE-09-3A072
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

AI151 **NO LOCATION AID** **SHWS** **S108640615**
SSW **6 KING ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01852**
0.449 mi.
2373 ft. **Site 4 of 4 in cluster AI**

Relative:
Higher

Actual:
100 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026844 / RAO
Release Town:	LOWELL
Notification Date:	05/18/2007
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	01/23/2012
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S108640615**

Chemicals:
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 290 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/23/2012
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Extension Received
Action Date: 1/25/2010
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/9/2008
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/3/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/18/2007
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/18/2007
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/14/2007
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0026844 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/18/2007
Category: 120 DY
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

152
SSW
1/4-1/2
0.451 mi.
2379 ft.

NO LOCATION AID
323 MIDDLESEX ST
LOWELL, MA 01852

SHWS **S105125021**
RELEASE **N/A**

Relative:
Higher

Actual:
103 ft.

SHWS:

Release Tracking Number/Current Status:	3-0020780 / RAO
Release Town:	LOWELL
Notification Date:	05/15/2001
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/15/2001
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[B]FLUORANTHENE
Quantity:	3.2 micrograms per gallon
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	2.3 micrograms per gallon
Chemical:	BENZO[A]PYRENE
Quantity:	3 micrograms per gallon
Chemical:	BENZO[A]ANTHRACENE
Quantity:	3.5 micrograms per gallon

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/15/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	5/15/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	5/15/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0020780 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/15/2001
Category:	120 DY
Status Date:	11/15/2001

NO LOCATION AID (Continued) **S105125021**

Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

153
North
1/4-1/2
0.455 mi.
2403 ft.

Relative:
Lower

Actual:
73 ft.

LOWELL HOUSING AUTH **LUST S103249998**
572-610 LAKEVIEW AVE **RELEASE N/A**
LOWELL, MA 01853

LUST:

Facility:
Release Tracking Number/Current Status: 3-0016801 / RAO
Status Date: 09/22/1998
Source Type: UST
Release Town: LOWELL
Notification Date: 05/15/1998
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: RESIDNTIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: FUEL OIL #2
Quantity: 155 parts per million
Chemical: #2 FUEL OIL
Quantity: 155 parts per million

Actions:
Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 10/8/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/15/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/15/1998

LOWELL HOUSING AUTH (Continued) **S103249998**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/17/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/22/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/22/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0016801 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/15/1998
Category: 72 HR
Status Date: 09/22/1998
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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154 **ADVANCED HEAT TREATMENT** **SHWS** **S106617546**
SW **1 CUSHING ST** **RELEASE** **N/A**
1/4-1/2 **LOWELL, MA 01851**
0.455 mi.
2405 ft.

Relative:
Higher

Actual:
98 ft.

SHWS:
Release Tracking Number/Current Status: 3-0024198 / RAO
Release Town: LOWELL
Notification Date: 08/30/2004
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 10/29/2004
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Not reported
Location Type: COMMERCIAL
Source: PIPE

ADVANCED HEAT TREATMENT (Continued) **S106617546**

Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC OIL
Quantity: 12 gallons

Actions:
Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/29/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/29/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 8/30/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/30/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/30/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/17/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0024198 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 08/30/2004
Category: TWO HR
Status Date: 10/29/2004
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

ADVANCED HEAT TREATMENT (Continued) **S106617546**

Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

155
NNE
1/4-1/2
0.461 mi.
2432 ft.

CORNER OF WEST ST **LUST** **S103546118**
163 WEST SIXTH ST **RELEASE** **N/A**
LOWELL, MA 01850

Relative:
Lower

Actual:
76 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0017256 / RAO
Status Date:	10/29/1998
Source Type:	UST
Release Town:	LOWELL
Notification Date:	09/04/1998
Category:	72 HR
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	RESIDNTIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	FUEL OIL #2
Quantity:	2500 parts per million
Chemical:	#2 FUEL OIL
Quantity:	2500 parts per million

Actions:

Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	10/29/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	10/29/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/29/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

CORNER OF WEST ST (Continued) **S103546118**

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	10/9/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	9/4/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	9/4/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0017256 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	09/04/1998
Category:	72 HR
Status Date:	10/29/1998
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

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156 **FORMER DEMERS SHELL STATION** **SHWS** **U003000242**
NE **550 BRIDGE ST** **UST** **N/A**
1/4-1/2 **LOWELL, MA 01850** **RELEASE**
0.462 mi. **Financial Assurance**
2439 ft.

Relative:
Higher

Actual:
92 ft.

SHWS:

Release Tracking Number/Current Status:	3-0011238 / RAO
Release Town:	LOWELL
Notification Date:	07/07/1994
Category:	72 HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/28/1996
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Chemicals:
Chemical: #2 FUEL OIL
Quantity: 6.3 inches
Chemical: GASOLINE
Quantity: 7.5 inches

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/3/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 1/3/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 1/31/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 10/14/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 12/2/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/29/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 6/5/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/13/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Legal Notice Published

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Action Date: 7/14/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 7/16/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 7/18/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/22/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/7/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/7/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 7/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 7/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/7/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 9/1/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Action Type:	Immediate Response Action
Action Status:	Written Approval of Plan
Action Date:	9/12/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	9/28/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

UST:

Facility:

Facility ID:	10160
Owner Id:	9050
Owner:	ANDREW F CONWAY
Owner Address:	Not reported
Owner City,St,Zip:	CHELMSFORD, MA 01824
Telephone:	Not reported
Description:	Retail Motor Vehicle Fuel
Facility address 2:	Not reported
Owner address 2:	PO BOX 189
Latitude:	42.65240
Longitude:	-71.30283
Contact name:	Not reported
Contact address1:	Not reported
Contact address2:	Not reported
Contact city:	Not reported
Contact state:	Not reported
Contact zip:	Not reported
Contact email:	Not reported
Update:	2003-02-24 00:00:00
Update by:	Not reported
Fac status:	CLOSED

Tank ID:	1
Tank Status:	**Tank Removed**
Status Date:	05/01/1990
Date Installed:	05/01/1970
Capacity:	3000.00000
Contents:	Gasoline
Tank Usage:	Not reported
Tank Leak Detection:	Not reported
Pipe Leak Detection:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Tank construct:	Not reported
Pipe construct:	Not reported
Ptype:	Not reported
Number of compartment:	Not reported
Pipe install date:	Not reported
Pipe leak install date:	Not reported
Submersible sump:	N

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 10
Tank Status: Tank Removed
Status Date: 10/04/2001
Date Installed: 01/01/1990
Capacity: 1000.00000
Contents: Bulk Heati
Tank Usage: Not reported
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 05/01/1990
Date Installed: 05/01/1970
Capacity: 4000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: **Tank Removed**
Status Date: 05/01/1990
Date Installed: 05/01/1970
Capacity: 8000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 4
Tank Status: **Tank Removed**
Status Date: 05/01/1990
Date Installed: 05/02/1983

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Capacity: 10000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 5
Tank Status: Tank Removed
Status Date: 05/01/1990
Date Installed: 05/01/1956
Capacity: 500.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Leak corrosion type: Not reported

Tank ID: 6
Tank Status: Tank Removed
Status Date: 10/04/2001
Date Installed: 01/01/1990
Capacity: 12000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 7
Tank Status: Tank Removed
Status Date: 10/04/2001
Date Installed: 01/01/1990
Capacity: 12000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 8
Tank Status: Tank Removed
Status Date: 10/04/2001
Date Installed: 01/01/1990
Capacity: 12000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Continuous Interstitial Space Monitoring
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 9
Tank Status: Tank Removed
Status Date: 10/04/2001
Date Installed: 01/01/1990
Capacity: 1000.00000
Contents: Waste Oil
Tank Usage: Not reported
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported

FORMER DEMERS SHELL STATION (Continued) **U003000242**

Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0011238 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/07/1994
Category: 72 HR
Status Date: 09/28/1996
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

MA Financial Assurance 2:
Facility Id: 10160
Description: Gas Station
Work Phone: (978) 454-0204

157
East
1/4-1/2
0.468 mi.
2471 ft.

HUNT FALLS ROTARY **SHWS** **S106617481**
RTE 110 AND RTE 138 **RELEASE** **N/A**
LOWELL, MA 01850

Relative:
Lower

Actual:
78 ft.

SHWS:
Release Tracking Number/Current Status: 3-0024080 / RAO
Release Town: LOWELL
Notification Date: 07/27/2004
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 09/23/2004
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: VEHICLE

HUNT FALLS ROTARY (Continued) **S106617481**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 100 gallons

Actions:
Action Type: RLFA
Action Status: FLDD1U
Action Date: 7/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 7/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/23/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

HUNT FALLS ROTARY (Continued) **S106617481**

Release:
- Release Tracking Number/Current Status: 3-0024080 / RAO
- Primary ID: Not reported
- Official City: LOWELL
- Notification: 07/27/2004
- Category: TWO HR
- Status Date: 09/23/2004
- Phase: Not reported
- Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
- Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

158
SSE
1/4-1/2
0.470 mi.
2483 ft.

CASASOLA CORP **LUST** **S105736255**
37 CHARLES ST **RELEASE** **N/A**
LOWELL, MA 01850 **HW GEN**

Relative: Higher

Actual: 95 ft.

LUST:

Facility:
- Release Tracking Number/Current Status: 3-0022355 / RAO
- Status Date: 12/03/2003
- Source Type: UST
- Release Town: LOWELL
- Notification Date: 11/29/2002
- Category: 72 HR
- Associated ID: Not reported
- Phase: Not reported
- Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
- Oil Or Haz Material: Oil

Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
- Chemical: FUEL OIL #2
- Quantity: 154 parts per million
- Chemical: FUEL OIL #2
- Quantity: 150 parts per million

Actions:
- Action Type: Immediate Response Action
- Action Status: Oral Approval of Plan or Action
- Action Date: 11/29/2002
- Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

- Action Type: Release Disposition
- Action Status: Reportable Release under MGL 21E
- Action Date: 11/29/2002

CASASOLA CORP (Continued) **S105736255**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 12/3/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/3/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 3/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/13/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 3/13/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/1/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 9/4/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0022355 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/29/2002

CASASOLA CORP (Continued) **S105736255**

Category: 72 HR
Status Date: 12/03/2003
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

HW GEN:
EPA Id: MV9784419419
RCRA Generator Status: VSQG
State Generator Status: SQG-MA

EPA Id: MV9784540097
RCRA Generator Status: Not reported
State Generator Status: SQG-MA

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159 NO LOCATION AID **SHWS S108858973**
SSE 179 CHARLES ST **RELEASE N/A**
1/4-1/2 LOWELL, MA 01852
0.476 mi.
2512 ft.

Relative: Higher

Actual: 92 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026979 / RAO
Release Town: LOWELL
Notification Date: 07/31/2007
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/24/2007
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: SADDLTANK
Source: 80GALLON
Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 60 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA

NO LOCATION AID (Continued) **S108858973**

Action Status: FOLOFF
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/31/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/24/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/24/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0026979 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/31/2007
Category: TWO HR
Status Date: 08/24/2007
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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160 NNE 1/4-1/2 0.478 mi. 2525 ft. **RESIDENCE** **SHWS S103546320**
125 COBURN ST **RELEASE N/A**
LOWELL, MA 01850

Relative: Lower

Actual: 88 ft.

SHWS:
Release Tracking Number/Current Status: 3-0017577 / RAO
Release Town: LOWELL
Notification Date: 11/13/1998
Category: TWO HR
Associated ID: Not reported

RESIDENCE (Continued) **S103546320**

Current Status:	**Response Action Outcome**
Status Date:	09/02/1999
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	RESIDNTIAL
Source:	TANKER

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	#2 FUEL OIL
Quantity:	281 gallons
Chemical:	FUEL OIL #2
Quantity:	200 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	1/12/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/12/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	11/13/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/13/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	11/14/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of a Modified Plan
Action Date:	11/14/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of a Modified Plan

RESIDENCE (Continued) **S103546320**

Action Date: 11/17/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/17/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/9/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 4/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/2/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/2/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 9/8/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0017577 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/13/1998
Category: TWO HR
Status Date: 09/02/1999
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

161
WSW
1/4-1/2
0.481 mi.
2538 ft.

NO LOCATION AID
297 TO 299 BROADWAY ST
LOWELL, MA 01853

SHWS **S104000502**
RELEASE **N/A**

Relative:
Higher

Actual:
111 ft.

SHWS:

Release Tracking Number/Current Status:	3-0018409 / RAONR
Release Town:	LOWELL
Notification Date:	06/11/1999
Category:	120 DY
Associated ID:	3-0013249
Current Status:	**Response Action Outcome Not Required**
Status Date:	01/05/2000
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C9 THRU C12 ALIPHATIC HYDROCARBONS
Quantity:	24000 micrograms per liter
Chemical:	C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity:	19000 micrograms per liter
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	7600 micrograms per liter

Actions:

Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	1/5/2000
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	1/5/2000
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 1B Classification
Action Date:	12/11/1995
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	12/11/1995
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Permit Extension Received
Action Date:	3/7/2001
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 1C Classification
Action Date:	4/1/1996
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S104000502**

Action Type:	Tier Classification
Action Status:	DEP Disagrees with Classification
Action Date:	4/1/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Permit Effective Date
Action Date:	4/1/1996
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	6/11/1999
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	6/11/1999
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Permit Effective Date
Action Date:	7/2/2001
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	7/9/1999
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0018409 / RAONR
Primary ID:	3-0013249
Official City:	LOWELL
Notification:	06/11/1999
Category:	120 DY
Status Date:	01/05/2000
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

162
NW
1/4-1/2
0.493 mi.
2601 ft.

UNIV MA LOWELL **LUST S102967413**
86 PAWTUCKET ST **RELEASE N/A**
LOWELL, MA 01854

Relative:
Lower

Actual:
88 ft.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0015717 / RAO
Status Date:	01/13/1998
Source Type:	UST
Release Town:	LOWELL

UNIV MA LOWELL (Continued) **S102967413**

Notification Date: 11/14/1997
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Not reported

Location Type: STATE
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL
Quantity: .5 gallons per hour
Chemical: DIESEL
Quantity: Not reported

Actions:
Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/13/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/13/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/22/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 11/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/14/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0015717 / RAO
Primary ID: Not reported
Official City: LOWELL

UNIV MA LOWELL (Continued) **S102967413**

Notification: 11/14/1997
Category: 72 HR
Status Date: 01/13/1998
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

163
SE
1/4-1/2
0.495 mi.
2615 ft.

NO LOCATION AID **SHWS S108962823**
14-16 PERRY ST **RELEASE N/A**
LOWELL, MA 01852

Relative:
Lower

Actual:
80 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027273 / RAO
Release Town: LOWELL
Notification Date: 11/21/2007
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 12/07/2007
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: CADMIUM
Quantity: 3.88 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/28/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/21/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/21/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received

NO LOCATION AID (Continued) **S108962823**

Action Date: 12/7/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0027273 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/21/2007
Category: 120 DY
Status Date: 12/07/2007
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AL164 **NO LOCATION AID** **SHWS S108348092**
SSW **379 MIDDLESEX ST** **RELEASE N/A**
1/4-1/2 **LOWELL, MA 01852**
0.498 mi.
2630 ft. **Site 1 of 2 in cluster AL**

Relative: Higher

Actual: 113 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026426 / RAO
Release Town: LOWELL
Notification Date: 11/24/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity: 2200 milligrams per kilogram
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 10 milligrams per liter
Chemical: XYLENE
Quantity: 8.5 milligrams per liter
Chemical: 1,3,5-TRIMETHYL BENZENE
Quantity: 230 milligrams per kilogram
Chemical: 2-METHYLNAPHTHALENE
Quantity: 57 milligrams per kilogram
Chemical: NAPHTHALENE
Quantity: 170 milligrams per kilogram
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 2100 milligrams per kilogram
Chemical: ETHYLBENZENE

NO LOCATION AID (Continued) **S108348092**

Quantity: 84 milligrams per kilogram
Chemical: XYLENE
Quantity: 660 milligrams per kilogram
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 900 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 610 milligrams per kilogram
Chemical: C9 THRU C12 ALIPHATIC HYDROCARBONS
Quantity: 3.5 milligrams per liter
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 1.2 milligrams per liter

Actions:

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 1/23/2012
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/23/2012
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Extension Received
Action Date: 1/25/2010
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/9/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 10/1/2010
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2006
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/3/2007
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S108348092**

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/16/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/18/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 6/7/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/22/2010
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0026426 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/24/2006
Category: 120 DY
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AL165 **NO LOCATION AID** **SHWS** **S108348093**
SSW **389 MIDDLESEX ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.503 mi.
2657 ft. **Site 2 of 2 in cluster AL**

Relative:
Higher

Actual:
114 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026425 / RAO
Release Town: LOWELL
Notification Date: 11/24/2006
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/23/2012
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S108348093**

Chemicals:
Chemical: NICKEL
Quantity: 30 milligrams per kilogram
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 210 milligrams per kilogram
Chemical: CHROMIUM
Quantity: 35 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/23/2012
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Extension Received
Action Date: 1/25/2010
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Permit Effective Date
Action Date: 1/9/2008
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 10/9/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/24/2006
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2006
Response Action Outcome: Not reported

Action Type: SPECPR
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/3/2007
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0026425 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/24/2006
Category: 120 DY
Status Date: 01/23/2012

NO LOCATION AID (Continued) **S108348093**

Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AM166 **NO LOCATION AID** **SHWS** **S111411886**
SW **49-55 ROCK ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854**
0.506 mi.
2674 ft. **Site 1 of 2 in cluster AM**

Relative: Higher

Actual: 119 ft.

SHWS:
Release Tracking Number/Current Status: 3-0030533 / RAO
Release Town: LOWELL
Notification Date: 01/03/2012
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/10/2012
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]ANTHRACENE
Quantity: 9.3 milligrams per kilogram
Chemical: CHROMIUM
Quantity: 65 milligrams per kilogram
Chemical: NICKEL
Quantity: 46 milligrams per kilogram
Chemical: 2-METHYLNAPHTHALENE
Quantity: 1.1 milligrams per kilogram
Chemical: PHENANTHRENE
Quantity: 22 milligrams per kilogram
Chemical: BENZO[B]FLUORANTHENE
Quantity: 12 milligrams per kilogram
Chemical: DIBENZ[A,H]ANTHRACENE
Quantity: 1.7 milligrams per kilogram
Chemical: BENZO[A]PYRENE
Quantity: 7.4 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/20/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/3/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No

NO LOCATION AID (Continued) **S111411886**

Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/3/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/3/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/10/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 9/7/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0030533 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/03/2012
Category: 120 DY
Status Date: 07/10/2012
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AM167 **COMMERCIAL PROPERTY** **SHWS** **S100363018**
SW **55 ROCK ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01850**
0.513 mi.
2709 ft. **Site 2 of 2 in cluster AM**

Relative:
Higher

Actual:
120 ft.

SHWS:
Release Tracking Number/Current Status: 3-0001951 / DEPNDS
Release Town: LOWELL
Notification Date: 01/15/1989
Category: NONE
Associated ID: Not reported
Current Status: **Not a Disposal Site (DEP)**
Status Date: 05/15/1996
Phase: Not reported

COMMERCIAL PROPERTY (Continued) **S100363018**

Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1989
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: DEPNDS
Action Date: 5/15/1996
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001951 / DEPNDS
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1989
Category: NONE
Status Date: 05/15/1996
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

168
SW
1/2-1
0.520 mi.
2743 ft.

JOAN FABRICS CORP **SHWS** **S101019761**
122 WESTERN AVE **INST CONTROL** **N/A**
LOWELL, MA 01850 **RELEASE**
SPILLS

Relative:
Higher

Actual:
90 ft.

SHWS:
Release Tracking Number/Current Status: 3-0001840 / PENNFA
Release Town: LOWELL
Notification Date: 01/15/1989
Category: NONE
Associated ID: Not reported
Current Status: **Pending No Further Action**
Status Date: 09/30/1993
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

JOAN FABRICS CORP (Continued) **S101019761**

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1989
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 11/7/2001
Response Action Outcome: Not reported

Action Type: Partial RAO for this RTN
Action Status: Level I - Technical Screen Audit
Action Date: 11/7/2001
Response Action Outcome: Not reported

Action Type: Partial RAO for this RTN
Action Status: Level I - Technical Screen Audit
Action Date: 2/1/2012
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 3/26/1999
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/31/1995
Response Action Outcome: Not reported

Action Type: Partial RAO for this RTN
Action Status: RAO Statement Received
Action Date: 7/31/1995
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: PENNFA
Action Date: 9/30/1993
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0001840
Action Type: AUL
Action Stat: RECPT
Action Date: 07/31/1995
Response Action Outcome: -

Release:
Release Tracking Number/Current Status: 3-0001840 / PENNFA
Primary ID: Not reported

JOAN FABRICS CORP (Continued) **S101019761**

Official City:	LOWELL
Notification:	01/15/1989
Category:	NONE
Status Date:	09/30/1993
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	3-1840	Spill ID:	N88-1834
Staff Lead:	FAGAN, J	Date Entered:	19881201
Last Entered:	19931103	First Response:	19881121
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19881121	Report Time:	11:15AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	#6 FUEL OIL	Other Material:	Not reported
Qty Reported:	NONE	Qty Actual:	NONE
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	SA	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	0		

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169 **PAVED AREA ALONG LAKEVIEW AVENUE** **SHWS** **S111826317**
NNW **1 ENNELL ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.523 mi.
2762 ft.

Relative:
Lower

Actual:
71 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030766 / RAO
Release Town:	LOWELL
Notification Date:	04/11/2012
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	04/15/2013
Phase:	Not reported
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

PAVED AREA ALONG LAKEVIEW AVENUE (Continued) **S111826317**

Chemicals:
Chemical: LEAD
Quantity: 993 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 2/13/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/11/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/11/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/11/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/15/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/15/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/18/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 4/23/2013

PAVED AREA ALONG LAKEVIEW AVENUE (Continued) **S111826317**

Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/27/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 5/26/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 6/10/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 6/10/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 6/16/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

INST CONTROL:
Release Tracking Number: 3-0030766
Action Type: AUL
Action Stat: LEGNOT
Action Date: 04/23/2013
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0030766
Action Type: AUL
Action Stat: RECPT
Action Date: 04/15/2013
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

PAVED AREA ALONG LAKEVIEW AVENUE (Continued) **S111826317**

Release Tracking Number: 3-0030766
Action Type: AUL
Action Stat: SNAUDI
Action Date: 06/10/2015
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0030766
Action Type: AUL
Action Stat: TSAUD
Action Date: 05/26/2015
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release:
Release Tracking Number/Current Status: 3-0030766 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/11/2012
Category: 120 DY
Status Date: 04/15/2013
Phase: Not reported
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AN170 **NO LOCATION AID** **SHWS** **S113805109**
WNW **236 SALEM STREET** **LUST** **N/A**
1/2-1 **LOWELL, MA 01854** **RELEASE**
0.541 mi.
2859 ft. **Site 1 of 2 in cluster AN**

Relative: Higher

Actual: 121 ft.

SHWS:
Release Tracking Number/Current Status: 3-0031585 / RAO
Release Town: LOWELL
Notification Date: 06/06/2013
Category: 72 HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/17/2014
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: SCHOOL
Location Type: STATE
Source: UST
Source: TANK

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S113805109**

Chemicals:
Chemical: #2 FUEL OIL
Quantity: 284 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/12/2015
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 1/29/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/17/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/17/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/6/2013
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/6/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/11/2013
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/19/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 8/14/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/14/2013
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S113805109**

Action Date: 8/6/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/6/2013
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0031585 / RAO
Status Date: 03/17/2014
Source Type: UST
Release Town: LOWELL
Notification Date: 06/06/2013
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: SCHOOL
Location Type: STATE
Source: UST
Source: TANK

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: #2 FUEL OIL
Quantity: 284 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/12/2015
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 1/29/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/17/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/17/2014
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S113805109**

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/6/2013
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/6/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/11/2013
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/19/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 8/14/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/14/2013
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/6/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/6/2013
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0031585 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/06/2013
Category: 72 HR
Status Date: 03/17/2014
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AN171 **UMASS LOWELL LOT B** **SHWS** **S113805106**
WNW **257 SALEM ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854**
0.552 mi.
2912 ft. **Site 2 of 2 in cluster AN**

Relative:
Higher

Actual:
121 ft.

SHWS:

Release Tracking Number/Current Status:	3-0031577 / RAO
Release Town:	LOWELL
Notification Date:	05/31/2013
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/17/2014
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	1610 milligrams per kilogram
Chemical:	ACENAPHTHENE
Quantity:	9.4 milligrams per kilogram
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	2330 milligrams per kilogram
Chemical:	2-METHYLNAPHTHALENE
Quantity:	62.6 milligrams per kilogram
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	374 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	38.5 milligrams per kilogram
Chemical:	PHENANTHRENE
Quantity:	12 milligrams per kilogram

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	3/13/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/17/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	5/31/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition

UMASS LOWELL LOT B (Continued) **S113805106**

Action Status:	Reportable Release under MGL 21E
Action Date:	5/31/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	5/31/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	6/24/2013
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0031577 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/31/2013
Category:	120 DY
Status Date:	03/17/2014
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

---

172 **GETTY MART** **SHWS** **S104482491**
SE **276 HIGH ST** **LUST** **N/A**
1/2-1 **LOWELL, MA 01852** **RELEASE**
0.555 mi.
2928 ft.

Relative:
Higher

Actual:
112 ft.

SHWS:

Release Tracking Number/Current Status:	3-0022121 / REMOPS
Release Town:	LOWELL
Notification Date:	09/18/2002
Category:	120 DY
Associated ID:	3-0022121
Current Status:	**Remedy Operation Status**
Status Date:	03/10/2014
Phase:	PHASE V
Response Action Outcome:	-
Oil Or Haz Material:	Oil and Hazardous Material
Location Type:	INDUSTRIAL
Source:	LINE
Source:	PIPE
Source:	TANK
Source:	UST

GETTY MART (Continued) **S104482491**

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	24200 parts per billion
Chemical:	2-METHYLNAPHTHALENE
Quantity:	18.2 parts per million
Chemical:	C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity:	11200 parts per billion
Chemical:	NAPHTHALENE
Quantity:	17.5 parts per million
Chemical:	XYLENE
Quantity:	27140 parts per billion
Chemical:	C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity:	874 parts per million
Chemical:	C9 THRU C12 ALIPHATIC HYDROCARBONS
Quantity:	44600 parts per billion
Chemical:	PROPANE, 2-METHOXY-2-METHYL-
Quantity:	.964 parts per million
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	372 parts per million

Actions:

Action Type:	Phase 4
Action Status:	RMRINI
Action Date:	1/30/2008
Response Action Outcome:	Not reported
Action Type:	Phase 4
Action Status:	Status or Interim Report Received
Action Date:	1/30/2008
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	1/6/2004
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	ROSTRN
Action Date:	10/19/2012
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	10/19/2012
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	10/19/2012
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Completion Statement Received

GETTY MART (Continued) **S104482491**

Action Date: 10/3/2006
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 10/3/2006
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 10/30/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 10/30/2008
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 10/4/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/10/2016
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/10/2016
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/11/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/11/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Work Started
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 2/12/2009
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Modified Revised or Updated Plan Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/14/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/14/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/25/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/25/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification

GETTY MART (Continued) **S104482491**

Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 3/10/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 3/10/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 5/3/2007
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 6/28/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 6/29/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 6/29/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/6/2015
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/10/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/10/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/11/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/11/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/12/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/12/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/13/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/13/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/24/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/24/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/7/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received

GETTY MART (Continued) **S104482491**

Action Date: 8/7/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/18/2002
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/18/2002
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 9/26/2002
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/8/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/8/2014
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0032435 / RAONR
Release Town: LOWELL
Notification Date: 09/12/2014
Category: 72 HR
Associated ID: 3-0022121
Current Status: **Response Action Outcome Not Required**
Status Date: 07/06/2015
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material
Location Type: COMMERCIAL
Source: UST
Source: UNDER INVE
Source: TANK

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: LNAPL
Quantity: .48 inches
Chemical: GASOLINE
Quantity: .5 inches
Chemical: PETROLEUM
Quantity: 109 parts per million

Actions:
Action Type: Immediate Response Action

GETTY MART (Continued) **S104482491**

Action Status:	Status or Interim Report Received
Action Date:	1/12/2015
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	1/13/2015
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	10/14/2014
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	10/14/2014
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	10/2/2014
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	10/6/2014
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	10/6/2014
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	SHPFAC
Action Date:	12/4/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	2/5/2015
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	2/9/2004
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	2/9/2004
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Transfer
Action Date:	6/7/2012

GETTY MART (Continued) **S104482491**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/12/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/12/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/25/2014
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0019133 / RAO
Release Town: LOWELL
Notification Date: 01/10/2000
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/11/2001
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]PYRENE
Quantity: .946 milligrams per kilogram
Chemical: BENZO[B]FLUORANTHENE

GETTY MART (Continued) **S104482491**

Quantity: 1.19 milligrams per kilogram
Chemical: BENZO[A]ANTHRACENE
Quantity: .886 milligrams per kilogram

Actions:
Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/10/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/10/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/11/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 1/18/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/12/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status: 3-0032465 / RAONR
Release Town: LOWELL
Notification Date: 09/25/2014
Category: 120 DY
Associated ID: 3-0022121
Current Status: **Response Action Outcome Not Required**
Status Date: 02/05/2015
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DISSOLVED LEAD
Quantity: 15.3 micrograms per liter

Actions:
Action Type: Release Abatement Measure
Action Status: Completion Statement Received

GETTY MART (Continued) **S104482491**

Action Date: 1/6/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/6/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 10/6/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/8/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/25/2014
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/25/2014
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/25/2014
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0022121 / REMOPS
Status Date: 03/10/2014
Source Type: UST
Release Town: LOWELL
Notification Date: 09/18/2002
Category: 120 DY
Associated ID: 3-0022121
Phase: PHASE V
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material

Location Type: INDUSTRIAL
Source: LINE
Source: PIPE
Source: TANK
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 24200 parts per billion
Chemical: 2-METHYLNAPHTHALENE
Quantity: 18.2 parts per million
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 11200 parts per billion
Chemical: NAPHTHALENE
Quantity: 17.5 parts per million
Chemical: XYLENE
Quantity: 27140 parts per billion
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 874 parts per million
Chemical: C9 THRU C12 ALIPHATIC HYDROCARBONS
Quantity: 44600 parts per billion
Chemical: PROPANE, 2-METHOXY-2-METHYL-
Quantity: .964 parts per million
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 372 parts per million

Actions:
Action Type: Phase 4

GETTY MART (Continued) **S104482491**

Action Status: RMRINI
Action Date: 1/30/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 1/30/2008
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 1/6/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: ROSTRN
Action Date: 10/19/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 10/19/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 10/19/2012
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 10/3/2006
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 10/3/2006
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 10/30/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 10/30/2008
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 10/4/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/10/2016

GETTY MART (Continued) **S104482491**

Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/10/2016
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/11/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/11/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Work Started
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Modified Revised or Updated Plan Received
Action Date: 2/12/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/14/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/14/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/25/2013
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/25/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 3/10/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 3/10/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received

GETTY MART (Continued) **S104482491**

Action Date: 5/3/2007
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 6/28/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 6/29/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 6/29/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/10/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/10/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/11/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 8/11/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 8/12/2013
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	8/12/2013
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	8/13/2015
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	8/13/2015
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	8/24/2010
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	8/24/2010
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	8/7/2014
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	8/7/2014
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	9/18/2002
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	9/18/2002
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	9/26/2002
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	9/8/2014
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received

GETTY MART (Continued) **S104482491**

Action Date: 9/8/2014
Response Action Outcome: Not reported

Facility:
Release Tracking Number/Current Status: 3-0032435 / RAONR
Status Date: 07/06/2015
Source Type: UST
Release Town: LOWELL
Notification Date: 09/12/2014
Category: 72 HR
Associated ID: 3-0022121
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material

Location Type: COMMERCIAL
Source: UST
Source: UNDER INVE
Source: TANK

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: LNAPL
Quantity: .48 inches
Chemical: GASOLINE
Quantity: .5 inches
Chemical: PETROLEUM
Quantity: 109 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 1/12/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 1/13/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/14/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/2/2014

GETTY MART (Continued) **S104482491**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 10/6/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 10/6/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/4/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 2/5/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/9/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 6/7/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 7/6/2015
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 7/6/2015
Response Action Outcome: Not reported

GETTY MART (Continued) **S104482491**

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	9/12/2014
Response Action Outcome:	Not reported

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	9/12/2014
Response Action Outcome:	Not reported

Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	9/25/2014
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0019133 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/10/2000
Category:	120 DY
Status Date:	01/11/2001
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0022121 / REMOPS
Primary ID:	3-0022121
Official City:	LOWELL
Notification:	09/18/2002
Category:	120 DY
Status Date:	03/10/2014
Phase:	PHASE V
Response Action Outcome:	-
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0032435 / RAONR
Primary ID:	3-0022121
Official City:	LOWELL
Notification:	09/12/2014
Category:	72 HR
Status Date:	07/06/2015
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

GETTY MART (Continued) **S104482491**

Release Tracking Number/Current Status:	3-0032465 / RAONR
Primary ID:	3-0022121
Official City:	LOWELL
Notification:	09/25/2014
Category:	120 DY
Status Date:	02/05/2015
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

AO173 **NO LOCATION AID** **SHWS** **S102687461**
WNW **841 MERRIMACK ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA** **RELEASE**
0.555 mi.
2929 ft. **Site 1 of 2 in cluster AO**

Relative: Higher

Actual: 115 ft.

SHWS:

Release Tracking Number/Current Status:	3-0015547 / RAO
Release Town:	LOWELL
Notification Date:	09/18/1997
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	09/18/1997
Phase:	Not reported
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO(A)ANTHRACENE
Quantity:	26 milligrams per kilogram
Chemical:	TPH
Quantity:	1700 milligrams per kilogram

Actions:

Action Type:	An activity type that is related to an Audit
Action Status:	Audit Follow-up Completion Statement Received
Action Date:	1/17/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Amendment Received or Issued
Action Date:	1/7/2003
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Compliance and Enforcement Action

NO LOCATION AID (Continued) **S102687461**

Action Status: Interim Deadline Letter Issued
Action Date: 3/10/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 5/21/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RLFA
Action Status: FLDRUN
Action Date: 5/21/2009
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 5/21/2009
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 5/29/2009
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 5/30/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: Audit Follow-up Completion Statement Received
Action Date: 5/30/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 6/28/1999
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit

NO LOCATION AID (Continued) **S102687461**

Action Date: 7/25/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 7/25/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 8/24/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 8/24/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 8/3/1999
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/18/1997
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/18/1997
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/18/1997
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/18/1997

NO LOCATION AID (Continued) **S102687461**

Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

INST CONTROL:
Release Tracking Number: 3-0015547
Action Type: AUL
Action Stat: AMEND
Action Date: 01/07/2003
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0015547
Action Type: AUL
Action Stat: AMEND
Action Date: 05/30/2003
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0015547
Action Type: AUL
Action Stat: LEGNOT
Action Date: 05/21/2003
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0015547
Action Type: AUL
Action Stat: RECPT
Action Date: 09/18/1997
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0015547
Action Type: AUL
Action Stat: SNAUDI
Action Date: 05/21/2009
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release:
Release Tracking Number/Current Status: 3-0015547 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/18/1997
Category: 120 DY
Status Date: 09/18/1997
Phase: Not reported
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more

NO LOCATION AID (Continued) **S102687461**

AULs that have been implemented.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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174 NORTH CANAL **SHWS S101018063**
WNW 145 PAWTUCKET STREET **LAST N/A**
1/2-1 LOWELL, MA 01854 **SPILLS**
0.567 mi. **RELEASE**
2993 ft. **HW GEN**

Relative: Lower

Actual: 84 ft.

SHWS:
Release Tracking Number/Current Status: 3-0026174 / RAO
Release Town: LOWELL
Notification Date: 08/25/2006
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 10/24/2006
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC FLUID
Quantity: Not reported
Chemical: HYDRAULIC OIL
Quantity: 1 gallons

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/25/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action

NORTH CANAL (Continued) **S101018063**

Action Date:	8/25/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	9/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Release Tracking Number/Current Status:	3-0024979 / RAO
Release Town:	LOWELL
Notification Date:	06/24/2005
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	08/16/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	WATERBODY
Location Type:	INDUSTRIAL
Source:	AST
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	HYDRAULIC OIL
Quantity:	17 gallons
Chemical:	HYDRAULIC FLUID
Quantity:	400 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	6/24/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	6/24/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FLDD1U
Action Date:	6/24/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	FLDISS

NORTH CANAL (Continued) **S101018063**

Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 6/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 7/11/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/5/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/6/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 8/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NORTH CANAL (Continued) **S101018063**

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 8/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status: 3-0031876 / RAO
Release Town: LOWELL
Notification Date: 11/21/2013
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 01/17/2014
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: WATERBODY
Source: SUBMERGED
Source: CRANE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC OIL SYNTHETIC
Quantity: 60 gallons
Chemical: HYDRAULIC FLUID
Quantity: 60 gallons

Actions:
Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/17/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/17/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 1/17/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/17/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action

NORTH CANAL (Continued) **S101018063**

Action Status: Level I - Technical Screen Audit
Action Date: 10/16/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 10/16/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 11/21/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/21/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/11/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LAST:
Release Tracking Number/Current Status: 3-0024979 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 06/24/2005
Category: TWO HR
Associated ID: Not reported
Status Date: 08/16/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil

Chemicals:
Chemical: HYDRAULIC OIL
Quantity: 17 gallons
Chemical: HYDRAULIC FLUID
Quantity: 400 gallons
Location Type: WATERBODY
Location Type: INDUSTRIAL
Source: AST
Source: PIPE

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

NORTH CANAL (Continued) **S101018063**

to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 6/24/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 6/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 6/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 7/11/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/5/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/6/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF

NORTH CANAL (Continued) **S101018063**

Action Status: Reportable Release under MGL 21E
Action Date: 8/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/16/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 8/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 8/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

MA Spills:

Facility ID:	0000	Spill ID:	N88-0088
Staff Lead:	NDI, K	Date Entered:	19880205
Last Entered:	19940113	First Response:	19880121
Spill Date:	19880119	Spill Time:	Not reported
Report Date:	19880122	Report Time:	12:05PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	----------	Other Impact:	Not reported
Material:	HYDRAULIC FLUID	Other Material:	Not reported
Qty Reported:	251-500	Qty Actual:	251-500
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	OTHER SOURCE >	Other Source:	TURBINES
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	0		

Release:

Release Tracking Number/Current Status: 3-0024979 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/24/2005
Category: TWO HR
Status Date: 08/16/2005
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NORTH CANAL (Continued) **S101018063**

Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0026174 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 08/25/2006
Category: TWO HR
Status Date: 10/24/2006
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0031876 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/21/2013
Category: TWO HR
Status Date: 01/17/2014
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

HW GEN:
EPA Id: MAC300011327
RCRA Generator Status: VSQG
State Generator Status: SQG-MA

AP175 **MA ELECTRIC** **SHWS** **S103383731**
WSW **163 CROSS ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854**
0.567 mi.
2994 ft. **Site 1 of 2 in cluster AP**

Relative:
Higher

Actual:
122 ft.

SHWS:
Release Tracking Number/Current Status: 3-0017074 / RAO
Release Town: LOWELL
Notification Date: 07/23/1998
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 09/21/1998
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: RESIDNTIAL

MA ELECTRIC (Continued) **S103383731**

Location Type: ROADWAY
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MINERAL OIL
Quantity: 20 gallons
Chemical: TRANSFORMER OIL
Quantity: 20 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/23/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/23/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/27/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/21/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/21/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0017074 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/23/1998
Category: TWO HR
Status Date: 09/21/1998
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

MA ELECTRIC (Continued) **S103383731**

Click here to access the MA DEP site for this facility:

AQ176 **COMMERCIAL PROPERTY** **SHWS** **S113411690**
NNW **700 AIKEN ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.577 mi. **ENF**
3046 ft. **Site 1 of 2 in cluster AQ**

Relative:
Lower

Actual:
71 ft.

SHWS:

Release Tracking Number/Current Status:	3-0031287 / RAO
Release Town:	LOWELL
Notification Date:	03/01/2013
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	06/28/2013
Phase:	PHASE II
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material:	Oil and Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPHTHALENE
Quantity:	4.34 milligrams per kilogram
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	6000 micrograms per liter

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	2/6/2014
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Level I - Technical Screen Audit
Action Date:	2/6/2014
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/1/2013
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/1/2013

COMMERCIAL PROPERTY (Continued) **S113411690**

Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/18/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/28/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/28/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 6/28/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/28/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 7/10/2013
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 8/27/2014
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 8/27/2014
Response Action Outcome: Remedial actions have not been conducted because a level of No

COMMERCIAL PROPERTY (Continued) **S113411690**

Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 9/15/2014
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number/Current Status: 3-0031602 / RAO
Release Town: LOWELL
Notification Date: 06/19/2013
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/28/2013
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: COMMERCIAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]PYRENE
Quantity: 19.9 parts per million
Chemical: DIBENZO[A,H]ANTHRACENE
Quantity: 5.72 parts per million
Chemical: BENZO[A]ANTHRACENE
Quantity: 30.7 parts per million
Chemical: BENZO[B]FLUORANTHENE
Quantity: 32.9 parts per million
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 18.7 parts per million

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 2/6/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/19/2013
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/19/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received

COMMERCIAL PROPERTY (Continued) **S113411690**

Action Date: 6/19/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/24/2013
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/28/2013
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 7/10/2013
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0031287
Action Type: AUL
Action Stat: LEGNOT
Action Date: 07/10/2013
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0031287
Action Type: AUL
Action Stat: RECPT
Action Date: 06/28/2013
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0031287
Action Type: AUL
Action Stat: SNAUDI
Action Date: 08/27/2014
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0031287
Action Type: AUL
Action Stat: TSAUD
Action Date: 02/06/2014
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0031602
Action Type: AUL
Action Stat: LEGNOT
Action Date: 07/10/2013
Response Action Outcome: -

COMMERCIAL PROPERTY (Continued) **S113411690**

Release:

Release Tracking Number/Current Status:	3-0031287 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/01/2013
Category:	120 DY
Status Date:	06/28/2013
Phase:	PHASE II
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0031602 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	06/19/2013
Category:	120 DY
Status Date:	06/28/2013
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0031287
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	06/28/2013
ENF #:	ACOP-NE-13-3A012
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	04/15/2014
ACOP $:	1630
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	7000

COMMERCIAL PROPERTY (Continued) **S113411690**

Ownership: Commercially Owned

AQ177 **CITGO STATION** **SHWS** **S100362993**
NNW **745 AIKEN AVE** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.578 mi.
3052 ft. **Site 2 of 2 in cluster AQ**

Relative:
Lower

Actual:
73 ft.

SHWS:

Release Tracking Number/Current Status:	3-0000487 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	08/04/1997
Phase:	PHASE II
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	1/8/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type:	Activity and Use Limitation
Action Status:	Legal Notice Published
Action Date:	5/10/2002
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type:	Activity and Use Limitation
Action Status:	Level II - Audit Inspection
Action Date:	5/20/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

CITGO STATION (Continued) **S100362993**

Action Type: RLFA
Action Status: FLDRUN
Action Date: 5/20/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Amendment Received or Issued
Action Date: 6/10/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: Audit Follow-up Completion Statement Received
Action Date: 6/10/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 6/28/1999
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 6/4/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: TREGS
Action Status: LSPFA
Action Date: 8/1/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/1/1997
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 8/2/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Tier Classification

CITGO STATION (Continued) **S100362993**

Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/2/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/2/1995
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/4/1997
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

INST CONTROL:
Release Tracking Number: 3-0000487
Action Type: AUL
Action Stat: AMEND
Action Date: 06/10/2002
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0000487
Action Type: AUL
Action Stat: LEGNOT
Action Date: 05/10/2002
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0000487
Action Type: AUL
Action Stat: RECPT
Action Date: 08/01/1997
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0000487
Action Type: AUL
Action Stat: SNAUDI
Action Date: 05/20/2008
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release:
Release Tracking Number/Current Status: 3-0000487 / RAO

CITGO STATION (Continued) **S100362993**

Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1987
Category:	NONE
Status Date:	08/04/1997
Phase:	PHASE II
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

AR178 **MARTIN WELDING NORTHEAST INC** **SHWS** **U003000118**
SW **731 DUTTON ST** **LUST** **N/A**
1/2-1 **LOWELL, MA 01852** **UST**
0.586 mi. **RELEASE**
3094 ft. **Site 1 of 3 in cluster AR** **Financial Assurance**
HW GEN

Relative:
Higher

Actual:
109 ft.

SHWS:

Release Tracking Number/Current Status:	3-0004815 / WCSPRM
Release Town:	LOWELL
Notification Date:	10/01/1993
Category:	NONE
Associated ID:	Not reported
Current Status:	**Waiver Completion Statement Permanent**
Status Date:	10/11/1996
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	TREGS
Action Status:	WAVSIG
Action Date:	1/21/1994
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	10/1/1993
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WCSPRM
Action Date:	10/11/1996
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVACC

MARTIN WELDING NORTHEAST INC (Continued) **U003000118**

Action Date: 2/14/1994
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVDN
Action Date: 7/30/1993
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVREC
Action Date: 7/30/1993
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0015035 / RAO
Status Date: 06/19/1997
Source Type: UST
Release Town: LOWELL
Notification Date: 04/16/1997
Category: 72 HR
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil and Hazardous Material

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MOTOR OIL
Quantity: 3400 parts per million
Chemical: DIESEL FUEL
Quantity: 200 parts per million
Chemical: KEROSENE
Quantity: 1800 parts per million

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/26/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/16/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

MARTIN WELDING NORTHEAST INC (Continued) **U003000118**

Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	4/16/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	4/16/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/14/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	6/19/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	6/19/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

UST:

Facility:

Facility ID:	10121
Owner Id:	4131
Owner:	MARTIN WELDING NORTHEAST INC
Owner Address:	731 DUTTON ST
Owner City,St,Zip:	LOWELL, MA 01852
Telephone:	Not reported
Description:	Not reported
Facility address 2:	Not reported
Owner address 2:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Contact name:	Not reported
Contact address1:	Not reported
Contact address2:	Not reported
Contact city:	Not reported
Contact state:	Not reported
Contact zip:	Not reported
Contact email:	Not reported
Update:	1997-04-28 00:00:00
Update by:	Not reported
Fac status:	CLOSED

MARTIN WELDING NORTHEAST INC (Continued) **U003000118**

Tank ID: 1
Tank Status: Tank Removed
Status Date: 04/15/1997
Date Installed: Not reported
Capacity: 1000.00000
Contents: Diesel
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 04/15/1997
Date Installed: Not reported
Capacity: 3000.00000
Contents: Gasoline
Tank Usage: Not reported
Tank Leak Detection: Not reported
Pipe Leak Detection: Not reported
Latitude: Not reported
Longitude: Not reported
Tank construct: Not reported
Pipe construct: Not reported
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N

MARTIN WELDING NORTHEAST INC (Continued) **U003000118**

Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0004815 / WCSPRM
Primary ID: Not reported
Official City: LOWELL
Notification: 10/01/1993
Category: NONE
Status Date: 10/11/1996
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0015035 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 04/16/1997
Category: 72 HR
Status Date: 06/19/1997
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

MA Financial Assurance 2:
Facility Id: 10121
Description: Other
Work Phone: (617) 459-0567

HW GEN:
EPA Id: MAD019442045
RCRA Generator Status: VSQG
State Generator Status: SQG-MA

EPA Id: MV9784590862
RCRA Generator Status: VSQG
State Generator Status: Not reported

179
SW
1/2-1
0.586 mi.
3095 ft.

NO LOCATION AID
160 WESTERN AVE
LOWELL, MA 01851

SHWS
RELEASE
ENF

S114965509
N/A

Relative:
Higher

Actual:
98 ft.

SHWS:

Release Tracking Number/Current Status:	3-0031824 / RAONR
Release Town:	LOWELL
Notification Date:	10/18/2013
Category:	TWO HR
Associated ID:	3-0029916
Current Status:	**Response Action Outcome Not Required**
Status Date:	10/15/2014
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	INDUSTRIAL
Location Type:	RESIDNTIAL
Source:	RTN
Source:	SUSPCTED
Source:	3-29916

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	TRICHLOROETHYLENE
Quantity:	23.5 UG/M3
Chemical:	TRICHLOROETHYLENE
Quantity:	120 micrograms per liter

Actions:

Action Type:	Immediate Response Action
Action Status:	Written Approval of Plan
Action Date:	1/10/2014
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	1/10/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Revised Statement or Transmittal Received
Action Date:	10/15/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	10/15/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	10/15/2014
Response Action Outcome:	Not reported
Action Type:	RAO Not Required

NO LOCATION AID (Continued) **S114965509**

Action Status: Linked to a Tier Classified Site
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/18/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/18/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/1/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 11/15/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/22/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/19/2013
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/19/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/21/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 12/22/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 12/22/2015

NO LOCATION AID (Continued) **S114965509**

Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 2/5/2016
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 3/19/2014
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/19/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 3/3/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 3/3/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 3/3/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/11/2012
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 4/2/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 5/9/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/25/2014
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S114965509**

Action Type: Immediate Response Action
Action Status: RMRINT
Action Date: 8/25/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/29/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/4/2014
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0031824 / RAONR
Primary ID: 3-0029916
Official City: LOWELL
Notification: 10/18/2013
Category: TWO HR
Status Date: 10/15/2014
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3R
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0031824
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Lowell
Date Executed: 01/10/2014
ENF #: Not reported
Document Type: IDL
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported

NO LOCATION AID (Continued) **S114965509**

Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3R
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0031824
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	03/19/2014
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

AS180 **NO LOCATION AID** **SHWS** **S103812208**
WSW **498 BROADWAY** **LUST** **N/A**
1/2-1 **LOWELL, MA 01854** **RELEASE**
0.586 mi. **ENF**
3095 ft. **Site 1 of 4 in cluster AS** **HW GEN**

Relative:
Higher

Actual:
108 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026666 / RAONR
Release Town:	LOWELL
Notification Date:	03/12/2007
Category:	72 HR
Associated ID:	3-0018153
Current Status:	**Response Action Outcome Not Required**
Status Date:	05/07/2007
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source:	HISTORICL
Source:	UNKNOWN
Source:	UST

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S103812208**

Chemicals:
Chemical: NAPL
Quantity: 21 inches
Chemical: GASOLINE AND FUEL OIL MIXTURE
Quantity: 18 inches

Actions:
Action Type: FTLI
Action Status: APPREC
Action Date: 3/11/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 3/12/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/12/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/14/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1A
Action Date: 3/15/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/23/2015
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/24/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/7/2011
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/8/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/10/2000
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103812208**

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/11/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/13/2007
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 4/13/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/13/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 4/14/2000
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 4/20/2012
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2008
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2013
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/11/2009
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/14/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S103812208**

Action Date: 5/2/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/2/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/28/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/3/2006
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/1/2012
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/23/2015
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 6/7/2007
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0018153 / TIERII
Status Date: 04/10/2000
Source Type: UST
Release Town: LOWELL
Notification Date: 04/02/1999

NO LOCATION AID (Continued) **S103812208**

Category: 72 HR
Associated ID: 3-0018153
Phase: PHASE IV
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 100 parts per million
Chemical: GASOLINE
Quantity: 120 parts per million

Actions:
Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 1/25/2002
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 10/15/1999
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 11/3/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 11/7/2006
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 11/8/2002
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 11/8/2002
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/11/2014
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC

NO LOCATION AID (Continued) **S103812208**

Action Date: 3/14/2013
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/23/2015
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/24/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/7/2011
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/8/2010
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/11/2011
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/13/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 4/14/2000
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/15/1999
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103812208**

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 4/17/2002
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/2/1999
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 4/2/1999
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 4/20/2012
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 4/26/2004
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2008
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2013
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/11/2009
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/14/2014
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Revised Statement or Transmittal Received
Action Date: 5/2/2007
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Revised Statement or Transmittal Received
Action Date: 5/2/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC

NO LOCATION AID (Continued) **S103812208**

Action Date: 5/2/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/28/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/3/2006
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/3/2006
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/1/2012
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/2/1999
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/23/2015
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 6/28/1999
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 6/6/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 6/9/1999
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103812208**

Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	7/6/2004
Response Action Outcome:	Not reported
Action Type:	Phase 4
Action Status:	Written Plan Received
Action Date:	7/6/2004
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	8/2/1999
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	9/19/2006
Response Action Outcome:	Not reported

Facility:

Release Tracking Number/Current Status:	3-0026666 / RAONR
Status Date:	05/07/2007
Source Type:	UST
Release Town:	LOWELL
Notification Date:	03/12/2007
Category:	72 HR
Associated ID:	3-0018153
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source:	HISTORICL
Source:	UNKNOWN
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPL
Quantity:	21 inches
Chemical:	GASOLINE AND FUEL OIL MIXTURE
Quantity:	18 inches

Actions:

Action Type:	FTLI
Action Status:	APPREC
Action Date:	3/11/2014
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	IRA Assessment Only

NO LOCATION AID (Continued) **S103812208**

Action Date: 3/12/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/12/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/14/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1A
Action Date: 3/15/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/23/2015
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/24/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/7/2011
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 3/8/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/10/2000
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/11/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/13/2007
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103812208**

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 4/13/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/13/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 4/14/2000
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 4/20/2012
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2008
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 4/30/2013
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 5/11/2009
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/14/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/2/2016
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 5/28/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension

NO LOCATION AID (Continued) **S103812208**

Action Date: 5/3/2006
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/1/2012
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPACC
Action Date: 6/23/2015
Response Action Outcome: Not reported

Action Type: FTLI
Action Status: APPREC
Action Date: 6/7/2007
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0018153 / TIERII
Primary ID: 3-0018153
Official City: LOWELL
Notification: 04/02/1999
Category: 72 HR
Status Date: 04/10/2000
Phase: PHASE IV
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0026666 / RAONR
Primary ID: 3-0018153
Official City: LOWELL
Notification: 03/12/2007
Category: 72 HR
Status Date: 05/07/2007
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

NO LOCATION AID (Continued) **S103812208**

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0018153
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	09/19/2006
ENF #:	NON-NE-06-3C008
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0026666
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	04/13/2007
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported

NO LOCATION AID (Continued) **S103812208**

Suspended $: Not reported
Ownership: Commercially Owned

HW GEN:
EPA Id: MAD019442961
RCRA Generator Status: VSQG
State Generator Status: Not reported

AO181 **COSTELLO GYM PARKING LOT UMASS LOWELL** **SHWS** **S101033105**
WNW **1 UNIVERSITY AVE** **LUST** **N/A**
1/2-1 **LOWELL, MA 01854** **RELEASE**
0.588 mi. **SPILLS**
3103 ft. **Site 2 of 2 in cluster AO** **AIRS**
ENF
Relative: **HW GEN**
Higher

Actual: SHWS:
101 ft. Release Tracking Number/Current Status: 3-0017984 / RAO
Release Town: LOWELL
Notification Date: 02/12/1999
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/10/1999
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Hazardous Material
Location Type: ROADWAY
Location Type: SCHOOL
Location Type: STATE
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: ASBESTOS
Quantity: 100 pounds
Chemical: ASBESTOS
Quantity: Not reported
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: Not reported

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 2/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/12/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	2/12/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	2/16/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	3/24/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	4/12/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	4/13/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	6/10/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status:	3-0024534 / RAO
Release Town:	LOWELL
Notification Date:	01/01/2005
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	02/01/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	SCHOOL
Source:	OVERFILL
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	#6 OIL

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Quantity: 200 gallons
Chemical: FUEL OIL #6
Quantity: 200 gallons

Actions:

Action Type: RLFA
Action Status: FOLOFF
Action Date: 1/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/1/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:

Release Tracking Number/Current Status: 3-0002544 / TMPS
Status Date: 07/18/2014
Source Type: UST
Release Town: LOWELL
Notification Date: 12/16/1993
Category: NONE
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Source: UST

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 1/13/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 1/13/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 1/15/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 1/15/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 1/3/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 1/3/2011
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 1/3/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RMRINI
Action Date: 1/3/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 1/7/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/18/2004

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/13/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 12/16/1993
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/21/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 12/23/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 12/23/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/28/2000
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 12/28/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 12/28/2000
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 12/28/2001
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 12/28/2001
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/30/2005
Response Action Outcome: Not reported

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	12/31/2008
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	12/31/2008
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	12/31/2009
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	12/31/2009
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	RMRINT
Action Date:	12/31/2015
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	Inspection and Monitoring Report Received
Action Date:	12/31/2015
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	2/17/2012
Response Action Outcome:	Not reported
Action Type:	Phase 4
Action Status:	Written Plan Received
Action Date:	4/12/2002
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	4/27/2007
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	5/2/2014
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	5/4/2008
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Action Date: 6/30/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 6/30/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Action Status or AUL Terminated
Action Date: 7/18/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 7/18/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: TSFRCD
Action Date: 7/18/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Completion Statement Received
Action Date: 7/18/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 7/18/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 7/31/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 7/31/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 7/5/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Status or Interim Report Received
Action Date: 7/5/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 7/6/2011
Response Action Outcome: Not reported

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	7/6/2011
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	Inspection and Monitoring Report Received
Action Date:	7/6/2015
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	RMRINT
Action Date:	7/6/2015
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	7/7/2009
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	7/7/2009
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	8/17/2012
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	8/21/2012
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	8/21/2012
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	8/25/2008
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Status or Interim Report Received
Action Date:	8/25/2008
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	8/4/2008
Response Action Outcome:	Not reported

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Facility:

Release Tracking Number/Current Status:	3-0015742 / RAO
Status Date:	03/22/1999
Source Type:	UST
Release Town:	LOWELL
Notification Date:	11/21/1997
Category:	72 HR
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	SCHOOL
Location Type:	STATE
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	FUEL OIL #6
Quantity:	Not reported

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/12/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	1/16/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/16/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	11/17/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/21/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Action Status:	IRA Assessment Only
Action Date:	11/21/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	3/22/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/22/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0002544 / TMPS
Primary ID:	Not reported
Official City:	LOWELL
Notification:	12/16/1993
Category:	NONE
Status Date:	07/18/2014
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0015742 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	11/21/1997
Category:	72 HR
Status Date:	03/22/1999
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0017984 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	02/12/1999
Category:	TWO HR
Status Date:	06/10/1999
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Hazardous Material

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0024534 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/01/2005
Category:	TWO HR
Status Date:	02/01/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N90-0249
Staff Lead:	OTTENHEIMER, D	Date Entered:	19900320
Last Entered:	19900622	First Response:	19900221
Spill Date:	19900221	Spill Time:	09:30AM
Report Date:	19900221	Report Time:	10:05AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	DIESEL FUEL	Other Material:	Not reported
Qty Reported:	51-100	Qty Actual:	51-100
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	VEH. FUEL TANK	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	RICK LEMOIRE		
Notif Tel:	Not reported		
Days/Close:	110		

Facility ID:	0000	Spill ID:	N90-1840
Staff Lead:	BOYLE, T	Date Entered:	19910621
Last Entered:	19911024	First Response:	19901108
Spill Date:	19901102	Spill Time:	10:30PM
Report Date:	19901103	Report Time:	03:05AM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	UNKNOWN	Other Material:	UNKNOWN
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	OTHER SOURCE >	Other Source:	BOTTLES
Incident:	OTHER RELEASE >	Other Incdnt:	FIRE
Cleanup Type:	SC	Contractor:	CLEAN HARBORS
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	UNDERWOOD/LOWELL FD		

COSTELLO GYM PARKING LOT UMASS LOWELL (Continued) **S101033105**

Notif Tel: Not reported
Days/Close: 139

AIRS:
Facility Status: APPROV
Permit Code: AQ09
Permit Name: Restricted Emissions Status Plan
DEP Region: NE
Application Tracking Number: X251989
Date Closed: 02/25/2013
Applicant Name: UNIVERSITY OF MASSACHUSETTS LOWELL
Applicant Address: 220 PAWTUCKET ST
Applicant City,St,Zip: LOWELL, MA 01854
Applicant Telephone: 9789344000

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3R
DEP Bureau: BWSC
Program: Not reported
Program Id: 3-0002544
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 08/04/2008
ENF #: NON-NE-08-3R031
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: State Owned

HW GEN:
EPA Id: MAD079525358
RCRA Generator Status: SQG
State Generator Status: LQG-MA

182
SSW
1/2-1
0.590 mi.
3115 ft.

NO LOCATION AID
68 ARCH ST
LOWELL, MA 01852

SHWS **S103546463**
RELEASE **N/A**

Relative:
Higher

Actual:
105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0017756 / RAO
Release Town:	LOWELL
Notification Date:	12/17/1998
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	12/07/2001
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	1600 milligrams per kilogram

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	12/17/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/17/1998
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	12/7/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	12/7/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/18/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received

NO LOCATION AID (Continued) **S103546463**

Action Date:	7/26/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	7/26/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	7/26/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	8/24/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0017756 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	12/17/1998
Category:	120 DY
Status Date:	12/07/2001
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

AP183 **NO LOCATION AID** **SHWS** **S105735942**
WSW **176 CROSS ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01853**
0.590 mi.
3115 ft. **Site 2 of 2 in cluster AP**

Relative:
Higher

Actual:
119 ft.

SHWS:

Release Tracking Number/Current Status:	3-0022348 / RAO
Release Town:	LOWELL
Notification Date:	11/25/2002
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	06/18/2003
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material:	Oil

NO LOCATION AID (Continued) **S105735942**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 206 milligrams per kilogram

Actions:
Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 11/25/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/25/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/25/2002
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/23/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/18/2003
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0022348 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/25/2002
Category: 120 DY
Status Date: 06/18/2003
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AS184 **NO LOCATION AID** **SHWS** **S107678249**
WSW **234-266 MOUNT VERNON ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854** **ENF**
0.591 mi.
3121 ft. **Site 2 of 4 in cluster AS**

Relative:
Higher

Actual:
104 ft.

SHWS:

Release Tracking Number/Current Status:	3-0025790 / DPS
Release Town:	LOWELL
Notification Date:	03/31/2006
Category:	120 DY
Associated ID:	3-0025790
Current Status:	**Downgradient Property Status**
Status Date:	03/02/2010
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Oil

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	700 milligrams per kilogram
Chemical:	C19 THRU C36 ALIPHATIC HYDROCARBONS
Quantity:	5200 milligrams per kilogram
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	11000 milligrams per kilogram

Actions:

Action Type:	Compliance and Enforcement Action
Action Status:	CILS
Action Date:	1/8/2008
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	1/8/2008
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	2/12/2007
Response Action Outcome:	Not reported
Action Type:	Downgradient Property Status
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	3/2/2010
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	3/2/2010
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/31/2006
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S107678249**

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/31/2006
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	3/5/2008
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/14/2006
Response Action Outcome:	Not reported
Action Type:	Downgradient Property Status
Action Status:	Level I - Technical Screen Audit
Action Date:	6/28/2011
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	6/30/2008
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	6/30/2008
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	6/30/2008
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/30/2008
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0025790 / DPS
Primary ID:	3-0025790
Official City:	LOWELL
Notification:	03/31/2006
Category:	120 DY
Status Date:	03/02/2010
Phase:	PHASE II
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

NO LOCATION AID (Continued) **S107678249**

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0025790
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	01/08/2008
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

AS185 **LOWELL, CITY OF** **SHWS** **S109948752**
WSW **234-266 MT VERNON ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854** **ENF**
0.591 mi.
3121 ft. **Site 3 of 4 in cluster AS**

Relative:
Higher

Actual:
104 ft.

SHWS:

Release Tracking Number/Current Status:	3-0028679 / RAONR
Release Town:	LOWELL
Notification Date:	08/17/2009
Category:	72 HR
Associated ID:	3-0025790
Current Status:	**Response Action Outcome Not Required**
Status Date:	03/02/2010
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	MUNICIPAL
Source:	SUSPECTED
Source:	OFFSITE
Source:	SOURCE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPL
Quantity:	5.4 inches
Chemical:	NAPL

LOWELL, CITY OF (Continued) **S109948752**

Quantity: 1.9 inches
Chemical: UNKNOWN CHEMICAL OF TYPE - OIL
Quantity: 1.9 inches

Actions:

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/23/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/26/2010
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 2/9/2010
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 3/2/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 3/2/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/2/2010
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 3/23/2010
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 3/25/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/30/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/30/2008
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/17/2009

LOWELL, CITY OF (Continued) **S109948752**

Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 8/17/2009
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 8/31/2009
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/31/2009
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/21/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 9/21/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 9/21/2009
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/21/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 9/22/2009
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0029098 / RAO
Release Town: LOWELL
Notification Date: 03/02/2010
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/08/2011
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material
Location Type: UNKNOWN
Source: UNKNOWN

LOWELL, CITY OF (Continued) **S109948752**

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[A]PYRENE
Quantity:	16 milligrams per kilogram
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	3.2 milligrams per kilogram
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	16 milligrams per kilogram
Chemical:	CHROMIUM
Quantity:	31 milligrams per kilogram
Chemical:	NICKEL
Quantity:	27 milligrams per kilogram
Chemical:	BENZO[A]ANTHRACENE
Quantity:	18 milligrams per kilogram
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	8.7 milligrams per kilogram

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	1/14/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Response Action Outcome - RAO
Action Status:	Fee Received - FMCRA Use Only
Action Date:	3/15/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	3/16/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/2/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	3/2/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/8/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

LOWELL, CITY OF (Continued) **S109948752**

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	9/9/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:

Release Tracking Number/Current Status:	3-0028679 / RAONR
Primary ID:	3-0025790
Official City:	LOWELL
Notification:	08/17/2009
Category:	72 HR
Status Date:	03/02/2010
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0029098 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/02/2010
Category:	120 DY
Status Date:	03/08/2011
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3R
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0028679
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	03/25/2010
ENF #:	ACOP-NE-10-3R004
Document Type:	ACOP
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	04/25/2010
ACOP $:	1000
PAN $:	Not reported

LOWELL, CITY OF (Continued) **S109948752**

EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Municipally Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0028679
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	08/31/2009
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Municipally Owned

AT186 **NO LOCATION AID** **SHWS** **S109146469**
WSW **129 WILLIE ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.592 mi.
3126 ft. **Site 1 of 2 in cluster AT**

Relative:
Higher

Actual:
119 ft.

SHWS:

Release Tracking Number/Current Status:	3-0027843 / RAO
Release Town:	LOWELL
Notification Date:	07/11/2008
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	07/08/2009
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S109146469**

Chemicals:
Chemical: LEAD
Quantity: 7560 milligrams per kilogram
Chemical: CHLORDANE
Quantity: 1.86 milligrams per kilogram
Chemical: CHROMIUM
Quantity: 32.5 milligrams per kilogram
Chemical: CADMIUM
Quantity: 2.7 milligrams per kilogram

Actions:
Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/16/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/3/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 5/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 7/10/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/11/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 7/11/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/28/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/8/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced

NO LOCATION AID (Continued) **S109146469**

to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 7/9/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 8/12/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 8/14/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 8/29/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0027843 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/11/2008
Category: 120 DY
Status Date: 07/08/2009
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AU187 **PERRY STREET SUBSTA #3** **SHWS** **S109146521**
SE **53 PERRY ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.601 mi.
3173 ft. **Site 1 of 2 in cluster AU**

Relative: Higher

Actual: 96 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027669 / TMPS
Release Town: LOWELL
Notification Date: 05/02/2008
Category: 120 DY
Associated ID: 3-0027669
Current Status: **TMPS**
Status Date: 04/30/2014
Phase: PHASE IV

PERRY STREET SUBSTA #3 (Continued) **S109146521**

Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: ARSENIC
Quantity: 24.8 milligrams per kilogram

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 10/16/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/28/2013
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/15/2012
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/20/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/25/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/26/2010
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 2/26/2016
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 2/26/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/27/2009
Response Action Outcome: Not reported

PERRY STREET SUBSTA #3 (Continued) **S109146521**

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/27/2012
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 2/27/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/27/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 2/27/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/27/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 2/27/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 2/27/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 2/27/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 3/12/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 3/16/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 3/24/2014
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received

PERRY STREET SUBSTA #3 (Continued) **S109146521**

Action Date: 4/30/2009
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 4/30/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/30/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/30/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 4/30/2012
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: TSFRCD
Action Date: 4/30/2014
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/2008
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 5/5/2009
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/6/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/6/2008
Response Action Outcome: Not reported

PERRY STREET SUBSTA #3 (Continued) **S109146521**

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/6/2011
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 5/6/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/12/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/26/2008
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/26/2010
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/26/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/27/2012
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 8/27/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/27/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 8/27/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/27/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received

PERRY STREET SUBSTA #3 (Continued) **S109146521**

Action Date: 8/27/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 8/27/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/28/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 9/3/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 9/3/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/3/2015
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0027669 / TMPS
Primary ID: 3-0027669
Official City: LOWELL
Notification: 05/02/2008
Category: 120 DY
Status Date: 04/30/2014
Phase: PHASE IV
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AU188 **PERRY STREET SUBSTATION NO 3** **SHWS** **S112288345**
SE **53 PERRY STREET** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.601 mi.
3173 ft. **Site 2 of 2 in cluster AU**

Relative:
Higher

Actual:
96 ft.

SHWS:
Release Tracking Number/Current Status: 3-0031174 / RAONR
Release Town: LOWELL
Notification Date: 10/23/2012
Category: TWO HR
Associated ID: 3-0027669
Current Status: **Response Action Outcome Not Required**
Status Date: 10/28/2013

PERRY STREET SUBSTATION NO 3 (Continued) **S112288345**

Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	INDUSTRIAL
Source:	MATERIAL
Source:	FILL
Source:	HISTORICL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	ARSENIC
Quantity:	117 milligrams per kilogram

Actions:

Action Type:	Immediate Response Action
Action Status:	Level I - Technical Screen Audit
Action Date:	1/3/2013
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	10/23/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	10/23/2012
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/23/2012
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	10/23/2013
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Imminent Hazard Evaluation Received
Action Date:	10/23/2013
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FLDD1U
Action Date:	10/24/2012
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	10/28/2013
Response Action Outcome:	Not reported
Action Type:	Tier Classification

PERRY STREET SUBSTATION NO 3 (Continued) **S112288345**

Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/28/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/21/2012
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/21/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/21/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 12/21/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 2/20/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/20/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/22/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 3/16/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 3/24/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/30/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 4/30/2009

PERRY STREET SUBSTATION NO 3 (Continued) **S112288345**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 5/5/2009
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 8/20/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/20/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 8/21/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/6/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 9/2/2014
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0031174 / RAONR
Primary ID: 3-0027669
Official City: LOWELL
Notification: 10/23/2012
Category: TWO HR
Status Date: 10/28/2013
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AV189 **PARCEL 9 FORMERLY 307 JACKSON ST** **SHWS** **S110822197**
East **239.1 JACKSON ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.602 mi.
3179 ft. **Site 1 of 2 in cluster AV**

Relative:
Higher

Actual:
141 ft.

SHWS:
Release Tracking Number/Current Status: 3-0029781 / TIERII
Release Town: LOWELL
Notification Date: 01/26/2011

PARCEL 9 FORMERLY 307 JACKSON ST (Continued) **S110822197**

Category:	120 DY
Associated ID:	Not reported
Current Status:	**Tier II, A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.**
Status Date:	01/26/2012
Phase:	PHASE III
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PCB
Quantity:	2200 milligrams per kilogram

Actions:

Action Type:	Phase 3
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	1/14/2014
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	1/14/2014
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	1/15/2015
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/26/2011
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/26/2011
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/26/2011
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	1/26/2012
Response Action Outcome:	Not reported
Action Type:	Phase 1

PARCEL 9 FORMERLY 307 JACKSON ST (Continued) **S110822197**

Action Status: Completion Statement Received
Action Date: 1/26/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/26/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/28/2016
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 11/7/2011
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 2/2/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 2/21/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/10/2011
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 3/10/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/31/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/24/2015
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0029781 / TIERII
Primary ID: Not reported
Official City: LOWELL
Notification: 01/26/2011
Category: 120 DY
Status Date: 01/26/2012

PARCEL 9 FORMERLY 307 JACKSON ST (Continued) **S110822197**

Phase: PHASE III
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AT190 **137 WILLIE STREET** **SHWS** **S111411825**
WSW **137 WILLIE ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01854**
0.602 mi.
3180 ft. **Site 2 of 2 in cluster AT**

Relative:
Higher

Actual:
123 ft.

SHWS:
Release Tracking Number/Current Status: 3-0030390 / RAO
Release Town: LOWELL
Notification Date: 10/05/2011
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/17/2012
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 10 milligrams per kilogram
Chemical: BENZO[A]PYRENE
Quantity: 16 milligrams per kilogram
Chemical: BENZO[B]FLUORANTHENE
Quantity: 24 milligrams per kilogram
Chemical: ACENAPHTHENE
Quantity: 4.8 milligrams per kilogram
Chemical: PHENANTHRENE
Quantity: 44 milligrams per kilogram
Chemical: DIBENZO[A,H]ANTHRACENE
Quantity: 3.3 milligrams per kilogram
Chemical: NICKEL
Quantity: 32 milligrams per kilogram
Chemical: BENZO[A]ANTHRACENE
Quantity: 23 milligrams per kilogram
Chemical: CHROMIUM
Quantity: 40 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/26/2011
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received

137 WILLIE STREET (Continued) **S111411825**

Action Date:	10/5/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/5/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	10/5/2011
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/17/2012
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Response Action Outcome - RAO
Action Status:	Fee Received - FMCRA Use Only
Action Date:	8/6/2012
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	8/7/2012
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:

Release Tracking Number/Current Status:	3-0030390 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	10/05/2011
Category:	120 DY
Status Date:	08/17/2012
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

191 WNW 1/2-1 0.604 mi. 3188 ft. **WATER UTILITY** **PAWTUCKET BLVD** **LOWELL, MA 01852** **SHWS LAST RELEASE** **S102086916 N/A**

Relative: Higher

Actual: 103 ft.

SHWS:

Release Tracking Number/Current Status:	3-0014265 / RAO
Release Town:	LOWELL
Notification Date:	09/21/1996
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/18/1996
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Hazardous Material
Location Type:	MUNICIPAL
Source:	AST
Source:	CLINDER

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	CHLORINE
Quantity:	53 pounds

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	10/16/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/18/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	11/18/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	11/5/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	9/21/1996
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

WATER UTILITY (Continued) **S102086916**

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LAST:
Release Tracking Number/Current Status: 3-0014265 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 09/21/1996
Category: TWO HR
Associated ID: Not reported
Status Date: 11/18/1996
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Hazardous Material

Chemicals:
Chemical: CHLORINE
Quantity: 53 pounds
Location Type: MUNICIPAL
Source: AST
Source: CLINDER

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/16/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/18/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/18/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

WATER UTILITY (Continued) **S102086916**

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/5/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/21/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0014265 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/21/1996
Category: TWO HR
Status Date: 11/18/1996
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AR192 **COLONIAL GAS CO** **SHWS** **U001534523**
SW **775 DUTTON ST** **UST** **N/A**
1/2-1 **LOWELL, MA 01854** **AST**
0.610 mi. **RELEASE**
3221 ft. **Site 2 of 3 in cluster AR** **Financial Assurance**
HW GEN

Relative:
Higher

SHWS:
Release Tracking Number/Current Status: 3-0029807 / URAM
Actual: Release Town: LOWELL
108 ft. Notification Date: 02/17/2011

COLONIAL GAS CO (Continued) **U001534523**

Category:	120 DY
Associated ID:	Not reported
Current Status:	**URAM**
Status Date:	02/18/2011
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	INDUSTRIAL
Location Type:	PRIVPROP
Source:	RTN 3-348
Source:	UNKNOWN
Source:	HISTORICL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	NAPHTHALENE
Quantity:	4 milligrams per kilogram
Chemical:	CYANIDE
Quantity:	100 milligrams per kilogram

Actions:

Action Type:	Utility-related Abatement Measure
Action Status:	Notice of Intent to Conduct a URAM
Action Date:	2/17/2011
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	2/17/2011
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Notification of URAM Received
Action Date:	2/18/2011
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	2/6/2012
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Completion Statement Received
Action Date:	3/22/2011
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	URAMLR
Action Date:	4/14/2011
Response Action Outcome:	Not reported

Release Tracking Number/Current Status:	3-0010486 / RAONR
Release Town:	LOWELL
Notification Date:	01/28/1994

COLONIAL GAS CO (Continued) **U001534523**

Category:	TWO HR
Associated ID:	3-0000348
Current Status:	**Response Action Outcome Not Required**
Status Date:	01/26/2010
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	INDUSTRIAL
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	DIESEL FUEL
Quantity:	142 gallons
Chemical:	DIESEL FUEL
Quantity:	300 gallons

Actions:

Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/28/1994
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	1/28/1994
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	11/17/1994
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	11/17/1994
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal

COLONIAL GAS CO (Continued) **U001534523**

Action Date: 11/17/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Effective Date
Action Date: 12/30/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 1B Classification
Action Date: 12/30/1994
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/10/1994
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/28/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 2/7/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 3/12/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 3/26/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/28/1994
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/3/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 4/22/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 4/25/2012
Response Action Outcome: Not reported

COLONIAL GAS CO (Continued) **U001534523**

Action Type: Tier Classification
Action Status: LSP of Record Change via Minor Permit Mod
Action Date: 7/8/2010
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/31/1994
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 9/16/2011
Response Action Outcome: Not reported

UST:

Facility:
Facility ID: 2806
Owner Id: 1426
Owner: COLONIAL GAS COMPANY
Owner Address: 52 2ND AVE
Owner City,St,Zip: WALTHAM, MA 02451
Telephone: Not reported
Description: Utilities
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.64072
Longitude: -71.32143
Contact name: Not reported
Contact address1: Not reported
Contact address2: Not reported
Contact city: Not reported
Contact state: Not reported
Contact zip: Not reported
Contact email: Not reported
Update: 2003-11-06 00:00:00
Update by: Not reported
Fac status: CLOSED

Tank ID: 1
Tank Status: Tank Removed
Status Date: 09/01/2003
Date Installed: 10/01/1979
Capacity: 10000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported

COLONIAL GAS CO (Continued) **U001534523**

Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 09/01/2003
Date Installed: 01/01/1985
Capacity: 15000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Double-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

AST:
Facility ID: 2806
Owner Id: 1426
Owner: COLONIAL GAS COMPANY
Owner Address: 52 2ND AVE
Owner City,St,Zip: WALTHAM, MA 02451
Telephone: (978) 322-3626
Description: Utilities
Fire Dept. ID: 17160

COLONIAL GAS CO (Continued) **U001534523**

Date of Inspection: Not reported
Inspector: Not reported
Overfill Prevention: Not reported
Spill Prevention: Not reported

Tank Info:
Tank ID: 3
Serial Number: Not reported
Tank Status: In Use
Capacity: 2000
Contents: Diesel
Tank Use: MV
Tank Material: Steel
Tank Construction: 1 Wall
Tank Leak Detection: Not reported
Pipe Material: Steel
Pipe Construction: 1 Wall
Pipe Leak Detection: Not reported
Aboveground: Yes

Release:
Release Tracking Number/Current Status: 3-0010486 / RAONR
Primary ID: 3-0000348
Official City: LOWELL
Notification: 01/28/1994
Category: TWO HR
Status Date: 01/26/2010
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0029807 / URAM
Primary ID: Not reported
Official City: LOWELL
Notification: 02/17/2011
Category: 120 DY
Status Date: 02/18/2011
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

MA Financial Assurance 2:
Facility Id: 2806
Description: Utilities
Work Phone: (978) 322-3626

HW GEN:
EPA Id: MAD982754434
RCRA Generator Status: SQG

COLONIAL GAS CO (Continued) **U001534523**

State Generator Status: SQG-MA

EPA Id: MAC300013414
RCRA Generator Status: SQG
State Generator Status: SQG-MA

AS193 **PROPOSED MIDDLE SCHOOL** **SHWS** **S105309406**
WSW **225 MT VERNON ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01852** **RELEASE**
0.613 mi.
3237 ft. **Site 4 of 4 in cluster AS**

Relative:
Higher

Actual:
110 ft.

SHWS:
Release Tracking Number/Current Status: 3-0021464 / RAO
Release Town: LOWELL
Notification Date: 02/06/2002
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/01/2007
Phase: PHASE IV
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO[A]ANTHRACENE
Quantity: 57 milligrams per kilogram
Chemical: BENZO[A]PYRENE
Quantity: 60 milligrams per kilogram
Chemical: CYANIDE
Quantity: .82 milligrams per liter

Actions:
Action Type: Release Abatement Measure
Action Status: Written Approval of Plan
Action Date: 1/2/2003
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/20/2004
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/4/2002
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 11/21/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NORA

PROPOSED MIDDLE SCHOOL (Continued) **S105309406**

Action Date: 11/6/2003
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 12/19/2005
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NON-A
Action Date: 12/19/2005
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NORA
Action Date: 12/2/2003
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 2/13/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/6/2002
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/6/2002
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/12/2002
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/2/2004
Response Action Outcome: Not reported

PROPOSED MIDDLE SCHOOL (Continued) **S105309406**

Action Type:	Activity and Use Limitation
Action Status:	Legal Notice Published
Action Date:	3/5/2007
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	3/9/2004
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	4/2/2004
Response Action Outcome:	Not reported
Action Type:	Activity and Use Limitation
Action Status:	Evaluation of Changes in Land Uses/Site Conditions after RAO
Action Date:	4/2/2014
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Completion Statement Received
Action Date:	4/26/2002
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Completion Statement Received
Action Date:	4/26/2002
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	ACO
Action Date:	4/3/2007
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	5/20/2003
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	6/17/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/28/2002
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	6/28/2002
Response Action Outcome:	Not reported
Action Type:	Activity and Use Limitation
Action Status:	Partial Termination of a Notice of AUL

PROPOSED MIDDLE SCHOOL (Continued) **S105309406**

Action Date: 6/6/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 7/21/2005
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/28/2005
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/23/2005
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NON-A
Action Date: 9/13/2005
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0021464
Action Type: AUL
Action Stat: EVALCH
Action Date: 04/02/2014
Response Action Outcome: -

Release Tracking Number: 3-0021464
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/05/2007
Response Action Outcome: -

Release Tracking Number: 3-0021464
Action Type: AUL
Action Stat: PARTRM
Action Date: 06/06/2011
Response Action Outcome: -

Release Tracking Number: 3-0021464
Action Type: AUL
Action Stat: RECPT
Action Date: 03/01/2007
Response Action Outcome: -

Release Tracking Number: 3-0021464
Action Type: AUL
Action Stat: TSAUD
Action Date: 11/21/2011
Response Action Outcome: -

Release:

PROPOSED MIDDLE SCHOOL (Continued) **S105309406**

Release Tracking Number/Current Status:	3-0021464 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	02/06/2002
Category:	120 DY
Status Date:	03/01/2007
Phase:	PHASE IV
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

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194 WSW 1/2-1 0.615 mi. 3247 ft. **SIDEWALK AREA (WEST SIDE)** **SHWS S107405669**
CRNR OF ROCK AND MOUNT VERNON STS **RELEASE N/A**
LOWELL, MA 01854

Relative: Higher

Actual: 109 ft.

SHWS:

Release Tracking Number/Current Status:	3-0025025 / RAO
Release Town:	LOWELL
Notification Date:	07/11/2005
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/08/2005
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material
Location Type:	OPENSPACE
Location Type:	RIGHTOFWAY
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	CYANIDE
Quantity:	368 milligrams per kilogram

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/8/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/11/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	7/11/2005

SIDEWALK AREA (WEST SIDE) (Continued) **S107405669**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 7/12/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/14/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/17/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/7/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/9/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0025025 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/11/2005
Category: TWO HR
Status Date: 11/08/2005
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AV195 **BOOTT MILLS STEAM PLANT FMR** **SHWS** **S106863538**
East **246 1 MARKET ST** **LUST** **N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.615 mi. **ENF**
3249 ft. **Site 2 of 2 in cluster AV**

Relative:
Higher

Actual:
167 ft.

SHWS:

Release Tracking Number/Current Status:	3-0025438 / RAO
Release Town:	LOWELL
Notification Date:	11/23/2005
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	02/15/2013
Phase:	PHASE IV
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BIS(2-ETHYLHEXYL)PHTHALATE
Quantity:	630 milligrams per kilogram

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	10/10/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	10/15/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Modified Revised or Updated Plan Received
Action Date:	10/31/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	10/4/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	11/13/2012
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 4
Action Status:	Written Plan Received

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

Action Date: 11/19/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 11/21/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 11/21/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 11/21/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/23/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/23/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 11/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/7/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/15/2013
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0004561 / RAO
Status Date: 02/28/2011
Source Type: UST
Release Town: LOWELL
Notification Date: 12/20/1997
Category: NONE
Associated ID: Not reported
Phase: PHASE III
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Location Type: TANK FARM
Location Type: FORMER
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PETROLEUM
Quantity: Not reported

Actions:
Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 1/10/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVSIG
Action Date: 11/16/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVACC
Action Date: 12/20/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

Action Date: 12/21/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 12/23/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/28/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 12/28/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 2/12/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 2/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/28/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/28/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 3/19/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 3/19/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 6/27/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: TREGS
Action Status: WAVREC
Action Date: 7/30/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 7/30/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 8/2/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 9/29/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0004561 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/20/1997
Category: NONE
Status Date: 02/28/2011
Phase: PHASE III
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0025438 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	11/23/2005
Category:	120 DY
Status Date:	02/15/2013
Phase:	PHASE IV
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0025438
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	11/13/2012
ENF #:	NON-NE-12-3C020
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0004561
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	12/23/2009

BOOTT MILLS STEAM PLANT FMR (Continued) **S106863538**

ENF #:	NON-NE-09-3A111
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned
Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0004561
High Or Low Level Enforcement:	HLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	02/12/2010
ENF #:	ACO-NE-10-3A002
Document Type:	ACO
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

AR196 **COMMERCIAL PROPERTY** **SHWS** **S100830521**
SW **774 DUTTON ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.626 mi. **ENF**
3306 ft. **Site 3 of 3 in cluster AR**

Relative:
Higher

Actual:
107 ft.

SHWS:

Release Tracking Number/Current Status:	3-0002629 / RAO
Release Town:	LOWELL
Notification Date:	01/15/1990
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**

COMMERCIAL PROPERTY (Continued) **S100830521**

Status Date: 03/27/2012
Phase: PHASE II
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material: Not reported
Location Type: COMMERCIAL

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 1/8/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Compliance and Enforcement Action
Action Status: CILS
Action Date: 1/8/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 10/23/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/22/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/22/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

COMMERCIAL PROPERTY (Continued) **S100830521**

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/27/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 5/22/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: RLFA
Action Status: FLDD1U
Action Date: 5/22/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 6/18/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/18/2007
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/18/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/18/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 6/18/2008
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: An activity type that is related to an Audit

COMMERCIAL PROPERTY (Continued) **S100830521**

Action Status: NAFNVD
Action Date: 6/5/2015
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 6/8/2010
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

INST CONTROL:
Release Tracking Number: 3-0002629
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/22/2012
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0002629
Action Type: AUL
Action Stat: RECPT
Action Date: 03/22/2012
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0002629
Action Type: AUL
Action Stat: SNAUDI
Action Date: 05/22/2015
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number: 3-0002629
Action Type: AUL
Action Stat: TSAUD
Action Date: 10/23/2012
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release:
Release Tracking Number/Current Status: 3-0002629 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 03/27/2012
Phase: PHASE II
Response Action Outcome: B2 - Remedial actions have not been conducted because a level of No

COMMERCIAL PROPERTY (Continued) **S100830521**

Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3S
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0002629
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	06/18/2007
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0002629
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	01/08/2008
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported

COMMERCIAL PROPERTY (Continued) **S100830521**

EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

197
WNW
1/2-1
0.636 mi.
3356 ft.

NO LOCATION AID
262 PAWTUCKET ST
LOWELL, MA 01854

SHWS **S101024099**
LUST **N/A**
RELEASE
SPILLS

Relative:
Higher

Actual:
105 ft.

SHWS:
Release Tracking Number/Current Status: 3-0002609 / PSC
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: 3-0002609
Current Status: **PSC**
Status Date: 12/21/2015
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported
Location Type: COMMERCIAL
Source: UST
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 10/10/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/16/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 11/16/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT

NO LOCATION AID (Continued) **S101024099**

Action Date: 11/25/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/25/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 11/30/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/8/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 11/8/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 12/12/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/12/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 12/2/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRFIN
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Action Status or AUL Terminated
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Completion Statement Received
Action Date: 12/21/2015
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101024099**

Action Type: Response Action Outcome - RAO
Action Status: PSCRCD
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/8/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 12/8/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 2/19/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 2/19/2009
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 2/9/2005
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 2/9/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 4/1/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 4/1/2013
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 4/19/1996
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: LSPFA
Action Date: 4/19/1996
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT

NO LOCATION AID (Continued) **S101024099**

Action Date: 4/28/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 4/28/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/16/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/16/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/18/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/18/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/27/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/27/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 5/4/2004
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/1/2005
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101024099**

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 6/1/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: LSPFA
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 6/2/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 6/2/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/4/2004
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 6/4/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 6/4/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received

NO LOCATION AID (Continued) **S101024099**

Action Date: 6/6/2006
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCTRAN
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Submittal Determined to be Invalid by DEP
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 8/12/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 8/15/2005
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/27/2013
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/31/2004
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 8/9/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: ROSTRN
Action Date: 9/9/2014
Response Action Outcome: Not reported

LUST:

Facility:

NO LOCATION AID (Continued) **S101024099**

Release Tracking Number/Current Status: 3-0002609 / PSC
Status Date: 12/21/2015
Source Type: UST
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: 3-0002609
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Location Type: COMMERCIAL
Source: UST
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 10/10/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/16/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 11/16/2010
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 11/25/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/25/2009
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 11/30/2005

NO LOCATION AID (Continued) **S101024099**

Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 11/8/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 11/8/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 12/12/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/12/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Submittal Received
Action Date: 12/2/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRFIN
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Action Status or AUL Terminated
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Completion Statement Received
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSCRCD
Action Date: 12/21/2015
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 12/8/2014
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101024099**

Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	12/8/2014
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	2/19/2009
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	2/19/2009
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	2/9/2005
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	2/9/2005
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	4/1/2013
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	4/1/2013
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	4/19/1996
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	LSPFA
Action Date:	4/19/1996
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	4/28/2010
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	4/28/2010
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT

NO LOCATION AID (Continued) **S101024099**

Action Date: 5/16/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/16/2012
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/18/2009
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/18/2009
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: RMRINT
Action Date: 5/27/2011
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Remedy Operation Status Report Received
Action Date: 5/27/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Enforcement Conference
Action Date: 5/4/2004
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/1/2005
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 6/1/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/13/1996
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101024099**

Action Type:	TREGS
Action Status:	LSPFA
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	6/2/2015
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	6/2/2015
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	6/4/2004
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT
Action Date:	6/4/2013
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	6/4/2013
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Submittal Received
Action Date:	6/6/2006
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Remedy Operation Status Report Received
Action Date:	6/6/2014
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	RMRINT

NO LOCATION AID (Continued) **S101024099**

Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCTRAN
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Submittal Determined to be Invalid by DEP
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 8/12/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 8/15/2005
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/27/2013
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACOP
Action Date: 8/31/2004
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 8/9/2013
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: ROSTRN
Action Date: 9/9/2014
Response Action Outcome: Not reported

Facility:
Release Tracking Number/Current Status: 3-0013603 / RAONR
Status Date: 06/14/1996
Source Type: UST
Release Town: LOWELL
Notification Date: 03/25/1996
Category: 72 HR
Associated ID: 3-0002609
Phase: PHASE II
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material

Location Type: COMMERCIAL

NO LOCATION AID (Continued) **S101024099**

Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZENE
Quantity:	390 micrograms per liter
Chemical:	ETHYLBENZENE
Quantity:	1900 micrograms per liter
Chemical:	BTEX
Quantity:	Not reported
Chemical:	UNKNOWN CHEMICAL OF UNKNOWN TYPE
Quantity:	2.3 milligrams per liter
Chemical:	XYLENE
Quantity:	12900 micrograms per liter
Chemical:	TOLUENE
Quantity:	7900 micrograms per liter
Chemical:	TPH
Quantity:	43000 micrograms per liter

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	3/25/1996
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	IRA Assessment Only
Action Date:	3/25/1996
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/19/1996
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	4/19/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	5/2/2005
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	5/2/2005
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Transition Site - Obsolete Status
Action Date:	5/24/1996
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S101024099**

Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	5/24/1996
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	5/24/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	6/13/1996
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	6/14/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	6/4/2004
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	TCTRAN
Action Date:	6/6/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Submittal Determined to be Invalid by DEP
Action Date:	6/6/2014
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	ACOP
Action Date:	8/31/2004
Response Action Outcome:	Not reported

NO LOCATION AID (Continued) **S101024099**

Facility:

Release Tracking Number/Current Status:	3-0024335 / RAONR
Status Date:	05/02/2005
Source Type:	UST
Release Town:	LOWELL
Notification Date:	10/18/2004
Category:	72 HR
Associated ID:	3-0002609
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	PETROLEUM
Quantity:	.72 inches
Chemical:	PETROLEUM
Quantity:	.4 inches

Actions:

Action Type:	Immediate Response Action
Action Status:	IRA Assessment Only
Action Date:	10/18/2004
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/18/2004
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	11/22/2004
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	12/17/2004
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	12/17/2004
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Status or Interim Report Received
Action Date:	2/18/2005
Response Action Outcome:	Not reported
Action Type:	Tier Classification

NO LOCATION AID (Continued) **S101024099**

Action Status: Tier 2 Extension
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 5/2/2005
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/13/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/4/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Submittal Determined to be Invalid by DEP
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCTRAN
Action Date: 6/6/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 8/15/2005
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0002609 / PSC

NO LOCATION AID (Continued) **S101024099**

Primary ID: 3-0002609
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 12/21/2015
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0013603 / RAONR
Primary ID: 3-0002609
Official City: LOWELL
Notification: 03/25/1996
Category: 72 HR
Status Date: 06/14/1996
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0024335 / RAONR
Primary ID: 3-0002609
Official City: LOWELL
Notification: 10/18/2004
Category: 72 HR
Status Date: 05/02/2005
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	3-2609	Spill ID:	N89-1438
Staff Lead:	FONKEM, V	Date Entered:	19890927
Last Entered:	19930825	First Response:	19890824
Spill Date:	19890824	Spill Time:	Not reported
Report Date:	19890824	Report Time:	04:20PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	U.S.T.	Other Source:	Not reported
Incident:	TANK REMOVAL	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SA	LUST Elig:	YES
Report Prep:	Not reported	Category:	Not reported
Notifier:	LARRY LESSARD		

NO LOCATION AID (Continued) **S101024099**

Notif Tel: Not reported
Days/Close: 0

198
West
1/2-1
0.638 mi.
3369 ft.

NO LOCATION AID **SHWS** **S104482480**
51 TO 53 MT WASHINGTON ST **RELEASE** **N/A**
LOWELL, MA

Relative:
Higher

Actual:
136 ft.

SHWS:

Release Tracking Number/Current Status:	3-0019119 / RAO
Release Town:	LOWELL
Notification Date:	12/27/1999
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/27/2000
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	RESIDNTIAL
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	HEATING OIL
Quantity:	10 gallons
Chemical:	FUEL OIL #2
Quantity:	10 gallons

Actions:

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	12/27/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/27/1999
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	2/25/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Written Plan Received
Action Date:	2/25/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S104482480**

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	2/4/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	3/27/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/27/2000
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0019119 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	12/27/1999
Category:	TWO HR
Status Date:	03/27/2000
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

---

199 SW 1/2-1 0.661 mi. 3490 ft.

Relative: Higher

Actual: 99 ft.

NOKODE HOLDINGS LLC **SHWS S108962867**
585-607 MIDDLESEX ST **RELEASE N/A**
LOWELL, MA 01851

SHWS:

Release Tracking Number/Current Status:	3-0027367 / RAO
Release Town:	LOWELL
Notification Date:	01/03/2008
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	01/11/2008
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

NOKODE HOLDINGS LLC (Continued) **S108962867**

Chemicals:

Chemical:	NICKEL
Quantity:	33.8 milligrams per kilogram
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	230 milligrams per kilogram
Chemical:	CHROMIUM
Quantity:	42.8 milligrams per kilogram
Chemical:	ARSENIC
Quantity:	31.1 milligrams per kilogram

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	1/11/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/3/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/3/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	8/10/2009
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0027367 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/03/2008
Category:	120 DY
Status Date:	01/11/2008
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AW200 **LOWELL GAS WORKS** **EDR MGP** **1008408452**
WSW **ROCK STREET** **N/A**
1/2-1 **LOWELL, MA 1854**
0.664 mi.
3504 ft. **Site 1 of 3 in cluster AW**

Relative:
Higher

Actual:
105 ft.

Manufactured Gas Plants:
Alternate Name:LOWELL GAS LIGHT CO. No additional information available

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AW201 **PROPOSED MIDDLE SCHOOL** **SHWS** **S105125082**
WSW **294 SCHOOL ST** **LUST** **N/A**
1/2-1 **LOWELL, MA 01852** **INST CONTROL**
0.665 mi. **BROWNFIELDS**
3513 ft. **Site 2 of 3 in cluster AW** **RELEASE**
ENF

Relative:
Higher

Actual:
105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0020861 / RAO
Release Town:	LOWELL
Notification Date:	06/29/2001
Category:	TWO HR
Associated ID:	3-0020861
Current Status:	**Response Action Outcome**
Status Date:	03/01/2007
Phase:	PHASE IV
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material:	Hazardous Material
Location Type:	INDUSTRIAL
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	ARSENIC
Quantity:	69 parts per million
Chemical:	ARSENIC
Quantity:	69 milligrams per kilogram

Actions:

Action Type:	Release Abatement Measure
Action Status:	Written Approval of Plan
Action Date:	1/2/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/20/2004
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Date: 10/12/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/4/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level III - Comprehensive Audit
Action Date: 10/8/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: Interim Deadline Letter Issued
Action Date: 10/8/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 10/8/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 11/21/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: NORA
Action Date: 11/6/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 12/19/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: NON-A
Action Date: 12/19/2005

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: NORA
Action Date: 12/2/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 2/18/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 2/19/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/19/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/1/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/1/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/1/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 3/19/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/2/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/5/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/9/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/2/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Evaluation of Changes in Land Uses/Site Conditions after RAO
Action Date: 4/2/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 4/26/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 4/26/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 4/3/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

been implemented.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 6/17/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level I - Technical Screen Audit
Action Date: 6/19/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/28/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/28/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/29/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/29/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Partial Termination of a Notice of AUL
Action Date: 6/6/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Type:	Activity and Use Limitation
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	6/6/2011
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Level II - Audit Inspection
Action Date:	7/17/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	7/21/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	7/27/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	RLFA
Action Status:	FLDRAN
Action Date:	7/28/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	8/23/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Immediate Response Action
Action Status:	Imminent Hazard Evaluation Received
Action Date:	8/27/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	8/27/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	RNF

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Status:	Reportable Release under MGL 21E
Action Date:	8/27/2001
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	Compliance and Enforcement Action
Action Status:	NON-A
Action Date:	9/13/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Action Type:	An activity type that is related to an Audit
Action Status:	NAFNVD
Action Date:	9/29/2014
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number/Current Status:	3-0021570 / RAO
Release Town:	LOWELL
Notification Date:	03/13/2002
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/01/2007
Phase:	PHASE IV
Response Action Outcome:	-
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	1,1-DICHLOROETHENE
Quantity:	.0013 milligrams per liter
Chemical:	DIBENZ[A,H]ANTHRACENE
Quantity:	11 milligrams per kilogram
Chemical:	BENZO(K)FLUORANTHENE
Quantity:	24 milligrams per kilogram
Chemical:	BENZO[A]ANTHRACENE
Quantity:	61 milligrams per kilogram
Chemical:	CYANIDE
Quantity:	.64 milligrams per liter
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	75 milligrams per kilogram
Chemical:	CHRYSENE
Quantity:	57 milligrams per kilogram
Chemical:	LEAD
Quantity:	700 milligrams per kilogram
Chemical:	METHYLENE CHLORIDE
Quantity:	1.1 milligrams per kilogram
Chemical:	PHENANTHRENE
Quantity:	100 milligrams per kilogram
Chemical:	INDENO(1,2,3-CD)PYRENE

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Quantity:	44 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	45 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	13 milligrams per kilogram
Chemical:	2-METHYLNAPHTHALENE
Quantity:	4 milligrams per kilogram
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	2000 milligrams per kilogram

Actions:

Action Type:	Release Abatement Measure
Action Status:	Written Approval of Plan
Action Date:	1/2/2003
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	1/20/2004
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	10/4/2002
Response Action Outcome:	Not reported
Action Type:	Activity and Use Limitation
Action Status:	Level I - Technical Screen Audit
Action Date:	11/21/2011
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	NORA
Action Date:	11/6/2003
Response Action Outcome:	Not reported
Action Type:	Phase 4
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	12/19/2005
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	NON-A
Action Date:	12/19/2005
Response Action Outcome:	Not reported
Action Type:	Compliance and Enforcement Action
Action Status:	NORA
Action Date:	12/2/2003
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/1/2007
Response Action Outcome:	Not reported
Action Type:	Activity and Use Limitation
Action Status:	Transmittal, Notice, or Notification Received

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/13/2002
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/13/2002
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/2/2004
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/5/2007
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/9/2004
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 4/2/2004
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Evaluation of Changes in Land Uses/Site Conditions after RAO
Action Date: 4/2/2014
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 4/26/2002
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 4/26/2002
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: ACO
Action Date: 4/3/2007
Response Action Outcome: Not reported

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/30/2002
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/20/2003
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 6/17/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/28/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/28/2002
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Partial Termination of a Notice of AUL
Action Date: 6/6/2011
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 7/21/2005
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRAN
Action Date: 7/28/2005
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/23/2005
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NON-A
Action Date: 9/13/2005
Response Action Outcome: Not reported

LUST:

Facility:
Release Tracking Number/Current Status: 3-0023456 / RAONR
Status Date: 02/18/2004
Source Type: UST

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Release Town:	LOWELL
Notification Date:	12/18/2003
Category:	72 HR
Associated ID:	3-0020861
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	INDUSTRIAL
Source:	UST

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	FUEL OIL #2
Quantity:	252 parts per million
Chemical:	#2 FUEL OIL
Quantity:	250 parts per million

Actions:

Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	10/12/2004
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/18/2003
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	IRA Assessment Only
Action Date:	12/18/2003
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	2/18/2004
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	Linked to a Tier Classified Site
Action Date:	2/18/2004
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	2/18/2004
Response Action Outcome:	Not reported
Action Type:	Immediate Response Action
Action Status:	Imminent Hazard Evaluation Received
Action Date:	2/18/2004
Response Action Outcome:	Not reported

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/18/2004
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/4/2004
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 6/28/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/28/2002
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: ACTAUD
Action Date: 10/08/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: EVALCH
Action Date: 04/02/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/05/2007
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: PARTRM
Action Date: 06/06/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: RECPT

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Date: 03/01/2007
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: RECPT
Action Date: 06/06/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: SNAUDI
Action Date: 07/17/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: TSAUD
Action Date: 06/19/2014
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0020861
Action Type: AUL
Action Stat: TSAUD
Action Date: 11/21/2011
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0021570
Action Type: AUL
Action Stat: EVALCH
Action Date: 04/02/2014
Response Action Outcome: -

Release Tracking Number: 3-0021570
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/05/2007
Response Action Outcome: -

Release Tracking Number: 3-0021570
Action Type: AUL
Action Stat: PARTRM
Action Date: 06/06/2011
Response Action Outcome: -

Release Tracking Number: 3-0021570
Action Type: AUL

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Action Stat: RECPT
Action Date: 03/01/2007
Response Action Outcome: -

Release Tracking Number: 3-0021570
Action Type: AUL
Action Stat: TSAUD
Action Date: 11/21/2011
Response Action Outcome: -

BROWNFIELDS 2:
RTN: 3-0020861
RAO Class: A3
Other RTNs: Not reported
Current Owner: City of Lowell
MCP Status: RAO
AUL: Yes
COCs: Arsenic
Former Use: Industrial
Current Use: Not reported
Total Acreage: 2.18

Release:
Release Tracking Number/Current Status: 3-0020861 / RAO
Primary ID: 3-0020861
Official City: LOWELL
Notification: 06/29/2001
Category: TWO HR
Status Date: 03/01/2007
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0021570 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 03/13/2002
Category: 120 DY
Status Date: 03/01/2007
Phase: PHASE IV
Response Action Outcome: -
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0023456 / RAONR
Primary ID: 3-0020861
Official City: LOWELL
Notification: 12/18/2003
Category: 72 HR

PROPOSED MIDDLE SCHOOL (Continued) **S105125082**

Status Date:	02/18/2004
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0020861
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	10/08/2014
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

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202 **OFF GRANT ST** **SHWS** **S102086745**
SSW **8 MARSHALL ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA**
0.667 mi.
3521 ft.

Relative:
Higher

Actual:
122 ft.

SHWS:

Release Tracking Number/Current Status:	3-0012558 / RAO
Release Town:	LOWELL
Notification Date:	06/08/1995
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/22/1995
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	ROADWAY

OFF GRANT ST (Continued) **S102086745**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PAINT THINNER
Quantity: Not reported

Actions:
Action Type: RAO - DEP Lead
Action Status: RAO Statement Received
Action Date: 11/22/1995
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/8/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 6/8/1995
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0012558 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 06/08/1995
Category: TWO HR
Status Date: 11/22/1995
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

AX203 **COMFORT FURNITURE** **SHWS** **S108962727**
SSW **155 THORNDIKE ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.669 mi.
3532 ft. **Site 1 of 2 in cluster AX**

Relative: Higher

Actual: 125 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027324 / RAO
Release Town: LOWELL
Notification Date: 12/18/2007
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 02/13/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil

COMFORT FURNITURE (Continued) **S108962727**

Location Type: ROADWAY
Source: COMPACTOR
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC FLUID
Quantity: 55 gallons
Chemical: HYDRAULIC OIL
Quantity: 55 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/23/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 12/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/18/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 2/13/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 2/13/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0027324 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/18/2007
Category: TWO HR

COMFORT FURNITURE (Continued) **S108962727**

Status Date: 02/13/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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204 SSW 1/2-1 0.670 mi. 3537 ft. **CRNR OF WESTFORD CHELMSFORD ST** **SHWS S105735974**
55 CHELMSFORD ST **RELEASE N/A**
LOWELL, MA 01851 **HW GEN**

Relative: Higher

Actual: 136 ft.

SHWS:
Release Tracking Number/Current Status: 3-0022488 / RAONR
Release Town: LOWELL
Notification Date: 01/16/2003
Category: 120 DY
Associated ID: 3-0022192
Current Status: **Response Action Outcome Not Required**
Status Date: 10/20/2003
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TPH
Quantity: 55.3 milligrams per liter

Actions:
Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/16/2003
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/16/2003
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 1/21/2003
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/21/2003
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/20/2003

CRNR OF WESTFORD CHELMSFORD ST (Continued) **S105735974**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/20/2003
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 10/20/2003
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/20/2003
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/6/2003
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0022192 / RAO
Release Town: LOWELL
Notification Date: 10/07/2002
Category: 120 DY
Associated ID: 3-0022192
Current Status: **Response Action Outcome**
Status Date: 01/25/2005
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TETRACHLOROETHENE
Quantity: .76 milligrams per kilogram
Chemical: MTBE
Quantity: .412 milligrams per kilogram
Chemical: ARSENIC
Quantity: 69.8 milligrams per kilogram

Actions:
Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/21/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 1/21/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

CRNR OF WESTFORD CHELMSFORD ST (Continued) **S105735974**

reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 1/25/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 10/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 10/20/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/7/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/7/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/7/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure

CRNR OF WESTFORD CHELMSFORD ST (Continued) **S105735974**

Action Status:	Fee Received - FMCRA Use Only
Action Date:	10/8/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	11/21/2002
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	9/3/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0022192 / RAO
Primary ID:	3-0022192
Official City:	LOWELL
Notification:	10/07/2002
Category:	120 DY
Status Date:	01/25/2005
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0022488 / RAONR
Primary ID:	3-0022192
Official City:	LOWELL
Notification:	01/16/2003
Category:	120 DY
Status Date:	10/20/2003
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

HW GEN:

EPA Id:	MAR000510545
RCRA Generator Status:	VSQG
State Generator Status:	Not reported

AY205 **NO LOCATION AID** **SHWS** **S101034796**
South **376 GORHAM ST** **LUST** **N/A**
1/2-1 **LOWELL, MA 01852** **RELEASE**
0.670 mi. **SPILLS**
3539 ft. **Site 1 of 2 in cluster AY**

Relative:
Higher

Actual:
124 ft.

SHWS:

Release Tracking Number/Current Status:	3-0023039 / RAO
Release Town:	LOWELL
Notification Date:	07/24/2003
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/14/2003
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	PIPE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	GASOLINE
Quantity:	15 gallons

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	10/14/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/14/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	10/14/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	10/14/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/24/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

NO LOCATION AID (Continued) **S101034796**

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/24/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/14/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:
Release Tracking Number/Current Status: 3-0003491 / LSPNFA
Status Date: 08/09/1996
Source Type: UST
Release Town: LOWELL
Notification Date: 01/15/1991
Category: NONE
Associated ID: Not reported
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Location Type: GASSTATION
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1991
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: LSPNFA
Action Date: 8/9/1996
Response Action Outcome: Not reported

Facility:
Release Tracking Number/Current Status: 3-0021072 / RAO
Status Date: 05/27/2010
Source Type: UST
Release Town: LOWELL
Notification Date: 09/06/2001
Category: 120 DY

NO LOCATION AID (Continued) **S101034796**

Associated ID: 3-0021072
Phase: PHASE V
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C9 THRU C10 AROMATIC HYDROCARBONS
Quantity: 5900 micrograms per liter
Chemical: C5 THRU C8 ALIPHATIC HYDROCARBONS
Quantity: 4700 micrograms per liter
Chemical: C9 THRU C12 ALIPHATIC HYDROCARBONS
Quantity: 3600 micrograms per liter

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 10/10/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RMRFIN
Action Date: 10/10/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 11/15/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/19/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 12/4/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Modified Revised or Updated Plan Received
Action Date: 2/12/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S101034796**

Action Type: Response Action Outcome - RAO
Action Status: Inspection and Monitoring Report Received
Action Date: 3/13/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/15/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 3/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 3/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Revised Statement or Transmittal Received
Action Date: 3/8/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level III - Comprehensive Audit
Action Date: 3/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 3/9/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 5
Action Status: Work Started
Action Date: 4/10/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: As-Built Construction Report Received
Action Date: 4/10/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Completion Statement Received
Action Date: 4/10/2007

NO LOCATION AID (Continued) **S101034796**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FLDRAN
Action Date: 4/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/27/2010
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/30/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Level III - Comprehensive Audit
Action Date: 6/28/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 6/28/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 6/5/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/26/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 8/24/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 9/13/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

NO LOCATION AID (Continued) **S101034796**

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 9/13/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 9/16/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/16/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 9/16/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/16/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 9/17/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/6/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/6/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Facility:
Release Tracking Number/Current Status: 3-0026791 / RAONR
Status Date: 07/26/2007
Source Type: UST
Release Town: LOWELL
Notification Date: 04/27/2007
Category: 72 HR
Associated ID: 3-0021072

NO LOCATION AID (Continued) **S101034796**

Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Location Type: RESIDNTIAL
Location Type: COMMERCIAL
Source: UST

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 1100 parts per million

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/27/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/27/2007
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/15/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 5/15/2007
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/7/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 6/20/2007
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/20/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 6/20/2007
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S101034796**

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/20/2007
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 7/26/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 7/26/2007
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 7/26/2007
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/16/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/16/2002
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0003491 / LSPNFA
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1991
Category: NONE
Status Date: 08/09/1996
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0021072 / RAO
Primary ID: 3-0021072
Official City: LOWELL
Notification: 09/06/2001
Category: 120 DY
Status Date: 05/27/2010
Phase: PHASE V
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

NO LOCATION AID (Continued) **S101034796**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0023039 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	07/24/2003
Category:	TWO HR
Status Date:	10/14/2003
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0026791 / RAONR
Primary ID:	3-0021072
Official City:	LOWELL
Notification:	04/27/2007
Category:	72 HR
Status Date:	07/26/2007
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	3-3491	Spill ID:	N90-1481
Staff Lead:	STUGER, B	Date Entered:	19901025
Last Entered:	19940104	First Response:	19900907
Spill Date:	Not reported	Spill Time:	Not reported
Report Date:	19900907	Report Time:	10:15AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	----------	Other Impact:	Not reported
Material:	GASOLINE	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	UNKNOWN
Source:	U.S.T.	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	SA	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	DON AYERS, SUNOCO		
Notif Tel:	Not reported		
Days/Close:	0		

206
North
1/2-1
0.673 mi.
3551 ft.

GREENHALGE SCHOOL
149 ENNELL ST
LOWELL, MA 01850

SHWS **S108117310**
RELEASE **N/A**

Relative:
Lower

Actual:
88 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026159 / RAO
Release Town:	LOWELL
Notification Date:	08/19/2006
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/19/2006
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	SCHOOL
Source:	SDDLTNK
Source:	VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	DIESEL FUEL
Quantity:	30 gallons

Actions:

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	10/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	10/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	8/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	8/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	9/19/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

GREENHALGE SCHOOL (Continued) **S108117310**

Release:
- Release Tracking Number/Current Status: 3-0026159 / RAO
- Primary ID: Not reported
- Official City: LOWELL
- Notification: 08/19/2006
- Category: TWO HR
- Status Date: 10/19/2006
- Phase: Not reported
- Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
- Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

207
WSW
1/2-1
0.676 mi.
3567 ft.

Relative: Higher

Actual: 117 ft.

BROADWAY CONDOS **SHWS** **S100829043**
590 BROADWAY **INST CONTROL** **N/A**
LOWELL, MA 01850 **RELEASE**

SHWS:
- Release Tracking Number/Current Status: 3-0002102 / RAO
- Release Town: LOWELL
- Notification Date: 01/17/1989
- Category: NONE
- Associated ID: Not reported
- **Current Status:** **Response Action Outcome**
- Status Date: 03/01/2007
- Phase: Not reported
- Response Action Outcome: -
- Oil Or Haz Material: Not reported
- Location Type: FORMER
- Location Type: OPENSPACE
- Location Type: UTILITY

Click here to access the MA DEP site for this facility:

Chemicals:
- Chemical: UNKNOWN
- Quantity: Not reported

Actions:
- Action Type: A Notice sent to a Potentially Responsible Party (PRP)
- Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
- Action Date: 1/17/1989
- Response Action Outcome: Not reported

- Action Type: Release Disposition
- Action Status: Valid Transition Site
- Action Date: 1/17/1989
- Response Action Outcome: Not reported

- Action Type: Activity and Use Limitation
- Action Status: Level I - Technical Screen Audit
- Action Date: 11/21/2011

BROADWAY CONDOS (Continued) **S100829043**

Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVSIG
Action Date: 2/22/1990
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVACC
Action Date: 2/25/1990
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/1/2007
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 3/26/1999
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/5/2007
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Evaluation of Changes in Land Uses/Site Conditions after RAO
Action Date: 4/2/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 5/16/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/16/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 5/16/2002
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVREC
Action Date: 5/23/1989
Response Action Outcome: Not reported

BROADWAY CONDOS (Continued) **S100829043**

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/16/1994
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/16/1994
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 6/17/2014
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Partial Termination of a Notice of AUL
Action Date: 6/6/2011
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLFLD
Action Date: 8/7/2001
Response Action Outcome: Not reported

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 9/18/2001
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 9/18/2001
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0002102
Action Type: AUL
Action Stat: EVALCH
Action Date: 04/02/2014
Response Action Outcome: -

Release Tracking Number: 3-0002102
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/05/2007
Response Action Outcome: -

Release Tracking Number: 3-0002102
Action Type: AUL
Action Stat: PARTRM
Action Date: 06/06/2011
Response Action Outcome: -

Release Tracking Number: 3-0002102
Action Type: AUL

BROADWAY CONDOS (Continued) **S100829043**

Action Stat: RECPT
Action Date: 03/01/2007
Response Action Outcome: -

Release Tracking Number: 3-0002102
Action Type: AUL
Action Stat: RECPT
Action Date: 06/16/1994
Response Action Outcome: -

Release Tracking Number: 3-0002102
Action Type: AUL
Action Stat: TSAUD
Action Date: 11/21/2011
Response Action Outcome: -

Release:
Release Tracking Number/Current Status: 3-0002102 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/17/1989
Category: NONE
Status Date: 03/01/2007
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

208
SSE
1/2-1
0.684 mi.
3609 ft.

CENTENNIAL ISLAND **SHWS** **S100830502**
WAMESIT CANAL **RELEASE** **N/A**
LOWELL, MA 01850

Relative: Higher

Actual: 89 ft.

SHWS:
Release Tracking Number/Current Status: 3-0001549 / PENNFA
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: Not reported
Current Status: **Pending No Further Action**
Status Date: 02/27/1997
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition

CENTENNIAL ISLAND (Continued) **S100830502**

Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: PENNFA
Action Date: 2/27/1997
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001549 / PENNFA
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/1990
Category: NONE
Status Date: 02/27/1997
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

AW209 **COLONIAL GAS CO** **SHWS** **S100829044**
WSW **DUTTON ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA** **ENF**
0.689 mi.
3639 ft. **Site 3 of 3 in cluster AW**

Relative: Higher

Actual: 104 ft.

SHWS:
Release Tracking Number/Current Status: 3-0000348 / TMPS
Release Town: LOWELL
Notification Date: 01/15/1987
Category: NONE
Associated ID: 3-0000348
Current Status: **TMPS**
Status Date: 04/22/2016
Phase: PHASE V
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: UTILITY
Location Type: INDUSTRIAL
Source: UNCONTAIN
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: POLYAROMATIC HYDROCARBONS
Quantity: Not reported
Chemical: PAH
Quantity: Not reported
Chemical: UNKNOWN CHEMICAL OF TYPE - HAZARDOUS MATERIAL
Quantity: Not reported

COLONIAL GAS CO (Continued) **S100829044**

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	Submittal Retracted
Action Date:	1/26/2010
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	1/3/2014
Response Action Outcome:	Not reported
Action Type:	Phase 5
Action Status:	Inspection and Monitoring Report Received
Action Date:	1/6/1999
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Completion Statement Received
Action Date:	1/7/1997
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	1/8/2015
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	1/9/2009
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	1/9/2015
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	10/13/2010
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure

COLONIAL GAS CO (Continued) **S100829044**

Action Status: Completion Statement Received
Action Date: 10/2/2008
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 10/30/2008
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/1/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 11/17/1994
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 11/20/2009
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/4/2013
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/20/2013
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 12/22/2004
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/23/1999
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/23/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 1B Classification
Action Date: 12/30/1994

COLONIAL GAS CO (Continued) **S100829044**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Effective Date
Action Date: 12/30/1994
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: BWSC05
Action Date: 12/30/1994
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 2/10/2016
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 2/12/2015
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 2/13/2015
Response Action Outcome: Not reported

Action Type: Utility-related Abatement Measure
Action Status: Completion Statement Received
Action Date: 2/16/2001
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 2/7/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 2/9/2016
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 3/11/2015
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/11/2015
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 3/12/2010
Response Action Outcome: Not reported

COLONIAL GAS CO (Continued) **S100829044**

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 3/13/2002
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/13/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 3/13/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 3/14/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/14/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/14/2016
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 3/14/2016
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Inspection and Monitoring Report Received
Action Date: 3/15/2000
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINI
Action Date: 3/16/2012
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 3/16/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 3/26/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received

COLONIAL GAS CO (Continued) **S100829044**

Action Date: 3/28/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 3/29/2016
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/12/2016
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 4/22/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: TSNREV
Action Date: 4/22/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 4/24/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Permit Extension Received
Action Date: 4/25/2012
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 4/25/2016
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 4/5/2012
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 5/1/1996
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/10/2016
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/16/2014
Response Action Outcome: Not reported

COLONIAL GAS CO (Continued) **S100829044**

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	5/2/2014
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	5/22/2015
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	5/31/2016
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	5/7/2015
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	6/10/2008
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	SHPFAC
Action Date:	6/19/2015
Response Action Outcome:	Not reported
Action Type:	TAG
Action Status:	GRNTEX
Action Date:	6/30/2001
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	6/9/2008
Response Action Outcome:	Not reported
Action Type:	TAG
Action Status:	GRNTST
Action Date:	7/1/2000
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	7/13/2010
Response Action Outcome:	Not reported
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	7/28/2015
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	LSP of Record Change via Minor Permit Mod

COLONIAL GAS CO (Continued) **S100829044**

Action Date: 7/8/2010
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 7/8/2010
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 8/13/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 8/18/2014
Response Action Outcome: Not reported

Action Type: Phase 5
Action Status: Inspection and Monitoring Report Received
Action Date: 8/20/1999
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 8/3/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/31/1994
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 9/11/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/11/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 9/11/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/11/2013
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 9/13/2012
Response Action Outcome: Not reported

COLONIAL GAS CO (Continued) **S100829044**

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 9/13/2012
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 9/14/2015
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 9/14/2015
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Modified Revised or Updated Plan Received
Action Date: 9/16/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 9/16/2011
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: RMRINT
Action Date: 9/16/2014
Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Status or Interim Report Received
Action Date: 9/16/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: SHPFAC
Action Date: 9/26/2013
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/6/2012
Response Action Outcome: Not reported

Action Type: BWS20
Action Status: APPROV
Action Date: Not reported
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000348 / TMPS
Primary ID: 3-0000348
Official City: LOWELL
Notification: 01/15/1987
Category: NONE

COLONIAL GAS CO (Continued) **S100829044**

Status Date: 04/22/2016
Phase: PHASE V
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3R
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0000348
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Lowell
Date Executed: 05/02/2014
ENF #: NON-NE-14-3R027
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

---

210 West 1/2-1 0.695 mi. 3669 ft.

MULDOON BROS INC **SHWS S102555476**
SCHOOL BUTTERFIELD SARGENT STS **RELEASE N/A**
LOWELL, MA

Relative: Higher

Actual: 169 ft.

SHWS:
Release Tracking Number/Current Status: 3-0014737 / RAO
Release Town: LOWELL
Notification Date: 01/20/1997
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/27/1997
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: RESIDNTIAL
Location Type: COMMERCIAL

MULDOON BROS INC (Continued) **S102555476**

Location Type: ROADWAY
Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HEATING OIL
Quantity: 60 gallons
Chemical: FUEL OIL #2
Quantity: 60 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 1/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/10/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 3/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/27/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0014737 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/20/1997
Category: TWO HR
Status Date: 03/27/1997

MULDOON BROS INC (Continued) **S102555476**

Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

AX211 **LOWELL REGIONAL TRANSIT AUTHORITY** **SHWS** **S106617566**
SSW **145 THORNDIKE ST** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01852** **RELEASE**
0.695 mi.
3671 ft. **Site 2 of 2 in cluster AX**

Relative:
Higher

Actual:
125 ft.

SHWS:
Release Tracking Number/Current Status: 3-0024236 / RAO
Release Town: LOWELL
Notification Date: 09/10/2004
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 10/30/2009
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: ARSENIC
Quantity: 77.3 milligrams per kilogram
Chemical: TPH
Quantity: 2400 milligrams per kilogram
Chemical: UNKNOWN
Quantity: 4.5 milligrams per kilogram

Actions:
Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 1/18/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 1/7/2015
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 10/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

LOWELL REGIONAL TRANSIT AUTHORITY (Continued) **S106617566**

reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/30/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/31/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 11/12/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 11/12/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: BOL
Action Status: SHPFAC
Action Date: 12/24/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 2/16/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 3/12/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/15/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has

LOWELL REGIONAL TRANSIT AUTHORITY (Continued) **S106617566**

been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/21/2009
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 7/26/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 9/19/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/20/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 9/20/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

LOWELL REGIONAL TRANSIT AUTHORITY (Continued) **S106617566**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/20/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 9/20/2005
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 9/21/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 9/21/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 9/22/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 9/23/2014
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 9/9/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0024236
Action Type: AUL
Action Stat: RECPT
Action Date: 07/15/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL)

LOWELL REGIONAL TRANSIT AUTHORITY (Continued) **S106617566**

has been implemented.

Release Tracking Number: 3-0024236
Action Type: AUL
Action Stat: RECPT
Action Date: 07/21/2009
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0024236
Action Type: AUL
Action Stat: SNAUDI
Action Date: 02/16/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:
Release Tracking Number/Current Status: 3-0024236 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/10/2004
Category: 120 DY
Status Date: 10/30/2009
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

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212 **MA0045** **SHWS** **U003000211**
NNW **801 LAKEVIEW AVE** **LUST** **N/A**
1/2-1 **LOWELL, MA 01850** **UST**
0.696 mi. **RELEASE**
3677 ft. **Financial Assurance**

Relative: Lower

Actual: 78 ft.

SHWS:
Release Tracking Number/Current Status: 3-0023912 / RAO
Release Town: LOWELL
Notification Date: 05/27/2004
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/28/2004
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: PIPE

Click here to access the MA DEP site for this facility:

MA0045 (Continued) **U003000211**

Chemicals:
Chemical: GASOLINE
Quantity: 30 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 5/27/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 7/28/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/10/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status: 3-0010386 / RAO
Release Town: LOWELL
Notification Date: 01/01/1994
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/09/1994
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: PIPE
Source: TANKER

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: GASOLINE
Quantity: 30 gallons
Chemical: GASOLINE
Quantity: 25 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E

MA0045 (Continued) **U003000211**

Action Date:	1/1/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	1/1/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/2/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/28/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	8/9/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/9/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LUST:

Facility:

Release Tracking Number/Current Status:	3-0017008 / RAO
Status Date:	03/05/1999
Source Type:	UST
Release Town:	LOWELL
Notification Date:	07/07/1998
Category:	72 HR
Associated ID:	Not reported
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Location Type:	RESIDNTIAL
Source:	UST

Click here to access the MA DEP site for this facility:

MA0045 (Continued) **U003000211**

Chemicals:
Chemical: VOCS
Quantity: 300 parts per million
Chemical: GASOLINE
Quantity: Not reported

Actions:
Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 3/19/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/5/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 7/7/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 7/7/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/10/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/1/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 9/25/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

UST:

Facility:
Facility ID: 10151
Owner Id: 10508
Owner: MALG UST II LLC
Owner Address: 515 HAMILTION ST SUITE 200

MA0045 (Continued) **U003000211**

Owner City,St,Zip: ALLENTOWN, PA 18101
Telephone: 9784411985
Description: Retail Motor Vehicle Fuel
Facility address 2: Not reported
Owner address 2: Not reported
Latitude: 42.65841
Longitude: -71.31360
Contact name: Teresa Kozloff
Contact address1: 645 Hamilton St., Suite 500
Contact address2: Not reported
Contact city: Allentown
Contact state: PA
Contact zip: 18101
Contact email: Teresa.kozloff@cstbrands.com
Update: 2016-01-18 00:00:00
Update by: Teresa Kozloff
Fac status: OPEN

Tank ID: 1
Tank Status: Tank Removed
Status Date: 04/01/1998
Date Installed: 12/13/1979
Capacity: 5000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Manual Tank Gauging (1,000G or more capacity tank)
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 2
Tank Status: Tank Removed
Status Date: 04/01/1998
Date Installed: 12/13/1979
Capacity: 5000.00000
Contents: Gasoline

MA0045 (Continued) **U003000211**

Tank Usage: Motor Vehi
Tank Leak Detection: Manual Tank Gauging (1,000G or more capacity tank)
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 3
Tank Status: Tank Removed
Status Date: 04/01/1998
Date Installed: 12/13/1979
Capacity: 5000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Manual Tank Gauging (1,000G or more capacity tank)
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

MA0045 (Continued) **U003000211**

Tank ID: 4
Tank Status: Tank Removed
Status Date: 04/01/1998
Date Installed: 12/13/1979
Capacity: 5000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Manual Tank Gauging (1,000G or more capacity tank)
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: Not reported
Longitude: Not reported
Tank construct: Single-walled metal tank (cathodic protection required)
Pipe construct: Single-walled metal (Corrosion protection required)
Ptype: Not reported
Number of compartment: Not reported
Pipe install date: Not reported
Pipe leak install date: Not reported
Submersible sump: N
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: Not reported
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 5
Tank Status: In Use
Status Date: Not reported
Date Installed: 04/01/1998
Capacity: 12000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: 42.65841
Longitude: -71.31360
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with mechanical automatic line leak detection
Number of compartment: Not reported
Pipe install date: 04/01/1998
Pipe leak install date: Not reported
Submersible sump: Y
Submersible sump install date: Not reported
Turbine sump: Y
Turbine sump sensor: Y
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N

MA0045 (Continued) **U003000211**

Overfill protect install: Not reported
Overfill protect type: High level alarm
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 6
Tank Status: **In Use**
Status Date: Not reported
Date Installed: 04/01/1998
Capacity: 6000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: 42.65841
Longitude: -71.31360
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with mechanical automatic line leak detection
Number of compartment: 2
Pipe install date: 04/01/1998
Pipe leak install date: Not reported
Submersible sump: Y
Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: High level alarm
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Tank ID: 6
Tank Status: **In Use**
Status Date: Not reported
Date Installed: 04/01/1998
Capacity: 4000.00000
Contents: Gasoline
Tank Usage: Motor Vehi
Tank Leak Detection: Continuous Interstitial Monitoring
Pipe Leak Detection: Annual Automatic Line Leak Detection Test
Latitude: 42.65841
Longitude: -71.31360
Tank construct: Double-walled non-corrodible (including "composite") material (cathodic protection not required)
Pipe construct: Double-walled non-corrodible material (No corrosion protection required)
Ptype: Pressurized piping system with mechanical automatic line leak detection
Number of compartment: 2
Pipe install date: 04/01/1998
Pipe leak install date: Not reported
Submersible sump: Y

MA0045 (Continued) **U003000211**

Submersible sump install date: Not reported
Turbine sump: N
Turbine sump sensor: N
Intermediate sump: N
Intermediate sump sensor: N
Spill bucket installed date: Not reported
Spill bucket sensor: N
Overfill protect install: Not reported
Overfill protect type: High level alarm
Automatic line leak detect: Not reported
Tank corrosion type: Not reported
Leak corrosion type: Not reported

Release:
Release Tracking Number/Current Status: 3-0010386 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/01/1994
Category: TWO HR
Status Date: 08/09/1994
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0017008 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/07/1998
Category: 72 HR
Status Date: 03/05/1999
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0023912 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 05/27/2004
Category: TWO HR
Status Date: 07/28/2004
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

MA0045 (Continued) **U003000211**

MA Financial Assurance 2:
Facility Id: 10151
Description: Gas Station
Work Phone: (207) 799-8518

AY213 **SOUTH OF WOBURN ST EXIT IN LOWELL** **SHWS** **S103811457**
South **495 S** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01853**
0.697 mi.
3681 ft. **Site 2 of 2 in cluster AY**

Relative:
Higher

Actual:
126 ft.

SHWS:
Release Tracking Number/Current Status: 3-0010772 / RAO
Release Town: LOWELL
Notification Date: 03/30/1994
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 05/27/1994
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 50 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/30/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 3/30/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/30/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/11/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

SOUTH OF WOBURN ST EXIT IN LOWELL (Continued) **S103811457**

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	5/27/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	5/27/1994
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0010772 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	03/30/1994
Category:	TWO HR
Status Date:	05/27/1994
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

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214 SW 1/2-1 0.700 mi. 3698 ft.

NO LOCATION AID
282 WESTERN AVE
LOWELL, MA 01851

SHWS RELEASE SPILLS AIRS HW GEN **S101025398 N/A**

Relative: Higher

Actual: 95 ft.

SHWS:

Release Tracking Number/Current Status:	3-0012042 / RAO
Release Town:	LOWELL
Notification Date:	01/10/1995
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/13/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	PIPE
Source:	TANK

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	WASTE OIL
Quantity:	200 gallons
Chemical:	WASTE OIL

NO LOCATION AID (Continued) **S101025398**

Quantity: 165 gallons

Actions:

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/10/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 1/10/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/10/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/10/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/13/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/13/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status: 3-0023512 / RAO
Release Town: LOWELL
Notification Date: 01/15/2004
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 11/19/2004
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S101025398**

Chemicals:
Chemical: DIESEL FUEL
Quantity: 50 gallons
Chemical: #2 DIESEL FUEL OIL
Quantity: 50 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/15/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/15/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 11/19/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 11/19/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 11/19/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 3/15/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/30/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Modified Revised or Updated Plan Received
Action Date: 5/24/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received

NO LOCATION AID (Continued) **S101025398**

Action Date: 5/24/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0012042 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/10/1995
Category: TWO HR
Status Date: 03/13/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0023512 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/15/2004
Category: TWO HR
Status Date: 11/19/2004
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N89-2046
Staff Lead:	OTTENHEIMER, D	Date Entered:	19900103
Last Entered:	19900322	First Response:	19891207
Spill Date:	19891207	Spill Time:	Not reported
Report Date:	19891207	Report Time:	12:07AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	10-50	Qty Actual:	10-50
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	----------	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	KEVIN FOLEY/LOWELL CO-GEN		
Notif Tel:	Not reported		
Days/Close:	19		

NO LOCATION AID (Continued) **S101025398**

AIRS:

Facility Status:	APPROV
Permit Code:	AQ11
Permit Name:	Operating Permit Administrative Amendment
DEP Region:	NE
Application Tracking Number:	X229382
Date Closed:	02/18/2011
Applicant Name:	LOWELL COGENERATION COMPANY LIMITED PART
Applicant Address:	Not reported
Applicant City,St,Zip:	Not reported
Applicant Telephone:	9784539680

Facility Status:	APPROV
Permit Code:	AQ11
Permit Name:	Operating Permit Administrative Amendment
DEP Region:	NE
Application Tracking Number:	X223630
Date Closed:	08/06/2008
Applicant Name:	LOWELL COGENERATION COMPANY LP
Applicant Address:	Not reported
Applicant City,St,Zip:	Not reported
Applicant Telephone:	9784539680

Facility Status:	APPROV
Permit Code:	AQ12
Permit Name:	Operating Permit Renewal
DEP Region:	NE
Application Tracking Number:	X223974
Date Closed:	02/10/2012
Applicant Name:	LOWELL COGENERATION COMPANY LP
Applicant Address:	Not reported
Applicant City,St,Zip:	Not reported
Applicant Telephone:	9784539680

Facility Status:	APPROV
Permit Code:	AQ15
Permit Name:	Group A Operating Permit
DEP Region:	NE
Application Tracking Number:	96193
Date Closed:	07/12/2004
Applicant Name:	LOWELL COGENERATION CO
Applicant Address:	282 WESTERN AVE
Applicant City,St,Zip:	LOWELL, MA 01851
Applicant Telephone:	9784539680

Facility Status:	APPROV
Permit Code:	AQ19
Permit Name:	CERTIFY ECP / NOX CAP W/O PUBLIC COMMENT
DEP Region:	NE
Application Tracking Number:	P22688
Date Closed:	01/15/1998
Applicant Name:	LOWELL COGENERATION CO
Applicant Address:	282 WESTERN AVE
Applicant City,St,Zip:	LOWELL, MA 01851
Applicant Telephone:	9784539680

Facility Status:	APPROV

NO LOCATION AID (Continued) **S101025398**

Permit Code:	AQ23
Permit Name:	PERSCRIBED OR ALTERNATIVE NOX EMISSION CNTRL PLAN
DEP Region:	NE
Application Tracking Number:	W024248
Date Closed:	09/17/2003
Applicant Name:	LOWELL COGENERATION CO
Applicant Address:	282 WESTERN AVE
Applicant City,St,Zip:	LOWELL, MA 01851
Applicant Telephone:	9784539680

Facility Status:	NOTREQ
Permit Code:	AQ29
Permit Name:	Emission Control Plan - Clean Air Interstate Rule (CAIR)
DEP Region:	NE
Application Tracking Number:	W157043
Date Closed:	01/01/2015
Applicant Name:	LOWELL COGENERATION COMPANY LP
Applicant Address:	Not reported
Applicant City,St,Zip:	Not reported
Applicant Telephone:	9784539680

Facility Status:	APPROV
Permit Code:	AQ30
Permit Name:	Emission Control Plan - Carbon Dioxide Budget
DEP Region:	NE
Application Tracking Number:	X007654
Date Closed:	03/10/2009
Applicant Name:	LOWELL COGENERATION COMPANY LP
Applicant Address:	Not reported
Applicant City,St,Zip:	Not reported
Applicant Telephone:	9784539680

HW GEN:

EPA Id:	MAD985290022
RCRA Generator Status:	VSQG
State Generator Status:	SQG-MA

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215 North 1/2-1 0.705 mi. 3720 ft.

NO LOCATION AID **SHWS S105810619**
54 AND 56 LILLEY AVE **RELEASE N/A**
LOWELL, MA 01854

Relative: Higher

Actual: 89 ft.

SHWS:

Release Tracking Number/Current Status:	3-0015637 / RAO
Release Town:	LOWELL
Notification Date:	10/20/1997
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	04/22/1998
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil
Location Type:	RESIDNTIAL
Source:	PIPE

NO LOCATION AID (Continued) **S105810619**

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: #2 FUEL OIL
Quantity: 200 gallons
Chemical: FUEL OIL #2
Quantity: 225 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/21/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 1/5/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 1/5/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/20/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 10/23/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 10/23/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/22/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been

NO LOCATION AID (Continued) **S105810619**

reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 4/22/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/24/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0015637 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/20/1997
Category: TWO HR
Status Date: 04/22/1998
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

216
SSW
1/2-1
0.731 mi.
3861 ft.

Relative:
Higher

Actual:
122 ft.

M A COM INC **SHWS** **S101017641**
100 CHELMSFORD ST **INST CONTROL** **N/A**
LOWELL, MA 01850 **SPILLS**
RELEASE
AIRS
ENF
HW GEN
TIER 2

SHWS:
Release Tracking Number/Current Status: 3-0004796 / RAO
Release Town: LOWELL
Notification Date: 10/01/1993
Category: NONE
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/03/1995
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: INDUSTRIAL
Source: PIPE

Click here to access the MA DEP site for this facility:

M A COM INC (Continued) **S101017641**

Chemicals:
Chemical: PETROLEUM
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 10/1/1993
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/3/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release Tracking Number/Current Status: 3-0010720 / RAO
Release Town: LOWELL
Notification Date: 03/21/1994
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 05/02/1994
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Hazardous Material
Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: LIQUID NITROGEN
Quantity: 2000 pounds
Chemical: LIQUID NITROGEN
Quantity: 9000 pounds

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/21/1994
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/1/1994
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/1994
Response Action Outcome: Remedial actions have not been conducted because a level of No

M A COM INC (Continued) **S101017641**

Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/2/1994
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release Tracking Number/Current Status: 3-0026816 / RAO
Release Town: LOWELL
Notification Date: 05/09/2007
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 07/10/2007
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Not reported
Location Type: INDUSTRIAL
Source: PIPE
Source: TANK
Source: 3500GAL
Source: HYDROGEN
Source: VALVE ON

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDROGEN GAS
Quantity: 100 pounds
Chemical: HYDROGEN GAS
Quantity: 122 pounds

Actions:
Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 5/9/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/9/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 5/9/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.

M A COM INC (Continued) **S101017641**

Action Date:	6/14/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	6/14/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	7/10/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	7/10/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Completion Statement Received
Action Date:	7/10/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status:	3-0027315 / RAO
Release Town:	LOWELL
Notification Date:	12/10/2007
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	03/27/2008
Phase:	Not reported
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	2-METHYLNAPHTHALENE
Quantity:	5 milligrams per kilogram
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	1520 milligrams per kilogram
Chemical:	C9 THRU C18 ALIPHATIC HYDROCARBONS
Quantity:	2790 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	4.43 milligrams per kilogram
Chemical:	C9 THRU C10 AROMATIC HYDROCARBONS
Quantity:	484 milligrams per kilogram

M A COM INC (Continued) **S101017641**

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	1/22/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Level I - Technical Screen Audit
Action Date:	11/4/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	11/4/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	12/10/2007
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/10/2007
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	2/5/2009
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Activity and Use Limitation
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	3/20/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	3/27/2008
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

M A COM INC (Continued) **S101017641**

Action Type:	Activity and Use Limitation
Action Status:	Level II - Audit Inspection
Action Date:	5/13/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type:	Compliance and Enforcement Action
Action Status:	Interim Deadline Letter Issued
Action Date:	6/15/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Action Type:	An activity type that is related to an Audit
Action Status:	NAFVIO
Action Date:	6/15/2010
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

INST CONTROL:

Release Tracking Number:	3-0027315
Action Type:	AUL
Action Stat:	RECPT
Action Date:	03/20/2008
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number:	3-0027315
Action Type:	AUL
Action Stat:	SNAUDI
Action Date:	05/13/2010
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

Release Tracking Number:	3-0027315
Action Type:	AUL
Action Stat:	TSAUD
Action Date:	11/04/2008
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.

MA Spills:

Facility ID:	0000	Spill ID:	N88-1450
Staff Lead:	OTTENHEIMER, D	Date Entered:	19880926
Last Entered:	19940113	First Response:	19880916
Spill Date:	19880916	Spill Time:	09:30AM
Report Date:	19880916	Report Time:	10:05AM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported

M A COM INC (Continued) **S101017641**

Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	51-100	Qty Actual:	51-100
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	0		

Facility ID:	0000	Spill ID:	N87-1457
Staff Lead:	NDI, K	Date Entered:	19880104
Last Entered:	19931119	First Response:	19871014
Spill Date:	19871014	Spill Time:	09:00
Report Date:	19871014	Report Time:	11:00
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	----------	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	11-50	Qty Actual:	11-50
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	----------
Source:	U.S.T.	Other Source:	Not reported
Incident:	OVERFILL	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	NOT USED
Referral:	NO	LUST Elig:	---
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	0		

Facility ID:	0000	Spill ID:	N89-1857
Staff Lead:	MACAFEE, K	Date Entered:	19900123
Last Entered:	19900123	First Response:	19891102
Spill Date:	19891102	Spill Time:	11:50AM
Report Date:	19891102	Report Time:	12:45PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	#2 FUEL OIL	Other Material:	Not reported
Qty Reported:	51-100	Qty Actual:	UNKNOWN
Qty Reported:	GALLONS	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	PIPE/HOSE/LINE	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	R BARRY M/A COM		
Notif Tel:	Not reported		
Days/Close:	1		

Facility ID:	0000	Spill ID:	N91-1306
Staff Lead:	HURLBUT, S	Date Entered:	19920527

M A COM INC (Continued) **S101017641**

Last Entered:	19920527		First Response:	19910919
Spill Date:	19910919		Spill Time:	Not reported
Report Date:	19910919		Report Time:	12:45AM
Case Closed:	YES		Mat Type:	HAZARDOUS
Virgin Waste:	VIRGIN		Contam Soil:	Not reported
Env Impact:	Not reported		Other Impact:	Not reported
Material:	OTHER MATERIAL	-->	Other Material:	GALIUM ARSENIDE
Qty Reported:	FUMES		Qty Actual:	FUMES
Qty Reported:	----------		Qty Actual:	----------
CAS No:	Not reported		PCB Lev (ppm):	----------
Source:	OTHER SOURCE >		Other Source:	FURNACE
Incident:	OTHER RELEASE >		Other Incdnt:	FIRE
Cleanup Type:	---		Contractor:	NOT USED
Referral:	NO		LUST Elig:	NO
Report Prep:	Not reported		Category:	Not reported
Notifier:	ROBERT BRAVLEY			
Notif Tel:	Not reported			
Days/Close:	1			

Facility ID:	0000	Spill ID:	N92-0363
Staff Lead:	CASEY, M	Date Entered:	Not reported
Last Entered:	19920421	First Response:	19920321
Spill Date:	19920321	Spill Time:	Not reported
Report Date:	19920321	Report Time:	11:15PM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	HYDROCHLORIC ACID	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	07647-01-0	PCB Lev (ppm):	NONE
Source:	DRUM	Other Source:	Not reported
Incident:	LEAK	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	7
Notifier:	DISP LAFARRIER/FD		
Notif Tel:	Not reported		
Days/Close:	1		

Release:

Release Tracking Number/Current Status:	3-0004796 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	10/01/1993
Category:	NONE
Status Date:	03/03/1995
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0010720 / RAO
Primary ID:	Not reported

M A COM INC (Continued) **S101017641**

Official City:	LOWELL
Notification:	03/21/1994
Category:	TWO HR
Status Date:	05/02/1994
Phase:	Not reported
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0026816 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/09/2007
Category:	TWO HR
Status Date:	07/10/2007
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0027315 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	12/10/2007
Category:	120 DY
Status Date:	03/27/2008
Phase:	Not reported
Response Action Outcome:	B2 - Remedial actions have not been conducted because a level of No Significant Risk exists, but that level is contingent upon one or more AULs that have been implemented.
Oil / Haz Material Type:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

AIRS:

Facility Status:	APPROV
Permit Code:	AQ01
Permit Name:	Plan Application Limited
DEP Region:	NE
Application Tracking Number:	W002877
Date Closed:	11/27/1998
Applicant Name:	BARRY, RICHARD
Applicant Address:	1011 PAWTUCKET BLVD
Applicant City,St,Zip:	LOWELL, MA 01854
Applicant Telephone:	9784425000

Facility Status:	APPROV
Permit Code:	AQ01
Permit Name:	Plan Application Limited
DEP Region:	NE

M A COM INC (Continued) **S101017641**

Application Tracking Number: P23630
Date Closed: 03/05/1998
Applicant Name: M/A COM
Applicant Address: 100 CHELMSFORD ST
Applicant City,St,Zip: LOWELL, MA 01853
Applicant Telephone: 9784424578

Facility Status: APPROV
Permit Code: AQ02
Permit Name: Plan Application Non-Major Comprehensive
DEP Region: NE
Application Tracking Number: W080889
Date Closed: 10/10/2006
Applicant Name: M/A COM
Applicant Address: 100 CHELMSFORD ST
Applicant City,St,Zip: LOWELL, MA 01853
Applicant Telephone: 9784424578

Facility Status: APPROV
Permit Code: AQ01
Permit Name: Plan Application Limited
DEP Region: NE
Application Tracking Number: X241054
Date Closed: 12/15/2011
Applicant Name: MA COM TECHNOLOGY SOLUTIONS INC
Applicant Address: 100 CHELMSFORD ST
Applicant City,St,Zip: LOWELL, MA 01851
Applicant Telephone: 9784425000

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3C
DEP Bureau: BWSC
Program: Not reported
Program Id: 3-0026816
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Not reported
Date Executed: 06/14/2007
ENF #: Not reported
Document Type: IDL
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Not reported
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

M A COM INC (Continued) **S101017641**

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0026816
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	06/14/2007
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3A
DEP Bureau:	BWSC
Program:	Not reported
Program Id:	3-0027315
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Not reported
Date Executed:	06/15/2010
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Not reported
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

M A COM INC (Continued) **S101017641**

HW GEN:

EPA Id:	MAD980672398
RCRA Generator Status:	LQG
State Generator Status:	VQG-MA

TIER 2:

Report Year:	2015
Facility Id:	FATR2015000000008137
Facility Dept:	Not reported
Latitude:	42.6355
Longitude:	-71.3173
Mailing Address:	100 Chelmsford St
Mailing City/State/Zip:	01851
Mailing Country:	United States
Notes:	Not reported
All Chemicals Same As Last Yr:	Not reported
Date Signed:	02/25/2016
Dike Or Other Safeguard:	F
Failed Validation:	Not reported
Date Modified:	05/19/2016
Fees Total:	Not reported
Num Of Employees:	350
Site Coord Abbreviated?:	F
Site Map:	T
State Label Code:	Not reported
Submitted By:	Robert Mills
Validation Report:	Not reported
Fire District:	Not reported
Latlong Location Description:	Not reported
Latlong Method:	Not reported

Click this hyperlink while viewing on your computer to access
1 additional MA TIER2: record(s) in the EDR Site Report.

Click this hyperlink while viewing on your computer to access
1 additional MA TIER2: record(s) in the EDR Site Report.

217
SW
1/2-1
0.753 mi.
3975 ft.

NO LOCATION AID **SHWS** **S103546158**
736 MIDDLESEX ST **RELEASE** **N/A**
LOWELL, MA 01852

Relative:
Higher

Actual:
110 ft.

SHWS:

Release Tracking Number/Current Status:	3-0017367 / RAO
Release Town:	LOWELL
Notification Date:	10/01/1998
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/01/1999
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil

NO LOCATION AID (Continued) **S103546158**

Location Type: ROADWAY
Source: PIPE
Source: VEHICLE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: HYDRAULIC FLUID
Quantity: 7.5 gallons
Chemical: HYDRAULIC OIL
Quantity: 15 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/1/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/1/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/1/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 10/1/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 10/1/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/4/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0017367 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/01/1998
Category: TWO HR

NO LOCATION AID (Continued) **S103546158**

Status Date: 10/01/1999
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

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218 WSW 1/2-1 0.768 mi. 4053 ft. **LOWELL GAS LIGHT CO** **EDR MGP** **1008408451**
SCHOOL STREET **N/A**
LOWELL, MA 1854

Relative: Higher

Actual: 105 ft.

Manufactured Gas Plants:
No additional information available

AZ219 WSW 1/2-1 0.775 mi. 4094 ft. **NO LOCATION AID** **SHWS** **S110822185**
15 KYAN STREET **RELEASE** **N/A**
LOWELL, MA 01854 **ENF**

Site 1 of 2 in cluster AZ

Relative: Higher

Actual: 100 ft.

SHWS:
Release Tracking Number/Current Status: 3-0032335 / RAONR
Release Town: LOWELL
Notification Date: 08/01/2014
Category: TWO HR
Associated ID: 3-0030923
Current Status: **Response Action Outcome Not Required**
Status Date: 10/07/2014
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: ROADWAY
Source: HISTORICAL
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MERCURY
Quantity: 910 milligrams per kilogram

Actions:
Action Type: RLFA
Action Status: FLDRUN
Action Date: 10/1/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received

NO LOCATION AID (Continued) **S110822185**

Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 8/1/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 8/1/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/15/2014
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1U
Action Date: 8/6/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 9/30/2014
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/30/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 9/30/2014
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S110822185**

Release Tracking Number/Current Status:	3-0029748 / RAONR
Release Town:	LOWELL
Notification Date:	01/11/2011
Category:	120 DY
Associated ID:	3-0000347
Current Status:	**Response Action Outcome Not Required**
Status Date:	10/24/2014
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	POLYCHLORINATED BIPHENYLS (PCBS)
Quantity:	11200 milligrams per kilogram

Actions:

Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	1/11/2011
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	1/11/2011
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	1/11/2011
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Notice of Delay in Meeting RA Deadline Received
Action Date:	1/14/2014

NO LOCATION AID (Continued) **S110822185**

Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Notice of Delay in Meeting RA Deadline Received
Action Date: 1/14/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/27/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Revised Statement or Transmittal Received
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 11/21/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/27/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/29/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 11/7/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/21/1998
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S110822185**

Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	5/25/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	6/13/2002
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	6/15/2000
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	6/25/2013
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Submittal Determined to be Invalid by DEP
Action Date:	6/28/2012
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Revised Statement or Transmittal Received
Action Date:	6/28/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	6/7/2001
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	8/6/1996
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	8/8/1995
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	8/8/1995
Response Action Outcome:	Not reported

Release Tracking Number/Current Status:	3-0030923 / TIERII
Release Town:	LOWELL
Notification Date:	06/29/2012
Category:	120 DY
Associated ID:	3-0030923
Current Status:	**Tier II, A site/release receiving a total NRS score of less than 350,**

NO LOCATION AID (Continued) **S110822185**

unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.

Status Date: 10/07/2014
Phase: PHASE III
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: MERCURY
Quantity: 1400 milligrams per kilogram
Chemical: PETROLEUM HYDROCARBONS
Quantity: 1300 milligrams per kilogram

Actions:
Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 10/27/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 10/7/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 4/16/2013
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 6/14/2016
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S110822185**

Action Date: 6/29/2012
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/29/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/29/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/16/2012
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0031817 / RAONR
Release Town: LOWELL
Notification Date: 10/16/2013
Category: TWO HR
Associated ID: 3-0000347
Current Status: **Response Action Outcome Not Required**
Status Date: 10/15/2014
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: INDUSTRIAL
Location Type: COMMERCIAL
Location Type: RIGHTOFWAY
Source: 3-347
Source: HISTORIC
Source: RTN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PCB
Quantity: 420 milligrams per kilogram
Chemical: POLYCHLORINATED BIPHENYLS
Quantity: 420 milligrams per kilogram

Actions:
Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 1/10/2012
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 1/29/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action

NO LOCATION AID (Continued) **S110822185**

Action Status: Interim Deadline Letter Issued
Action Date: 1/7/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 1/7/2014
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/16/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/16/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 10/26/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1A
Action Date: 10/30/2013
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 10/30/2013

NO LOCATION AID (Continued) **S110822185**

Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 11/21/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/27/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/29/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 11/6/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/16/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/27/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 12/27/2013
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDRUN
Action Date: 12/5/2013
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S110822185**

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/5/2013
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 2/10/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 2/11/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Level I - Technical Screen Audit
Action Date: 5/6/2016
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/13/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2001
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 7/3/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 8/4/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/6/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received

NO LOCATION AID (Continued) **S110822185**

Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Imminent Hazard Evaluation Received
Action Date: 8/8/2014
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/8/2014
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0029748 / RAONR
Primary ID: 3-0000347
Official City: LOWELL
Notification: 01/11/2011
Category: 120 DY
Status Date: 10/24/2014
Phase: PHASE II
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0030923 / TIERII
Primary ID: 3-0030923
Official City: LOWELL
Notification: 06/29/2012
Category: 120 DY
Status Date: 10/07/2014
Phase: PHASE III
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0031817 / RAONR
Primary ID: 3-0000347
Official City: LOWELL
Notification: 10/16/2013
Category: TWO HR
Status Date: 10/15/2014
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

NO LOCATION AID (Continued) **S110822185**

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0032335 / RAONR
Primary ID:	3-0030923
Official City:	LOWELL
Notification:	08/01/2014
Category:	TWO HR
Status Date:	10/07/2014
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

ENFORCEMENT:

Region:	NERO
DEP Region:	NERO
DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0030923
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	10/27/2014
ENF #:	Not reported
Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

Region:	NERO
DEP Region:	NERO
DEP Program:	3E
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0031817
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	01/07/2014
ENF #:	Not reported

NO LOCATION AID (Continued) **S110822185**

Document Type:	IDL
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

220
WSW
1/2-1
0.779 mi.
4114 ft.

PROPERTY
BROADWAY
LOWELL, MA 01850

SHWS **S100830523**
RELEASE **N/A**

Relative:
Higher

Actual:
129 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001607 / WCSPRM
Release Town:	LOWELL
Notification Date:	08/18/1988
Category:	NONE
Associated ID:	Not reported
Current Status:	**Waiver Completion Statement Permanent**
Status Date:	12/03/1997
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	OPENSPACE
Location Type:	FILL AREA
Source:	UNCONTAIN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Phase 2
Action Status:	Tier 1A or Priority Submittal Approved
Action Date:	10/28/1988
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WCSPRM
Action Date:	12/3/1997
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVACC
Action Date:	3/18/1993

PROPERTY (Continued) **S100830523**

Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVSIG
Action Date: 3/3/1993
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WAVREC
Action Date: 4/13/1992
Response Action Outcome: Not reported

Action Type: PIP
Action Status: Public Involvement Petition Received
Action Date: 4/13/1992
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 8/18/1988
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/18/1988
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001607 / WCSPRM
Primary ID: Not reported
Official City: LOWELL
Notification: 08/18/1988
Category: NONE
Status Date: 12/03/1997
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

---

221 WSW 1/2-1 0.788 mi. 4162 ft. **LOWELL GAS LIGHT CO** **EDR MGP 1008408450**
PERRIN STREET **N/A**
LOWELL, MA 1854

Relative: Higher

Actual: 120 ft.

Manufactured Gas Plants:
No additional information available

222
NNW
1/2-1
0.794 mi.
4193 ft.

PROPERTY
RIVERBY ST W SIXTH ST
LOWELL, MA 01850

SHWS RELEASE

S105199404
N/A

Relative:
Lower

Actual:
78 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001610 / WCSPRM
Release Town:	LOWELL
Notification Date:	07/15/1988
Category:	NONE
Associated ID:	Not reported
Current Status:	**Waiver Completion Statement Permanent**
Status Date:	09/29/1997
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	RESIDNTIAL
Location Type:	MUNICIPAL
Source:	FILL
Source:	UNCONTAIN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	TREGS
Action Status:	WAVACC
Action Date:	10/19/1992
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Tier 1A or Priority Submittal Approved
Action Date:	10/28/1988
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVSIG
Action Date:	10/6/1992
Response Action Outcome:	Not reported
Action Type:	PIP
Action Status:	Public Involvement Petition Received
Action Date:	3/23/1992
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVREC
Action Date:	3/23/1992
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	7/15/1988
Response Action Outcome:	Not reported

PROPERTY (Continued) **S105199404**

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/18/1988
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: WCSPRM
Action Date: 9/29/1997
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001610 / WCSPRM
Primary ID: Not reported
Official City: LOWELL
Notification: 07/15/1988
Category: NONE
Status Date: 09/29/1997
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

AZ223 **NO LOCATION AID** **SHWS** **S103043417**
WSW **1 KYAN ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01851** **ENF**
0.807 mi. **HW GEN**
4260 ft. **Site 2 of 2 in cluster AZ**

Relative: Higher

Actual: 100 ft.

SHWS:
Release Tracking Number/Current Status: 3-0012789 / RAONR
Release Town: LOWELL
Notification Date: 08/02/1995
Category: 120 DY
Associated ID: 3-0000347
Current Status: **Response Action Outcome Not Required**
Status Date: 08/06/1996
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: NAPL
Quantity: .38 inches
Chemical: OIL
Quantity: 68000 milligrams per kilogram

Actions:
Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 1/10/2012
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103043417**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 11/21/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/27/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/29/2012
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 4/11/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/29/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/13/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2001
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E

NO LOCATION AID (Continued) **S103043417**

Action Date: 8/2/1995
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 8/2/1995
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 8/6/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/6/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/8/1995
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0016531 / RAONR
Release Town: LOWELL
Notification Date: 02/23/1998
Category: 72 HR
Associated ID: 3-0000347
Current Status: **Response Action Outcome Not Required**
Status Date: 04/21/1998
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil
Location Type: COMMERCIAL
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: OIL
Quantity: .5 inches
Chemical: TRANSFORMER OIL
Quantity: .75 inches

Actions:
Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 1/10/2012
Response Action Outcome: Not reported

NO LOCATION AID (Continued) **S103043417**

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 10/15/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 10/24/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: TCEXT
Action Date: 11/21/2014
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/27/2013
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 11/29/2012
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: IRA Assessment Only
Action Date: 2/23/1998
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/23/1998
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/24/1998
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 3/24/1998
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: RAO Not Required
Action Status: Linked to a Tier Classified Site
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Completion Statement Received

NO LOCATION AID (Continued) **S103043417**

Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/13/2002
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2001
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/6/1996
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/8/1995
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0000347 / STMRET
Release Town: LOWELL
Notification Date: 12/18/1985
Category: NONE
Associated ID: 3-0000347
Current Status: **Response Action Outcome Statement Retracted**
Status Date: 01/10/2012
Phase: PHASE IV
Response Action Outcome: -
Oil Or Haz Material: Not reported
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PCBS
Quantity: Not reported

NO LOCATION AID (Continued) **S103043417**

Actions:

Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	Response Action Outcome - RAO
Action Status:	Submittal Retracted
Action Date:	1/10/2012
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Revised Statement or Transmittal Received
Action Date:	1/14/2016
Response Action Outcome:	Not reported
Action Type:	Phase 3
Action Status:	Revised Statement or Transmittal Received
Action Date:	1/14/2016
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via IRA Completion Statement
Action Date:	10/15/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	RTN Linked to TCLASS Via Tier Classification Submittal
Action Date:	10/24/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	TCEXT
Action Date:	11/21/2014
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	11/27/2013
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Extension
Action Date:	11/29/2012
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	12/18/1985
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	12/18/1985
Response Action Outcome:	Not reported
Action Type:	Tier Classification

NO LOCATION AID (Continued) **S103043417**

Action Status: RTN Linked to TCLASS Via IRA Completion Statement
Action Date: 4/21/1998
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/24/1985
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 5/29/1997
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/13/2002
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: RFI
Action Date: 6/14/1985
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/15/2000
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: NON-A
Action Date: 6/23/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 6/4/1985
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 6/7/2001
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/13/2003
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 8/13/2008
Response Action Outcome: Not reported

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 8/21/2014

NO LOCATION AID (Continued) **S103043417**

Response Action Outcome: Not reported

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 8/27/1999
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 8/28/1998
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 8/28/1998
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: RTN Linked to TCLASS Via Tier Classification Submittal
Action Date: 8/6/1996
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: LSPFA
Action Date: 8/7/1995
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 8/8/1995
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 8/8/1995
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0000347 / STMRET
Primary ID: 3-0000347
Official City: LOWELL
Notification: 12/18/1985
Category: NONE
Status Date: 01/10/2012
Phase: PHASE IV
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S103043417**

Release Tracking Number/Current Status: 3-0012789 / RAONR
Primary ID: 3-0000347
Official City: LOWELL
Notification: 08/02/1995
Category: 120 DY
Status Date: 08/06/1996
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0016531 / RAONR
Primary ID: 3-0000347
Official City: LOWELL
Notification: 02/23/1998
Category: 72 HR
Status Date: 04/21/1998
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3C
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0000347
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Lowell
Date Executed: 06/23/2015
ENF #: NON-NE-14-3R077A
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

Region: NERO
DEP Region: NERO

NO LOCATION AID (Continued) **S103043417**

DEP Program:	3C
DEP Bureau:	BWSC
Program:	BWSC
Program Id:	3-0000347
High Or Low Level Enforcement:	LLE
FMF #:	Not reported
Comptroller Billing Name:	Not reported
Town Where Violation Occurred:	Lowell
Date Executed:	08/21/2014
ENF #:	NON-NE-14-3R077
Document Type:	NON
AG Ref (Y/N):	Not reported
Doc Archived (Y/N):	Not reported
EJ Community (Y/N):	Y
Regional Comment:	Not reported
Final Payment Due Date:	Not reported
ACOP $:	Not reported
PAN $:	Not reported
EMS (Y/N):	Not reported
EMS$:	Not reported
SEP (Y/N):	Not reported
SEP $:	Not reported
Demand $:	Not reported
Suspended $:	Not reported
Ownership:	Commercially Owned

HW GEN:

EPA Id:	MAC300016763
RCRA Generator Status:	Not reported
State Generator Status:	LQG-MA

BA224 **NO LOCATION AID** **SHWS** **S102403895**
WSW **PEVEY ST @ ARLENE ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA**
0.860 mi.
4541 ft. **Site 1 of 2 in cluster BA**

Relative:
Higher

Actual:
98 ft.

SHWS:

Release Tracking Number/Current Status:	3-0014250 / URAM
Release Town:	LOWELL
Notification Date:	09/13/1996
Category:	120 DY
Associated ID:	Not reported
Current Status:	**URAM**
Status Date:	10/07/1996
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Oil
Location Type:	ROADWAY
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	FUEL OIL #2
Quantity:	Not reported

NO LOCATION AID (Continued) **S102403895**

Actions:

Action Type:	Utility-related Abatement Measure
Action Status:	Notification of URAM Received
Action Date:	10/7/1996
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	10/9/1996
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	10/9/1996
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	12/16/1996
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Completion Statement Received
Action Date:	12/18/1996
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	3/7/2012
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Notice of Intent to Conduct a URAM
Action Date:	9/3/1996
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	9/3/1996
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0014250 / URAM
Primary ID:	Not reported
Official City:	LOWELL
Notification:	09/13/1996
Category:	120 DY
Status Date:	10/07/1996
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

225
SSE
1/2-1
0.861 mi.
4548 ft.

Relative:
Higher

Actual:
95 ft.

COMPO INDUSTRIES
75 ROGERS ST
LOWELL, MA 01850

SHWS
RELEASE
SPILLS
AIRS
ENF
HW GEN
TIER 2

S101033363
N/A

SHWS:

Release Tracking Number/Current Status:	3-0029907 / TIERII
Release Town:	LOWELL
Notification Date:	04/11/2011
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Tier II, A site/release receiving a total NRS score of less than 350, unless the site meets any of the Tier 1 Inclusionary Criteria (see above). Permits are not required at Tier 2 sites/releases and response actions may be performed under the supervision of an LSP without prior DEP approval. All pre-1993 transition sites that have accepted waivers are categorically Tier 2 sites.**
Status Date:	03/29/2012
Phase:	PHASE III
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	ARSENIC
Quantity:	78 milligrams per kilogram
Chemical:	CHROMIUM
Quantity:	3300 milligrams per kilogram

Actions:

Action Type:	Compliance and Enforcement Action
Action Status:	Notice of Non-Compliance Issued
Action Date:	2/5/2016
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	2/7/2012
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	3/20/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	3/20/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	3/20/2012
Response Action Outcome:	Not reported

COMPO INDUSTRIES (Continued) **S101033363**

Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	3/20/2012
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	3/29/2012
Response Action Outcome:	Not reported
Action Type:	Phase 1
Action Status:	Completion Statement Received
Action Date:	3/29/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	3/29/2012
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	3/29/2012
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Completion Statement Received
Action Date:	3/8/2016
Response Action Outcome:	Not reported
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	4/11/2011
Response Action Outcome:	Not reported
Action Type:	RNFE
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	4/11/2011
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	4/11/2011
Response Action Outcome:	Not reported
Action Type:	Phase 2
Action Status:	Status or Interim Report Received
Action Date:	4/18/2014
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/26/2011
Response Action Outcome:	Not reported
Action Type:	Tier Classification
Action Status:	Legal Notice Published

COMPO INDUSTRIES (Continued) **S101033363**

Action Date: 4/9/2012
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0001154 / PENNFA
Release Town: LOWELL
Notification Date: 10/15/1988
Category: NONE
Associated ID: Not reported
Current Status: **Pending No Further Action**
Status Date: 08/02/1995
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported
Location Type: COMMERCIAL
Location Type: INDUSTRIAL
Location Type: MANUFACT

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: PHTHALATE ESTER
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 10/15/1988
Response Action Outcome: Not reported

Action Type: TREGS
Action Status: PENNFA
Action Date: 8/2/1995
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0001154 / PENNFA
Primary ID: Not reported
Official City: LOWELL
Notification: 10/15/1988
Category: NONE
Status Date: 08/02/1995
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0029907 / TIERII
Primary ID: Not reported
Official City: LOWELL
Notification: 04/11/2011
Category: 120 DY
Status Date: 03/29/2012

COMPO INDUSTRIES (Continued) **S101033363**

Phase: PHASE III
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

MA Spills:

Facility ID:	0000	Spill ID:	N90-0103
Staff Lead:	STUGER, B	Date Entered:	19900501
Last Entered:	19900622	First Response:	19900122
Spill Date:	19900122	Spill Time:	09:30AM
Report Date:	19900122	Report Time:	10:30AM
Case Closed:	YES	Mat Type:	HAZARDOUS
Virgin Waste:	VIRGIN	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	OTHER MATERIAL -->	Other Material:	DIETHYL HEXAPHTALATE
Qty Reported:	51-100	Qty Actual:	1001-5000
Qty Reported:	GALLONS	Qty Actual:	GALLONS
CAS No:	Not reported	PCB Lev (ppm):	NONE
Source:	ABOVE-GRND TANK	Other Source:	Not reported
Incident:	RUPTURE	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	CARL RICHTER/BRADFORD IND		
Notif Tel:	Not reported		
Days/Close:	45		

Facility ID:	0000	Spill ID:	N90-1426
Staff Lead:	MICHAUD, J	Date Entered:	19900918
Last Entered:	19910109	First Response:	19900827
Spill Date:	19900827	Spill Time:	Not reported
Report Date:	19900827	Report Time:	02:45PM
Case Closed:	YES	Mat Type:	PETROLEUM
Virgin Waste:	WASTE	Contam Soil:	Not reported
Env Impact:	SOIL	Other Impact:	Not reported
Material:	WASTE OIL	Other Material:	Not reported
Qty Reported:	UNKNOWN	Qty Actual:	UNKNOWN
Qty Reported:	----------	Qty Actual:	----------
CAS No:	Not reported	PCB Lev (ppm):	UNKNOWN
Source:	OTHER SOURCE >	Other Source:	CAR WASH
Incident:	DUMPING	Other Incdnt:	Not reported
Cleanup Type:	---	Contractor:	NOT USED
Referral:	NO	LUST Elig:	NO
Report Prep:	Not reported	Category:	Not reported
Notifier:	B DEMARIS/BOH		
Notif Tel:	Not reported		
Days/Close:	104		

AIRS:

Facility Status:	APPROV
Permit Code:	AQ02
Permit Name:	Plan Application Non-Major Comprehensive
DEP Region:	NE
Application Tracking Number:	W062398

COMPO INDUSTRIES (Continued) **S101033363**

Date Closed: 04/15/2005
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ02
Permit Name: Plan Application Non-Major Comprehensive
DEP Region: NE
Application Tracking Number: P24967
Date Closed: 05/14/1999
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ10
Permit Name: Operating Permit Minor Modification
DEP Region: NE
Application Tracking Number: W074664
Date Closed: 06/21/2006
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ11
Permit Name: Operating Permit Administrative Amendment
DEP Region: NE
Application Tracking Number: X267003
Date Closed: 08/13/2015
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ11
Permit Name: Operating Permit Administrative Amendment
DEP Region: NE
Application Tracking Number: X263178
Date Closed: 10/23/2014
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ12
Permit Name: Operating Permit Renewal
DEP Region: NE
Application Tracking Number: X226382
Date Closed: 06/26/2012
Applicant Name: BRADFORD INDUSTRIES INC

COMPO INDUSTRIES (Continued) **S101033363**

Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

Facility Status: APPROV
Permit Code: AQ16
Permit Name: Group B Operating Permit
DEP Region: NE
Application Tracking Number: 107090
Date Closed: 08/04/2004
Applicant Name: BRADFORD INDUSTRIES INC
Applicant Address: 75 ROGERS ST
Applicant City,St,Zip: LOWELL, MA 01852
Applicant Telephone: 9784594100

ENFORCEMENT:
Region: NERO
DEP Region: NERO
DEP Program: 3R
DEP Bureau: BWSC
Program: BWSC
Program Id: 3-0029907
High Or Low Level Enforcement: LLE
FMF #: Not reported
Comptroller Billing Name: Not reported
Town Where Violation Occurred: Lowell
Date Executed: 02/05/2016
ENF #: NON-NE-16-3R010
Document Type: NON
AG Ref (Y/N): Not reported
Doc Archived (Y/N): Not reported
EJ Community (Y/N): Y
Regional Comment: Not reported
Final Payment Due Date: Not reported
ACOP $: Not reported
PAN $: Not reported
EMS (Y/N): Not reported
EMS$: Not reported
SEP (Y/N): Not reported
SEP $: Not reported
Demand $: Not reported
Suspended $: Not reported
Ownership: Commercially Owned

HW GEN:
EPA Id: MAD982543357
RCRA Generator Status: LQG
State Generator Status: SQG-MA

TIER 2:
Report Year: 2015
Facility Id: FATR2015000000010095
Facility Dept: Not reported
Latitude: 42.6361
Longitude: -71.3003
Mailing Address: 75 Rogers Street

COMPO INDUSTRIES (Continued) **S101033363**

Mailing City/State/Zip:	01852
Mailing Country:	United States
Notes:	Not reported
All Chemicals Same As Last Yr:	Not reported
Date Signed:	03/09/2016
Dike Or Other Safeguard:	F
Failed Validation:	Not reported
Date Modified:	05/19/2016
Fees Total:	Not reported
Num Of Employees:	70
Site Coord Abbreviated?:	F
Site Map:	F
State Label Code:	Not reported
Submitted By:	Ivy Muchuma
Validation Report:	Not reported
Fire District:	Not reported
Latlong Location Description:	Not reported
Latlong Method:	Not reported

226
NNW
1/2-1
0.866 mi.
4570 ft.

PROPERTY **SHWS** **S100830525**
129 MARTIN ST FILL AREA **RELEASE** **N/A**
LOWELL, MA 01850

Relative:
Lower

Actual:
71 ft.

SHWS:

Release Tracking Number/Current Status:	3-0001609 / RAO
Release Town:	LOWELL
Notification Date:	07/15/1988
Category:	NONE
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	10/05/1999
Phase:	PHASE IV
Response Action Outcome:	C1 - C1
Oil Or Haz Material:	Not reported
Location Type:	OPENSPACE
Source:	UNCONTAIN
Source:	FILL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Periodic Review Opinion Evaluating Temp Solution
Action Date:	10/16/2009
Response Action Outcome:	C1
Action Type:	TREGS
Action Status:	WAVACC
Action Date:	10/19/1992
Response Action Outcome:	C1

PROPERTY (Continued) **S100830525**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 10/19/1992
Response Action Outcome: C1

Action Type: PIP
Action Status: Public Involvement Petition Received
Action Date: 10/19/1992
Response Action Outcome: C1

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 10/19/1997
Response Action Outcome: C1

Action Type: Phase 2
Action Status: Tier 1A or Priority Submittal Approved
Action Date: 10/28/1988
Response Action Outcome: C1

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 10/5/1999
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 10/5/1999
Response Action Outcome: C1

Action Type: TREGS
Action Status: WAVSIG
Action Date: 10/6/1992
Response Action Outcome: C1

Action Type: Tier Classification
Action Status: Tier 2 Extension
Action Date: 10/6/1997
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 10/7/2004
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 10/9/2014
Response Action Outcome: C1

Action Type: TREGS
Action Status: WAVREC
Action Date: 4/21/1992
Response Action Outcome: C1

Action Type: An activity type that is related to an Audit
Action Status: NOA

PROPERTY (Continued) **S100830525**

Action Date: 5/15/2012
Response Action Outcome: C1

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 6/17/1988
Response Action Outcome: C1

Action Type: RLFA
Action Status: FLDRAN
Action Date: 6/6/2012
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Level I - Technical Screen Audit
Action Date: 7/13/2015
Response Action Outcome: C1

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 8/18/1988
Response Action Outcome: C1

Action Type: RLFA
Action Status: FOLOFF
Action Date: 8/6/2013
Response Action Outcome: C1

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 8/6/2013
Response Action Outcome: C1

Release:
Release Tracking Number/Current Status: 3-0001609 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/15/1988
Category: NONE
Status Date: 10/05/1999
Phase: PHASE IV
Response Action Outcome: C1 - C1
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

227
NW
1/2-1
0.872 mi.
4605 ft.

UMASS LOWELL
293 RIVERSIDE STREET
LOWELL, MA 01854

SHWS
RELEASE

S111411851
N/A

Relative:
Higher

Actual:
102 ft.

SHWS:

Release Tracking Number/Current Status:	3-0030455 / URAM
Release Town:	LOWELL
Notification Date:	11/15/2011
Category:	120 DY
Associated ID:	Not reported
Current Status:	**URAM**
Status Date:	11/22/2011
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Location Type:	ROADWAY
Location Type:	PRIVPROP
Location Type:	UTILEASE
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	LEAD
Quantity:	1550 milligrams per kilogram

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/15/2011
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Notice of Intent to Conduct a URAM
Action Date:	11/15/2011
Response Action Outcome:	Not reported
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	URAMLR
Action Date:	11/18/2011
Response Action Outcome:	Not reported
Action Type:	Utility-related Abatement Measure
Action Status:	Notification of URAM Received
Action Date:	11/22/2011
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	12/17/2011
Response Action Outcome:	Not reported
Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	12/19/2011
Response Action Outcome:	Not reported

UMASS LOWELL (Continued) **S111411851**

Action Type:	Utility-related Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	2/7/2012
Response Action Outcome:	Not reported

Action Type:	Utility-related Abatement Measure
Action Status:	Completion Statement Received
Action Date:	5/11/2012
Response Action Outcome:	Not reported

Release Tracking Number/Current Status:	3-0030487 / PSC
Release Town:	LOWELL
Notification Date:	11/29/2011
Category:	120 DY
Associated ID:	Not reported
Current Status:	**PSC**
Status Date:	07/17/2014
Phase:	PHASE II
Response Action Outcome:	-
Oil Or Haz Material:	Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[A]PYRENE
Quantity:	59 milligrams per kilogram
Chemical:	CADMIUM
Quantity:	35 milligrams per kilogram
Chemical:	CHROMIUM
Quantity:	38 milligrams per kilogram
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	25 milligrams per kilogram
Chemical:	LEAD
Quantity:	1550 milligrams per kilogram
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	11 milligrams per kilogram
Chemical:	TOTAL PETROLEUM HYDROCARBONS
Quantity:	2500 milligrams per kilogram
Chemical:	ACENAPHTHENE
Quantity:	13 milligrams per kilogram
Chemical:	NAPHTHALENE
Quantity:	4.6 milligrams per kilogram
Chemical:	BENZO[A]ANTHRACENE
Quantity:	72 milligrams per kilogram
Chemical:	2-METHYLNAPHTHALENE
Quantity:	2.8 milligrams per kilogram
Chemical:	PHENANTHRENE
Quantity:	140 milligrams per kilogram
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	75 milligrams per kilogram

Actions:

Action Type:	BOL
Action Status:	Transmittal, Notice, or Notification Received

UMASS LOWELL (Continued) **S111411851**

Action Date: 1/11/2012
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/3/2012
Response Action Outcome: Not reported

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 11/19/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/19/2012
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 11/19/2012
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 11/19/2012
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 11/29/2011
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 11/29/2011
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 11/29/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 11/29/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 12/1/2011
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 12/14/2011
Response Action Outcome: Not reported

UMASS LOWELL (Continued) **S111411851**

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 12/5/2011
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Fee Not Required - Fee Refunded-FMCRA Use Only
Action Date: 12/6/2011
Response Action Outcome: Not reported

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 12/7/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Status or Interim Report Received
Action Date: 5/11/2012
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSCRCD
Action Date: 7/17/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 9/10/2012
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 9/24/2012
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0030455 / URAM
Primary ID: Not reported
Official City: LOWELL
Notification: 11/15/2011
Category: 120 DY
Status Date: 11/22/2011
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0030487 / PSC
Primary ID: Not reported
Official City: LOWELL
Notification: 11/29/2011
Category: 120 DY
Status Date: 07/17/2014
Phase: PHASE II

UMASS LOWELL (Continued) **S111411851**

Response Action Outcome: -
Oil / Haz Material Type: Hazardous Material

Click here to access the MA DEP site for this facility:

228
WSW
1/2-1
0.882 mi.
4659 ft.

PAWTUCKET CANAL
706 BROADWAY
LOWELL, MA 01852

SHWS **S102087093**
LAST **N/A**
RELEASE

Relative:
Higher

Actual:
101 ft.

SHWS:
Release Tracking Number/Current Status: 3-0013026 / RAO
Release Town: LOWELL
Notification Date: 10/12/1995
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/29/1996
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: WATERBODY
Source: AST
Source: VEHICLE
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 200 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/25/1995

PAWTUCKET CANAL (Continued) **S102087093**

Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 12/19/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/19/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/29/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 3/29/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/1/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

LAST:
Release Tracking Number/Current Status: 3-0013026 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 10/12/1995
Category: TWO HR
Associated ID: Not reported
Status Date: 03/29/1996
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

PAWTUCKET CANAL (Continued) **S102087093**

Oil Or Haz Material: Oil

Chemicals:
Chemical: DIESEL FUEL
Quantity: 200 gallons
Location Type: WATERBODY
Source: AST
Source: VEHICLE
Source: PIPE

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 10/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 10/25/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 12/12/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 12/19/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 12/19/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

PAWTUCKET CANAL (Continued) **S102087093**

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 3/29/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 3/29/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/1/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0013026 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 10/12/1995
Category: TWO HR
Status Date: 03/29/1996
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

BA229 **NO LOCATION AID** **SHWS** **S107405614**
WSW **INTER OF ARLENE RD AND PEVEY S** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01851**
0.883 mi.
4663 ft. **Site 2 of 2 in cluster BA**

Relative:
Higher

Actual:
98 ft.

SHWS:
Release Tracking Number/Current Status: 3-0025059 / URAM
Release Town: LOWELL
Notification Date: 07/21/2005
Category: 120 DY
Associated ID: Not reported
Current Status: **URAM**
Status Date: 07/28/2005
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Oil and Hazardous Material
Location Type: ROADWAY
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

NO LOCATION AID (Continued) **S107405614**

Chemicals:
- Chemical: LEAD
- Quantity: 870 milligrams per kilogram
- Chemical: ARSENIC
- Quantity: 35 milligrams per kilogram
- Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
- Quantity: 566 milligrams per kilogram

Actions:
- Action Type: Utility-related Abatement Measure
- Action Status: Completion Statement Received
- Action Date: 10/26/2005
- Response Action Outcome: Not reported

- Action Type: Utility-related Abatement Measure
- Action Status: Level I - Technical Screen Audit
- Action Date: 3/14/2012
- Response Action Outcome: Not reported

- Action Type: Release Disposition
- Action Status: Reportable Release under MGL 21E
- Action Date: 7/21/2005
- Response Action Outcome: Not reported

- Action Type: Utility-related Abatement Measure
- Action Status: Notice of Intent to Conduct a URAM
- Action Date: 7/21/2005
- Response Action Outcome: Not reported

- Action Type: RNF
- Action Status: Reportable Release under MGL 21E
- Action Date: 7/28/2005
- Response Action Outcome: Not reported

- Action Type: Utility-related Abatement Measure
- Action Status: Notification of URAM Received
- Action Date: 7/28/2005
- Response Action Outcome: Not reported

Release:
- Release Tracking Number/Current Status: 3-0025059 / URAM
- Primary ID: Not reported
- Official City: LOWELL
- Notification: 07/21/2005
- Category: 120 DY
- Status Date: 07/28/2005
- Phase: Not reported
- Response Action Outcome: -
- Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

230
NNW
1/2-1
0.885 mi.
4672 ft.

PROPERTY
160 MARTIN ST
LOWELL, MA 01850

SHWS
RELEASE

S100363020
N/A

Relative:
Lower

Actual:
59 ft.

SHWS:

Release Tracking Number/Current Status:	3-0002086 / WCSPRM
Release Town:	LOWELL
Notification Date:	04/15/1989
Category:	NONE
Associated ID:	Not reported
Current Status:	**Waiver Completion Statement Permanent**
Status Date:	12/15/1997
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	RESIDNTIAL
Location Type:	GARAGE
Source:	FILL
Source:	UNCONTAIN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Phase 2
Action Status:	Tier 1A or Priority Submittal Approved
Action Date:	1/10/1989
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVREC
Action Date:	11/12/1992
Response Action Outcome:	Not reported
Action Type:	PIP
Action Status:	Public Involvement Petition Received
Action Date:	11/12/1992
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WCSPRM
Action Date:	12/15/1997
Response Action Outcome:	Not reported
Action Type:	TREGS
Action Status:	WAVSIG
Action Date:	3/23/1993
Response Action Outcome:	Not reported
Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	4/15/1989
Response Action Outcome:	Not reported

PROPERTY (Continued) **S100363020**

Action Type: TREGS
Action Status: WAVACC
Action Date: 4/6/1993
Response Action Outcome: Not reported

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 7/2/1996
Response Action Outcome: Not reported

Release:
Release Tracking Number/Current Status: 3-0002086 / WCSPRM
Primary ID: Not reported
Official City: LOWELL
Notification: 04/15/1989
Category: NONE
Status Date: 12/15/1997
Phase: Not reported
Response Action Outcome: -
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

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231 **ASTRO CIRCUIT CORP** **SEMS** **1000365625**
SSW **100 HALE ST** **SHWS** **MAD062180419**
1/2-1 **LOWELL, MA 01851** **LAST**
0.924 mi. **INST CONTROL**
4878 ft. **BROWNFIELDS**
RELEASE
Relative: **RCRA NonGen / NLR**
Higher **HW GEN**

Actual: **111 ft.**

SEMS:
Site ID: 100551
EPA ID: MAD062180419
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: Other Cleanup Activity: State-Lead Cleanup

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0100551
EPA ID: MAD062180419
Facility County: MIDDLESEX
Short Name: ASTRO CIRCUITS CORP (FORM
Congressional District: 05
IFMS ID: Not reported
SMSA Number: 4560
USGC Hydro Unit: 01070005
Federal Facility: Not a Federal Facility
DMNSN Number: 0.00000
Site Orphan Flag: N
RCRA ID: Not reported
USGS Quadrangle: Not reported
Site Init By Prog: Not reported
NFRAP Flag: Not reported

ASTRO CIRCUIT CORP (Continued) **1000365625**

Parent ID: Not reported
RST Code: Not reported
EPA Region: 01
Classification: Not reported
Site Settings Code: Not reported
NPL Status: Not on the NPL
DMNSN Unit Code: Not reported
RBRAC Code: Not reported
RResp Fed Agency Code: Not reported
Non NPL Status: Other Cleanup Activity: State-Lead Cleanup
Non NPL Status Date: 08/18/00
Site Fips Code: 25017
CC Concurrence Date: / /
CC Concurrence FY: Not reported
Alias EPA ID: Not reported
Site FUDS Flag: Not reported

CERCLIS Site Contact Name(s):
Contact ID: 1270187.00000
Contact Name: Nancy Smith
Contact Tel: (617) 918-1436
Contact Title: Site Assessment Manager (SAM)
Contact Email: Not reported

Alias Comments: Not reported
Site Description: The MA DEP has recommended that this site be assigned state lead status. A site specific letter of recommendation will be forwarded to EPA later this year.The MA DEP has recommended that this site be assigned state lead status. A site specific letter of recommendation will be forwarded to EPA later this year.

CERCLIS Assessment History:

Action Code: 001
Action: DISCOVERY
Date Started: / /
Date Completed: 01/01/84
Priority Level: Not reported
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: PRELIMINARY ASSESSMENT
Date Started: 05/02/84
Date Completed: 09/01/85
Priority Level: Higher priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

ASTRO CIRCUIT CORP (Continued) **1000365625**

Action Code: 001
Action: SITE INSPECTION
Date Started: / /
Date Completed: 12/22/87
Priority Level: Low priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

Action Code: 001
Action: SITE REASSESSMENT
Date Started: / /
Date Completed: 08/02/01
Priority Level: Low priority for further assessment
Operable Unit: SITEWIDE
Primary Responsibility: EPA Fund-Financed
Planning Status: Not reported
Urgency Indicator: Not reported
Action Anomaly: Not reported

SHWS:
Release Tracking Number/Current Status: 3-0000905 / RAO
Release Town: LOWELL
Notification Date: 07/15/1987
Category: NONE
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 12/16/1994
Phase: PHASE III
Response Action Outcome: C1 - C1
Oil Or Haz Material: Not reported

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 1/3/1995
Response Action Outcome: C1

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 1/7/1997
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 10/28/2010

ASTRO CIRCUIT CORP (Continued) **1000365625**

Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 10/29/2015
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 10/31/2000
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Periodic Review Opinion Evaluating Temp Solution
Action Date: 11/2/2005
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 12/16/1994
Response Action Outcome: C1

Action Type: Response Action Outcome - RAO
Action Status: Revised Statement or Transmittal Received
Action Date: 2/20/1997
Response Action Outcome: C1

Action Type: RLFA
Action Status: FLDRUN
Action Date: 2/27/1996
Response Action Outcome: C1

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 3/14/1996
Response Action Outcome: C1

Action Type: Tier Classification
Action Status: Tier 2 Transfer
Action Date: 3/21/2002
Response Action Outcome: C1

Action Type: TREGS
Action Status: LSPFA
Action Date: 4/4/1994
Response Action Outcome: C1

Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 7/15/1987
Response Action Outcome: C1

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 9/20/1994
Response Action Outcome: C1

ASTRO CIRCUIT CORP (Continued) **1000365625**

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 9/20/1994
Response Action Outcome: C1

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 9/20/1994
Response Action Outcome: C1

LAST:
Release Tracking Number/Current Status: 3-0029810 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 02/18/2011
Category: TWO HR
Associated ID: Not reported
Status Date: 04/12/2011
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil

Chemicals:
Chemical: DIESEL FUEL
Quantity: 20 gallons
Location Type: COMMERCIAL
Location Type: MUNICIPAL
Source: AST

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 2/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 2/18/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/7/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 4/12/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received

ASTRO CIRCUIT CORP (Continued) **1000365625**

Action Date: 4/12/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 4/12/2011
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

INST CONTROL:
Release Tracking Number: 3-0000905
Action Type: AUL
Action Stat: RECPT
Action Date: 01/07/1997
Response Action Outcome: C1 - C1

BROWNFIELDS:
SR Num: 39
Year: 2000
Applicants: Not reported
Project: A Brownfields Covenant helped the Lowell Regional Transit Authority (LRTA) redevelop an abandoned industrial site on Hale Street in Lowell into a bus maintenance and operations center. This project was part of the LRTA's larger plan to upgrade the Gallagher Intermodal Transportation Center, which is the third largest transportation hub after Boston's North and South Stations, an effort expected to bring approximately 120 new jobs to Lowell that would generate more than $3.8 million a year in new payroll dollars. Moreover, by using the site to maintain and service its bus fleet, LRTA has been able to move its fixed route bus service out of the Paige Street area of downtown Lowell to the Gallagher Terminal area. This relocation provides the added benefits of fuel savings, reduced traffic congestion, improved air quality, and increased on-time performance for the transportation system.

BROWNFIELDS 2:
RTN: 3-0000905
RAO Class: C1
Other RTNs: Not reported
Current Owner: Lowell Regional Transit Authority
MCP Status: RAO
AUL: Yes
COCs: VOCs
Former Use: Industrial
Current Use: Not reported
Total Acreage: 6.41

Release:
Release Tracking Number/Current Status: 3-0000905 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/15/1987
Category: NONE

ASTRO CIRCUIT CORP (Continued) **1000365625**

Status Date: 12/16/1994
Phase: PHASE III
Response Action Outcome: C1 - C1
Oil / Haz Material Type: Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status: 3-0029810 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 02/18/2011
Category: TWO HR
Status Date: 04/12/2011
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

RCRA NonGen / NLR:
Date form received by agency: 06/27/1980
Facility name: ASTRO CIRCUIT CORP
Facility address: 100 HALE ST
LOWELL, MA 01851
EPA ID: MAD062180419
Contact: JOHN-U SHEPARDSON
Contact address: 100 HALE ST
LOWELL, MA 01851
Contact country: US
Contact telephone: (508) 458-3240
Contact email: Not reported
EPA Region: 01
Land type: Private
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: ASTRO CIRCUIT CORP
Owner/operator address: 100 HALE ST
LOWELL, MA 01851
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 10/16/2004
Owner/Op end date: Not reported

Owner/operator name: ASTRO CIRCUIT CORP
Owner/operator address: 100 HALE ST
LOWELL, MA 01851
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private

ASTRO CIRCUIT CORP (Continued) **1000365625**

Owner/Operator Type: Operator
Owner/Op start date: 03/01/1990
Owner/Op end date: 06/03/1991

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 05/29/1985
Date achieved compliance: 12/01/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/29/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 03/29/1985
Date achieved compliance: 12/01/1990
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported

ASTRO CIRCUIT CORP (Continued) **1000365625**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/29/1985
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Generators - General
Date achieved compliance: 12/01/1990
Evaluation lead agency: State

Evaluation date: 03/29/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 12/01/1990
Evaluation lead agency: State

HW GEN:
EPA Id: MAD985272871
RCRA Generator Status: VSQG
State Generator Status: SQG-MA

BB232 **NO LOCATION AID** **SHWS S107517258**
South **662 GORHAM ST** **RELEASE N/A**
1/2-1 **LOWELL, MA 01852**
0.952 mi.
5027 ft. **Site 1 of 2 in cluster BB**

Relative: Higher

Actual: 99 ft.

SHWS:
Release Tracking Number/Current Status: 3-0025522 / RAO
Release Town: LOWELL
Notification Date: 12/22/2005
Category: 120 DY
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 12/22/2005
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: C11 THRU C22 AROMATIC HYDROCARBONS
Quantity: 491 milligrams per kilogram
Chemical: LEAD
Quantity: 400 milligrams per kilogram

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/27/2006
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received

NO LOCATION AID (Continued) **S107517258**

Action Date: 12/22/2005
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 12/22/2005
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 12/22/2005
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0025522 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 12/22/2005
Category: 120 DY
Status Date: 12/22/2005
Phase: Not reported
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

BC233 **CENTENNIAL ISLAND APARTMENT** **SHWS** **S101029246**
SSE **576 LAWRENCE STREET** **INST CONTROL** **N/A**
1/2-1 **LOWELL, MA 01852** **SPILLS**
0.952 mi. **RELEASE**
5028 ft. **Site 1 of 2 in cluster BC** **LEAD**

Relative: Lower

Actual: 76 ft.

SHWS:
Release Tracking Number/Current Status: 3-0031616 / PSC
Release Town: LOWELL
Notification Date: 06/28/2013
Category: 120 DY
Associated ID: Not reported
Current Status: **PSC**
Status Date: 06/19/2014
Phase: PHASE IV
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Source: UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: BENZO(A)ANTHRACENE
Quantity: 35 milligrams per kilogram

CENTENNIAL ISLAND APARTMENT (Continued) **S101029246**

Chemical: BENZO(B)FLUORANTHENE
Quantity: 31 milligrams per kilogram
Chemical: LEAD
Quantity: 780 milligrams per kilogram
Chemical: DIBENZ(A,H)ANTHRACENE
Quantity: 3.4 milligrams per kilogram
Chemical: INDENO(1,2,3-CD)PYRENE
Quantity: 12 milligrams per kilogram
Chemical: NAPHTHALENE
Quantity: 4.9 milligrams per kilogram
Chemical: ARSENIC
Quantity: 21 milligrams per kilogram
Chemical: 2-METHYLNAPHTHALENE
Quantity: 3.3 milligrams per kilogram
Chemical: ACENAPHTHENE
Quantity: 7.5 milligrams per kilogram
Chemical: BENZO(A)PYRENE
Quantity: 22 milligrams per kilogram
Chemical: PHENANTHRENE
Quantity: 82 milligrams per kilogram

Actions:

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 4/24/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: ALSENT
Action Date: 4/8/2014
Response Action Outcome: Not reported

Action Type: BOL
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/14/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 5/14/2014
Response Action Outcome: Not reported

Action Type: Release Abatement Measure
Action Status: Level I - Technical Screen Audit
Action Date: 5/15/2014
Response Action Outcome: Not reported

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/19/2014
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSARCD
Action Date: 6/19/2014
Response Action Outcome: Not reported

Action Type: Phase 2

CENTENNIAL ISLAND APARTMENT (Continued) **S101029246**

Action Status: Completion Statement Received
Action Date: 6/19/2014
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 6/28/2013
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/28/2013
Response Action Outcome: Not reported

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 6/28/2013
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 7/10/2014
Response Action Outcome: Not reported

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 7/14/2014
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/19/2013
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 8/15/2014
Response Action Outcome: Not reported

INST CONTROL:
Release Tracking Number: 3-0031616
Action Type: AUL
Action Stat: LEGNOT
Action Date: 07/14/2014
Response Action Outcome: -

Release Tracking Number: 3-0031616
Action Type: AUL
Action Stat: RECPT
Action Date: 07/10/2014
Response Action Outcome: -

MA Spills:
Facility ID: 0000 Spill ID: N85-0520
Staff Lead: GUARCIARIELLO Date Entered: Not reported

CENTENNIAL ISLAND APARTMENT (Continued) **S101029246**

Last Entered:	Not reported	First Response:	Not reported
Spill Date:	19850712	Spill Time:	Not reported
Report Date:	Not reported	Report Time:	Not reported
Case Closed:	YES	Mat Type:	Not reported
Virgin Waste:	Not reported	Contam Soil:	Not reported
Env Impact:	Not reported	Other Impact:	Not reported
Material:	MISCELLANEOUS OIL	Other Material:	Not reported
Qty Reported:	SHEEN ON BR	Qty Actual:	Not reported
Qty Reported:	Not reported	Qty Actual:	Not reported
CAS No:	Not reported	PCB Lev (ppm):	Not reported
Source:	Not reported	Other Source:	Not reported
Incident:	Not reported	Other Incdnt:	Not reported
Cleanup Type:	Not reported	Contractor:	Not reported
Referral:	Not reported	LUST Elig:	Not reported
Report Prep:	Not reported	Category:	Not reported
Notifier:	Not reported		
Notif Tel:	Not reported		
Days/Close:	1		

Release:

Release Tracking Number/Current Status:	3-0031616 / PSC
Primary ID:	Not reported
Official City:	LOWELL
Notification:	06/28/2013
Category:	120 DY
Status Date:	06/19/2014
Phase:	PHASE IV
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

LEAD:

Community:	Lowell
Unit:	W1
Inspector Name:	James Weydt
Inspector License Number:	1196
Activity Type:	INSPECT
Activity Date:	09/30/2004
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	No Hazards Found

Community:	Lowell
Unit:	W1
Inspector Name:	James Weydt
Inspector License Number:	1196
Activity Type:	COMPLIANCE
Activity Date:	09/30/2004
Start Work Date:	Not reported
Activity Descriptions:	Letter of Full Initial Insp Comp
Outcomes:	Issued

Community:	Lowell
Unit:	W10

CENTENNIAL ISLAND APARTMENT (Continued) **S101029246**

Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: INSPECT
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: No Hazards Found

Community: Lowell
Unit: W10
Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: COMPLIANCE
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Letter of Full Initial Insp Comp
Outcomes: Issued

Community: Lowell
Unit: W11
Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: INSPECT
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: No Hazards Found

Community: Lowell
Unit: W11
Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: COMPLIANCE
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Letter of Full Initial Insp Comp
Outcomes: Issued

Community: Lowell
Unit: W12
Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: INSPECT
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Comprehensive Initial Inspection
Outcomes: No Hazards Found

Community: Lowell
Unit: W12
Inspector Name: James Weydt
Inspector License Number: 1196
Activity Type: COMPLIANCE
Activity Date: 09/30/2004
Start Work Date: Not reported
Activity Descriptions: Letter of Full Initial Insp Comp
Outcomes: Issued

CENTENNIAL ISLAND APARTMENT (Continued) **S101029246**

Community:	Lowell
Unit:	W2
Inspector Name:	James Weydt
Inspector License Number:	1196
Activity Type:	INSPECT
Activity Date:	09/30/2004
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	No Hazards Found

Community:	Lowell
Unit:	W2
Inspector Name:	James Weydt
Inspector License Number:	1196
Activity Type:	COMPLIANCE
Activity Date:	09/30/2004
Start Work Date:	Not reported
Activity Descriptions:	Letter of Full Initial Insp Comp
Outcomes:	Issued

Click this hyperlink while viewing on your computer to access
14 additional MA LEAD: record(s) in the EDR Site Report.

BB234 **VACANT LOT** **SHWS** **S106030322**
South **686 GORHAM ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.959 mi.
5065 ft. **Site 2 of 2 in cluster BB**

Relative:
Higher

Actual:
98 ft.

SHWS:

Release Tracking Number/Current Status:	3-0023169 / RAO
Release Town:	LOWELL
Notification Date:	09/04/2003
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	05/21/2004
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	TPH
Quantity:	240 milligrams per kilogram
Chemical:	ARSENIC
Quantity:	99.7 milligrams per kilogram

Actions:

Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	10/21/2003
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

VACANT LOT (Continued) **S106030322**

Action Type: Release Abatement Measure
Action Status: Fee Received - FMCRA Use Only
Action Date: 12/17/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Written Plan Received
Action Date: 12/19/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/21/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Abatement Measure
Action Status: Completion Statement Received
Action Date: 5/21/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: Fee Received - FMCRA Use Only
Action Date: 5/24/2004
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/4/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 9/4/2003
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0023169 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 09/04/2003
Category: 120 DY
Status Date: 05/21/2004
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

VACANT LOT (Continued) **S106030322**

Click here to access the MA DEP site for this facility:

BD235 **ADJACENT TO #263 HOWARD STREET** **SHWS** **S106954010**
South **HOWARD ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA 01852**
0.959 mi.
5066 ft. **Site 1 of 4 in cluster BD**

Relative:
Higher

Actual:
105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0024869 / RAO
Release Town:	LOWELL
Notification Date:	05/17/2005
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	06/10/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material:	Oil
Location Type:	COMMERCIAL
Source:	DRUMS

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	WASTE OIL
Quantity:	55 gallons
Chemical:	WASTE OIL
Quantity:	30 gallons

Actions:

Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	5/17/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Immediate Response Action
Action Status:	Oral Approval of Plan or Action
Action Date:	5/17/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	5/17/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/31/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

ADJACENT TO #263 HOWARD STREET (Continued) **S106954010**

Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	6/10/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	6/10/2005
Response Action Outcome:	A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:

Release Tracking Number/Current Status:	3-0024869 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	05/17/2005
Category:	TWO HR
Status Date:	06/10/2005
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

236
SW
1/2-1
0.963 mi.
5083 ft.

Relative:
Higher

Actual:
151 ft.

NOTRE DAME DE LOURDES PARKING LOT **SHWS** **S108034551**
100 SMITH ST **BROWNFIELDS** **N/A**
LOWELL, MA 01851 **RELEASE**

SHWS:

Release Tracking Number/Current Status:	3-0025780 / RAO
Release Town:	LOWELL
Notification Date:	04/20/2006
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	08/02/2007
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	CHRYSENE
Quantity:	15.8 milligrams per kilogram
Chemical:	ARSENIC
Quantity:	22.3 milligrams per kilogram
Chemical:	BENZO[A]PYRENE
Quantity:	13.1 milligrams per kilogram

NOTRE DAME DE LOURDES PARKING LOT (Continued) **S108034551**

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	3/17/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	3/7/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	4/20/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	4/20/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Status or Interim Report Received
Action Date:	4/26/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	4/9/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Transmittal, Notice, or Notification Received
Action Date:	5/4/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 2
Action Status:	Scope of Work Received
Action Date:	5/4/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Tier Classification
Action Status:	Tier 2 Classification
Action Date:	5/4/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Phase 1
Action Status:	Completion Statement Received

NOTRE DAME DE LOURDES PARKING LOT (Continued) **S108034551**

Action Date:	5/4/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	5/9/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/2/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Completion Statement Received
Action Date:	8/2/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	9/29/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	9/6/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Fee Received - FMCRA Use Only
Action Date:	9/7/2006
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

BROWNFIELDS 2:

RTN:	3-0025780
RAO Class:	A2
Other RTNs:	Not reported
Current Owner:	Horn Home For Aged
MCP Status:	RAO
AUL:	No
COCs:	Arsenic, Benzo Pyrene, Chrysene
Former Use:	Not reported
Current Use:	Not reported
Total Acreage:	0.84

Release:

Release Tracking Number/Current Status:	3-0025780 / RAO
Primary ID:	Not reported

NOTRE DAME DE LOURDES PARKING LOT (Continued) **S108034551**

Official City:	LOWELL
Notification:	04/20/2006
Category:	120 DY
Status Date:	08/02/2007
Phase:	PHASE II
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

237
SSE
1/2-1
0.966 mi.
5098 ft.

SPRAY TEC INC FMR **SHWS** **S105199223**
34 NEWHALL ST **RELEASE** **N/A**
LOWELL, MA 01850 **LEAD**

Relative:
Lower

Actual:
80 ft.

SHWS:

Release Tracking Number/Current Status:	3-0000353 / DEPNDS
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Current Status:	**Not a Disposal Site (DEP)**
Status Date:	01/24/2012
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported
Location Type:	RESIDNTIAL

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	Not reported
Action Type:	RLFA
Action Status:	FOLOFF
Action Date:	1/24/2012
Response Action Outcome:	Not reported
Action Type:	RAO Not Required
Action Status:	DEPNDS
Action Date:	1/24/2012
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0000353 / DEPNDS

SPRAY TEC INC FMR (Continued) **S105199223**

Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1987
Category:	NONE
Status Date:	01/24/2012
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

LEAD:

Community:	Lowell
Unit:	409
Inspector Name:	Gary Marciello
Inspector License Number:	3169
Activity Type:	INSPECT
Activity Date:	10/30/2010
Start Work Date:	Not reported
Activity Descriptions:	Comprehensive Initial Inspection
Outcomes:	Hazards Found

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238 NNE 1/2-1 0.968 mi. 5111 ft. **NATIONAL GRID CENTRALVILLE 8 SUBSTA** **SHWS S108640691**
175 BARKER AVE **RELEASE N/A**
LOWELL, MA 01850

Relative: Higher

Actual: 100 ft.

SHWS:

Release Tracking Number/Current Status:	3-0026969 / RAO
Release Town:	LOWELL
Notification Date:	07/24/2007
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	07/25/2008
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material:	Oil and Hazardous Material
Source:	UNKNOWN

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[B]FLUORANTHENE
Quantity:	17000 parts per billion
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	9000 parts per billion
Chemical:	BENZO[A]PYRENE
Quantity:	8500 parts per billion
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	9000 parts per billion
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	290000 parts per billion

NATIONAL GRID CENTRALVILLE 8 SUBSTA (Continued) **S108640691**

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	Level I - Technical Screen Audit
Action Date:	11/28/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	ALSENT
Action Date:	5/16/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Written Plan Received
Action Date:	6/16/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Fee Received - FMCRA Use Only
Action Date:	6/18/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Abatement Measure
Action Status:	Level I - Technical Screen Audit
Action Date:	6/18/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	7/24/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/24/2007
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	7/25/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	Fee Received - FMCRA Use Only
Action Date:	7/28/2008
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.

NATIONAL GRID CENTRALVILLE 8 SUBSTA (Continued) **S108640691**

Action Date: 8/23/2007
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0026969 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 07/24/2007
Category: 120 DY
Status Date: 07/25/2008
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

BD239 **POLE MOUNTED TRANSFORMER** **SHWS** **S109146536**
South **TANNER STREET AT HOWARD ST** **RELEASE** **N/A**
1/2-1 **LOWELL, MA**
0.970 mi.
5123 ft. **Site 2 of 4 in cluster BD**

Relative: Higher

Actual: 97 ft.

SHWS:
Release Tracking Number/Current Status: 3-0027580 / RAO
Release Town: LOWELL
Notification Date: 03/18/2008
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 05/19/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: POLE MNTD
Source: TRANSFORM

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: NON PCB MINERAL OIL DIELECTRIC FLUID
Quantity: 60 gallons
Chemical: MODF
Quantity: 40 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 3/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

POLE MOUNTED TRANSFORMER (Continued) **S109146536**

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 3/18/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/15/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 5/19/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 5/19/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 5/19/2008
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0027580 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 03/18/2008
Category: TWO HR
Status Date: 05/19/2008
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

BD240 **TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC** **SHWS S100830513**
South **263 HOWARD ST** **INST CONTROL N/A**
1/2-1 **LOWELL, MA 01850** **RELEASE**
0.970 mi. **HW GEN**
5124 ft. **Site 3 of 4 in cluster BD**

Relative:
Higher

Actual:
99 ft.

SHWS:
Release Tracking Number/Current Status: 3-0033348 / PSNC
Release Town: LOWELL
Notification Date: 01/05/2016
Category: TWO HR

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Associated ID: Not reported
Current Status: **PSNC**
Status Date: 03/04/2016
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Hazardous Material
Location Type: INDUSTRIAL
Source: DRUMS

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: TRICHLOROETHYLENE
Quantity: 55 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 1/15/2016
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/5/2016
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: FLDISS
Action Date: 1/5/2016
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/5/2016
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FLDD1U
Action Date: 1/5/2016
Response Action Outcome: Not reported

Action Type: Immediate Response Action
Action Status: Oral Approval of a Modified Plan
Action Date: 1/6/2016
Response Action Outcome: Not reported

Action Type: RLFA
Action Status: FOLOFF
Action Date: 1/6/2016
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 3/4/2016
Response Action Outcome: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Action Type: RNFE
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/4/2016
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/4/2016
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0025833 / RAO
Release Town: LOWELL
Notification Date: 04/19/2006
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 06/16/2006
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil Or Haz Material: Not reported
Location Type: COMMERCIAL
Source: DRUMS

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: WASTE GASOLINE
Quantity: 20 gallons

Actions:
Action Type: RLFA
Action Status: FOLOFF
Action Date: 4/19/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 4/19/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 4/19/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 5/9/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 6/16/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 6/16/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 6/16/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release Tracking Number/Current Status: 3-0032698 / PSNC
Release Town: LOWELL
Notification Date: 01/21/2015
Category: TWO HR
Associated ID: Not reported
Current Status: **PSNC**
Status Date: 03/20/2015
Phase: Not reported
Response Action Outcome: -
Oil Or Haz Material: Not reported
Location Type: INDUSTRIAL
Location Type: COMMERCIAL
Source: DRUMS

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: WASTE MOTOR OIL
Quantity: 20 gallons

Actions:
Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/21/2015
Response Action Outcome: Not reported

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/21/2015
Response Action Outcome: Not reported

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 2/6/2015
Response Action Outcome: Not reported

Action Type: RNFE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/20/2015
Response Action Outcome: Not reported

Action Type: Response Action Outcome - RAO
Action Status: PSNRCD
Action Date: 3/20/2015
Response Action Outcome: Not reported

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/20/2015
Response Action Outcome: Not reported

Release Tracking Number/Current Status: 3-0000601 / RAO
Release Town: LOWELL
Notification Date: 01/15/1990
Category: NONE
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 03/09/2006
Phase: PHASE IV
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil Or Haz Material: Not reported
Location Type: INDUSTRIAL

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: UNKNOWN
Quantity: Not reported

Actions:
Action Type: Release Disposition
Action Status: Valid Transition Site
Action Date: 1/15/1990
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 1/9/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Interim Deadline Letter Issued
Action Date: 10/9/1998
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/16/1999
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Compliance and Enforcement Action
Action Status: Notice of Non-Compliance Issued
Action Date: 2/16/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Level II - Audit Inspection
Action Date: 2/22/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Legal Notice Published
Action Date: 3/13/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 3/14/2012
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Activity and Use Limitation
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/9/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Response Action Outcome - RAO

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Action Status: RAO Statement Received
Action Date: 3/9/2006
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 3
Action Status: Completion Statement Received
Action Date: 6/21/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 4
Action Status: Written Plan Received
Action Date: 6/21/2002
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: Phase 2
Action Status: Completion Statement Received
Action Date: 8/17/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Action Type: An activity type that is related to an Audit
Action Status: NAFVIO
Action Date: 8/7/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

INST CONTROL:
Release Tracking Number: 3-0000601
Action Type: AUL
Action Stat: LEGNOT
Action Date: 03/13/2006
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000601
Action Type: AUL
Action Stat: RECPT
Action Date: 03/09/2006
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release Tracking Number: 3-0000601
Action Type: AUL
Action Stat: SNAUDI
Action Date: 02/22/2012
Response Action Outcome: A3 - A permanent solution has been achieved. Contamination has not

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

been reduced to background and an Activity and use Limitation (AUL) has been implemented.

Release:

Release Tracking Number/Current Status:	3-0000601 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1990
Category:	NONE
Status Date:	03/09/2006
Phase:	PHASE IV
Response Action Outcome:	A3 - A permanent solution has been achieved. Contamination has not been reduced to background and an Activity and use Limitation (AUL) has been implemented.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0025833 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	04/19/2006
Category:	TWO HR
Status Date:	06/16/2006
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0032698 / PSNC
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/21/2015
Category:	TWO HR
Status Date:	03/20/2015
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Release Tracking Number/Current Status:	3-0033348 / PSNC
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/05/2016
Category:	TWO HR
Status Date:	03/04/2016
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Hazardous Material

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **S100830513**

Click here to access the MA DEP site for this facility:

HW GEN:
EPA Id: MAD047075734
RCRA Generator Status: LQG
State Generator Status: LQG-MA

BD241 **TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC** **CORRACTS** **1000170150**
South **263 HOWARD ST** **RCRA-TSDF** **MAD047075734**
1/2-1 **LOWELL, MA** **RCRA-LQG**
0.970 mi. **US FIN ASSUR**
5124 ft. **Site 4 of 4 in cluster BD** **2020 COR ACTION**
RAATS
Relative: **PADS**
Higher

Actual: CORRACTS:
99 ft.

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 20000904
Action: CA110 - RFI Workplan Received
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 20060808
Action: CA550RC
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 20060808
Action: CA400 - Date For Remedy Selection (CM Imposed)
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 19920708
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 19981021
Action: CA100 - RFI Imposition
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 19920622
Action: CA050PA - RFA Completed, Assessment was a PA-Plus
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 19950225
Action: CA190 - RFI Report Received
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 20030826
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 20030930
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: 20030826
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 20030930
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Actual Date:	19960827
Action:	CA750NO - Migration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected
NAICS Code(s):	562112 Hazardous Waste Collection
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	MAD047075734
EPA Region:	01
Area Name:	ENTIRE FACILTIY
Actual Date:	19960827
Action:	CA725NO - Current Human Exposures Under Control, Current human exposures are NOT under control
NAICS Code(s):	562112 Hazardous Waste Collection
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	MAD047075734
EPA Region:	01
Area Name:	ENTIRE FACILTIY
Actual Date:	20080930
Action:	CA800YE
NAICS Code(s):	562112 Hazardous Waste Collection
Original schedule date:	20080930
Schedule end date:	Not reported

EPA ID:	MAD047075734
EPA Region:	01
Area Name:	ENTIRE FACILTIY
Actual Date:	Not reported
Action:	CA300 - CMS Workplan Approved
NAICS Code(s):	562112 Hazardous Waste Collection
Original schedule date:	19980530
Schedule end date:	Not reported

EPA ID:	MAD047075734
EPA Region:	01
Area Name:	ENTIRE FACILTIY
Actual Date:	Not reported
Action:	CA150 - RFI Workplan Approved
NAICS Code(s):	562112 Hazardous Waste Collection
Original schedule date:	19961130
Schedule end date:	Not reported

EPA ID:	MAD047075734
EPA Region:	01
Area Name:	ENTIRE FACILTIY
Actual Date:	Not reported
Action:	CA190 - RFI Report Received
NAICS Code(s):	562112 Hazardous Waste Collection

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Original schedule date: 19970530
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: Not reported
Action: CA250 - CMS Imposition
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 19960430
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: Not reported
Action: CA225 - Stabilization Measures Evaluation
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 19960101
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: Not reported
Action: CA200 - RFI Approved
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 19980530
Schedule end date: Not reported

EPA ID: MAD047075734
EPA Region: 01
Area Name: ENTIRE FACILTIY
Actual Date: Not reported
Action: CA110 - RFI Workplan Received
NAICS Code(s): 562112
Hazardous Waste Collection
Original schedule date: 19960630
Schedule end date: Not reported

RCRA-TSDF:
Date form received by agency: 03/01/2014
Facility name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Facility address: 263 HOWARD ST
LOWELL, MA 01852
EPA ID: MAD047075734
Mailing address: HOWARD ST
LOWELL, MA 01852
Contact: JOHN J MENZIGIAN
Contact address: HOWARD ST
LOWELL, MA 01852
Contact country: Not reported
Contact telephone: (978) 453-7772
Contact email: JMENZIGIAN@TRIUMVIRATE.COM

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

EPA Region:	01
Land type:	Private
Classification:	TSDF
Description:	Handler is engaged in the treatment, storage or disposal of hazardous waste
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	JONES ENVIRONMENTAL SERVICES NORTHEAST I
Owner/operator address:	PO BOX 206 CHELMSFORD, MA 01824
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	11/30/1998
Owner/Op end date:	Not reported

Owner/operator name:	TRIUMVIRATE ENVIRONMENTAL, INC.
Owner/operator address:	INNERBELT RD SOMERVILLE, MA 02143
Owner/operator country:	Not reported
Owner/operator telephone:	(800) 966-8098
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	06/24/2008
Owner/Op end date:	Not reported

Owner/operator name:	JAMES F GREEN & KIRK J FRANKLIN
Owner/operator address:	PO BOX 206 CHELMSFORD, MA 01824
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1900
Owner/Op end date:	Not reported

Owner/operator name:	TRIUMVIRATE ENVIRONMENTAL, INC.
Owner/operator address:	INNERBELT RD SOMERVILLE, MA 01852
Owner/operator country:	Not reported
Owner/operator telephone:	(800) 966-2008

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 06/24/2008
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: Yes
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: Yes
Used oil processor: No
User oil refiner: Yes
Used oil fuel marketer to burner: Yes
Used oil Specification marketer: Yes
Used oil transfer facility: No
Used oil transporter: No

Universal Waste Summary:
Waste type: Batteries
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Lamps
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Pesticides
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Thermostats
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: D
Accumulated waste on-site: Yes
Generated waste on-site: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D012
. Waste name: ENDRIN
(1,2,3,4,10,10-HEXACHLORO-1,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-EN
O, ENDO-5,8-DIMETH-ANO-NAPHTHALENE)

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

. Waste code: D015
. Waste name: TOXAPHENE (C10 H10 CL8, TECHNICAL CHLORINATED CAMPHENE, 67-69 PERCENT CHLORINE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D017
. Waste name: 2,4,5-TP SILVEX (2,4,5-TRICHLOROPHENOXYPROPIONIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D031
. Waste name: HEPTACHLOR (AND ITS EPOXIDE)

. Waste code: D032
. Waste name: HEXACHLOROBENZENE

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D037
. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D041
. Waste name: 2,4,5-TRICHLOROPHENOL

. Waste code: D042

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2,4,6-TRICHLOROPHENOL

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006

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. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F010
. Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: F012
. Waste name: QUENCHING WASTEWATER TREATMENT SLUDGES FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: F024
. Waste name: PROCESS WASTES INCLUDING, BUT NOT LIMITED TO, DISTILLATION RESIDUES, HEAVY ENDS, TARS, AND REACTOR CLEAN-OUT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION. (THIS LISTING DOES NOT INCLUDE WASTEWATERS, WASTEWATER TREATMENT SLUDGE, SPENT CATALYSTS, AND WASTES LISTED IN SECTIONS 261.31. OR 261.32)

. Waste code: F025
. Waste name: CONDENSED LIGHT ENDS, SPENT FILTERS AND FILTER AIDS, AND SPENT DESICCANT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION.

. Waste code: F027
. Waste name: DISCARDED UNUSED FORMULATIONS CONTAINING TRI-, TETRA-, OR PENTACHLOROPHENOL OR DISCARDED UNUSED FORMULATIONS CONTAINING

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COMPOUNDS DERIVED FROM THESE CHLOROPHENOLS. (THIS LISTING DOES NOT INCLUDE FORMULATIONS CONTAINING HEXACHLOROPHENE SYNTHESIZED FROM PREPURIFIED 2,4,5-TRICHLOROPHENOL AS THE SOLE COMPONENT.)

. Waste code: F038
. Waste name: PETROLEUM REFINERY SECONDARY (EMULSIFIED) OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE AND/OR FLOAT GENERATED FROM THE PHYSICAL AND/OR CHEMICAL SEPARATION OF OIL/WATER/SOLIDS IN PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH WASTES INCLUDE, BUT ARE NOT LIMITED TO, ALL SLUDGES AND FLOATS GENERATED IN INDUCED AIR FLOTATION (IAF) UNITS, TANKS AND IMPOUNDMENTS, AND ALL SLUDGES GENERATED IN DAF UNITS. SLUDGES GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND F037, K048, AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F039
. Waste name: LEACHATE RESULTING FROM THE TREATMENT, STORAGE, OR DISPOSAL OF WASTES CLASSIFIED BY MORE THAN ONE WASTE CODE UNDER SUBPART D, OR FROM A MIXTURE OF WASTES CLASSIFIED UNDER SUBPARTS C AND D OF THIS PART. (LEACHATE RESULTING FROM THE MANAGEMENT OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS HAZARDOUS WASTE CODE(S): F020, F021, F022, F023, F026, F027, AND/OR F028.)

. Waste code: K001
. Waste name: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: K002
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME YELLOW AND ORANGE PIGMENTS.

. Waste code: K003
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF MOLYBDATE ORANGE PIGMENTS.

. Waste code: K004
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF ZINC YELLOW PIGMENTS.

. Waste code: K005
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME GREEN PIGMENTS.

. Waste code: K006
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS (ANHYDROUS AND HYDRATED).

. Waste code: K007
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF IRON BLUE PIGMENTS.

. Waste code: K008
. Waste name: OVEN RESIDUE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS.

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. Waste code: K009
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K010
. Waste name: DISTILLATION SIDE CUTS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K011
. Waste name: BOTTOM STREAM FROM THE WASTEWATER STRIPPER IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K013
. Waste name: BOTTOM STREAM FROM THE ACETONITRILE COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K014
. Waste name: BOTTOMS FROM THE ACETONITRILE PURIFICATION COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K015
. Waste name: STILL BOTTOMS FROM THE DISTILLATION OF BENZYL CHLORIDE.

. Waste code: K016
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE PRODUCTION OF CARBON TETRACHLORIDE.

. Waste code: K017
. Waste name: HEAVY ENDS (STILL BOTTOMS) FROM THE PURIFICATION COLUMN IN THE PRODUCTION OF EPICHLOROHYDRIN.

. Waste code: K018
. Waste name: HEAVY ENDS FROM THE FRACTIONATION COLUMN IN ETHYL CHLORIDE PRODUCTION.

. Waste code: K019
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE DICHLORIDE PRODUCTION.

. Waste code: K020
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF VINYL CHLORIDE IN VINYL CHLORIDE MONOMER PRODUCTION.

. Waste code: K022
. Waste name: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM CUMENE.

. Waste code: K023
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K024
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K025
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF NITROBENZENE BY THE NITRATION OF BENZENE.

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. Waste code: K026
. Waste name: STRIPPING STILL TAILS FROM THE PRODUCTION OF METHYL ETHYL PYRIDINES.

. Waste code: K027
. Waste name: CENTRIFUGE AND DISTILLATION RESIDUES FROM TOLUENE DIISOCYANATE PRODUCTION.

. Waste code: K028
. Waste name: SPENT CATALYST FROM THE HYDROCHLORINATOR REACTOR IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K029
. Waste name: WASTE FROM THE PRODUCT STEAM STRIPPER IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K030
. Waste name: COLUMN BOTTOMS OR HEAVY ENDS FROM THE COMBINED PRODUCTION OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE.

. Waste code: K031
. Waste name: BY-PRODUCT SALTS GENERATED IN THE PRODUCTION OF MSMA AND CACODYLIC ACID.

. Waste code: K032
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHLORDANE.

. Waste code: K033
. Waste name: WASTEWATER AND SCRUB WATER FROM THE CHLORINATION OF CYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K034
. Waste name: FILTER SOLIDS FROM THE FILTRATION OF HEXACHLOROCYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K035
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED IN THE PRODUCTION OF CREOSOTE.

. Waste code: K036
. Waste name: STILL BOTTOMS FROM TOLUENE RECLAMATION DISTILLATION IN THE PRODUCTION OF DISULFOTON.

. Waste code: K037
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF DISULFOTON.

. Waste code: K038
. Waste name: WASTEWATER FROM THE WASHING AND STRIPPING OF PHORATE PRODUCTION.

. Waste code: K039
. Waste name: FILTER CAKE FROM THE FILTRATION OF DIETHYLPHOSPHORODITHIOIC ACID IN THE PRODUCTION OF PHORATE.

. Waste code: K040
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF PHORATE.

. Waste code: K041
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE.

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. Waste code: K042
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE DISTILLATION OF TETRACHLOROBENZENE IN THE PRODUCTION OF 2,4,5-T.

. Waste code: K043
. Waste name: 2,6-DICHLOROPHENOL WASTE FROM THE PRODUCTION OF 2,4-D.

. Waste code: K044
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE MANUFACTURING AND PROCESSING OF EXPLOSIVES.

. Waste code: K045
. Waste name: SPENT CARBON FROM THE TREATMENT OF WASTEWATER CONTAINING EXPLOSIVES.

. Waste code: K046
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE MANUFACTURING, FORMULATION, AND LOADING OF LEAD-BASED INITIATING COMPOUNDS.

. Waste code: K047
. Waste name: PINK/RED WATER FROM TNT OPERATIONS.

. Waste code: K048
. Waste name: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K049
. Waste name: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K050
. Waste name: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K051
. Waste name: API SEPARATOR SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K060
. Waste name: AMMONIA STILL LIME SLUDGE FROM COKING OPERATIONS.

. Waste code: K061
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.

. Waste code: K062
. Waste name: SPENT PICKLE LIQUOR FROM STEEL FINISHING OPERATIONS OF PLANTS THAT PRODUCE IRON OR STEEL.

. Waste code: K065
. Waste name: SURFACE IMPOUNDMENT SOLIDS CONTAINED IN AND DREDGED FROM SURFACE IMPOUNDMENTS AT PRIMARY LEAD SMELTING FACILITIES.

. Waste code: K066
. Waste name: SLUDGE FROM TREATMENT OF PROCESS WASTEWATER AND/OR ACID PLANT BLOWDOWN FROM PRIMARY ZINC PRODUCTION.

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. Waste code: K069
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K071
. Waste name: BRINE PURIFICATION MUDS FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION, IN WHICH SEPARATELY PREPURIFIED BRINE IS NOT USED.

. Waste code: K073
. Waste name: CHLORINATED HYDROCARBON WASTE FROM THE PURIFICATION STEP OF THE DIAPHRAGM CELL PROCESS USING GRAPHITE ANODES IN CHLORINE PRODUCTION.

. Waste code: K083
. Waste name: DISTILLATION BOTTOMS FROM ANILINE PRODUCTION.

. Waste code: K084
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED DURING THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K085
. Waste name: DISTILLATION OR FRACTIONATION COLUMN BOTTOMS FROM THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

. Waste code: K087
. Waste name: DECANTER TANK TAR SLUDGE FROM COKING OPERATIONS.

. Waste code: K088
. Waste name: SPENT POTLINERS FROM PRIMARY ALUMINUM REDUCTION.

. Waste code: K093
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K094
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K095
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K096
. Waste name: HEAVY ENDS FROM THE HEAVY ENDS COLUMN FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K097
. Waste name: VACUUM STRIPPER DISCHARGE FROM THE CHLORDANE CHLORINATOR IN THE PRODUCTION OF CHLORDANE.

. Waste code: K098
. Waste name: UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K099

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. Waste name: UNTREATED WASTEWATER FROM THE PRODUCTION OF 2,4-D.

. Waste code: K100
. Waste name: WASTE LEACHING SOLUTION FROM ACID LEACHING OF EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K101
. Waste name: DISTILLATION TAR RESIDUES FROM THE DISTILLATION OF ANILINE-BASED COMPOUNDS IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K102
. Waste name: RESIDUE FROM THE USE OF ACTIVATED CARBON FOR DECOLORIZATION IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K103
. Waste name: PROCESS RESIDUES FROM ANILINE EXTRACTION FROM THE PRODUCTION OF ANILINE.

. Waste code: K104
. Waste name: COMBINED WASTEWATERS GENERATED FROM NITROBENZENE/ANILINE PRODUCTION.

. Waste code: K105
. Waste name: SEPARATED AQUEOUS STREAM FROM THE REACTOR PRODUCT WASHING STEP IN THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K106
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION.

. Waste code: K107
. Waste name: COLUMN BOTTOMS FROM PRODUCT SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE (UDMH) FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K108
. Waste name: CONDENSED COLUMN OVERHEADS FROM PRODUCT SEPARATION AND CONDENSED REACTOR VENT GASES FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K109
. Waste name: SPENT FILTER CARTRIDGES FROM PRODUCT PURIFICATION FROM THE PRODUCT OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K110
. Waste name: CONDENSED COLUMN OVERHEADS FROM INTERMEDIATE SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K111
. Waste name: PRODUCT WASHWATERS FROM THE PRODUCTION OF DINITROTOLUENE VIA NITRATION OF TOLUENE.

. Waste code: K112
. Waste name: REACTION BY-PRODUCT WATER FROM THE DRYING COLUMN IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K113

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. Waste name: CONDENSED LIQUID LIGHT ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K114
. Waste name: VICINALS FROM THE PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K115
. Waste name: HEAVY ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K116
. Waste name: ORGANIC CONDENSATE FROM THE SOLVENT RECOVERY COLUMN IN THE PRODUCTION OF TOLUENE DIISOCYANATE VIA PHOSGENATION OF TOLUENEDIAMINE.

. Waste code: K117
. Waste name: WASTEWATER FROM THE REACTOR VENT GAS SCRUBBER IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K118
. Waste name: SPENT ADSORBENT SOLIDS FROM PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K123
. Waste name: PROCESS WASTEWATER (INCLUDING SUPERNATES, FILTRATES, AND WASHWATERS) FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K124
. Waste name: REACTOR VENT SCRUBBER WATER FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K125
. Waste name: FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K126
. Waste name: BAGHOUSE DUST AND FLOOR SWEEPINGS IN MILLING AND PACKAGING OPERATIONS FROM PRODUCTION OR FORMULATION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K131
. Waste name: WASTEWATER FROM THE REACTOR AND SPENT SULFURIC ACID FROM THE ACID DRYER FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K132
. Waste name: SPENT ABSORBENT AND WASTEWATER SEPARATOR SOLIDS FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K136
. Waste name: STILL BOTTOMS FROM THE PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K141
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF COAL TAR, INCLUDING, BUT NOT LIMITED TO, TAR COLLECTING SUMP RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL. THIS LISTING DOES NOT INCLUDE K087 (DECANTER TANK SLUDGE FROM COKING

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OPERATIONS).

. Waste code: K142
. Waste name: TANK STORAGE RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR FROM THE RECOVERY OF COKE BY-PRODUCTS FROM COAL.

. Waste code: K143
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF LIGHT OIL, INCLUDING, BUT NOT LIMITED TO, THOSE GENERATED IN STILLS, DECANTERS, AND WASH OIL RECOVERY UNITS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K144
. Waste name: WASTEWATER SUMP RESIDUES FROM LIGHT OIL REFINING, INCLUDING, BUT NOT LIMITED TO, INTERCEPTING OR CONTAMINATION SUMP SLUDGES FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K145
. Waste name: RESIDUES FROM NAPHTHALENE COLLECTION AND RECOVERY OPERATIONS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K147
. Waste name: TAR STORAGE RESIDUES FROM COAL TAR REFINING.

. Waste code: K148
. Waste name: RESIDUES FROM COAL TAR DISTILLATION, INCLUDING, BUT NOT LIMITED TO, STILL BOTTOMS.

. Waste code: K149
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, RING-CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS. [THIS WASTE DOES NOT INCLUDE STILL BOTTOMS FROM THE DISTILLATION OF BENZOYL CHLORIDE]

. Waste code: K150
. Waste name: ORGANIC RESIDULES EXCLUDING SPENT CARBON ADSORBENT, FROM THE SPENT CHLORINE GAS AND HYDROCHLORIC ACID RECOVERY PROCESSES ASSOCIATED WITH THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K151
. Waste name: WASTEWATER TREATMENT SLUDGES, EXCLUDING NEUTRALIZATION AND BIOLOGICAL SLUDGES, GENERATED DURING THE TREATMENT OF WASTEWATERS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K156
. Waste name: ORGANIC WASTE (INCLUDING HEAVY ENDS, STILL BOTTOMS, LIGHT ENDS, SPENT SOLVENTS, FILTRATES, AND DECANTATES) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K157
. Waste name: WASTEWATERS (INCLUDING SCRUBBER WATERS, CONDENSER WATERS, WASHWATERS, AND SEPARATION WATERS) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K158

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. Waste name: BAG HOUSE DUSTS AND FILTER/SEPARATION SOLIDS FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K159
. Waste name: ORGANICS FROM THE TREATMENT OF THIOCARBAMATE WASTES.

. Waste code: K161
. Waste name: PURIFICATION SOLIDS (INCLUDING FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS), BAG HOUSE DUST AND FLOOR SWEEPINGS FROM THE PRODUCTION OF DITHIOCARBAMATE ACIDS AND THEIR SALTS. (THIS LISTING DOES NOT INCLUDE K125 OR K126).

. Waste code: K169
. Waste name: CRUDE OIL STORAGE TANK SEDIMENT FROM PETROLEUM REFINING OPERATIONS

. Waste code: K170
. Waste name: CLARIFIED SLURRY OIL TANK SEDIMENT AND/OR IN-LINE FILTER/SEPARATION SOLIDS FROM PETROLEUM REFINING OPERATIONS

. Waste code: K171
. Waste name: SPENT HYDROTREATING CATALYST FROM PETROLEUM REFINING OPERATIONS,INCLUDING GUARD BEDS USED TO DESULFURIZE FEEDS TO OTHER CATALYTIC REACTORS (THIS LISTING DOES NOT INCLUDE INERT SUPPORT MEDIA)

. Waste code: K172
. Waste name: SPENT HYDROREFINING CATALYST FROM PETROLEUM REFINING OPERATIONS, INCLUDING GUARD BEDS USED TO DESULFURIZE FEEDS TO OTHER CATALYTIC REACTORS (THIS LISTING DOES NOT INCLUDE INERT SUPPORT MEDIA)

. Waste code: K174
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF ETHLYENE DICHLORIDE OR VINYL CHLORIDE

. Waste code: K175
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF VINYL CHLORIDE MONOMER..

. Waste code: K176
. Waste name: BAGHOUSE FILTERS FROM THE PRODUCTION OF ANTIMONY OXIDE, INCLUDING FILTERS FROM THE PRODUCTION OF INTERMEDIATES (E.G.,ANTIMONY METAL OR CRUDE ANTIMONY OXIDE)

. Waste code: K177
. Waste name: SLAG FROM THE PRODUCTION OF ANTIMONY OXIDE THAT IS SPECULATIVELY ACCUMULATED OR DISPOSED,INCLUDING SLAG FROM THE PRODUCTION OF INTERMEDIATES (E.G.,ANTIMONY METAL OR CRUDE ANTIMONY OXIDE)

. Waste code: K178
. Waste name: RESIDUES FROM MANUFACTURING AND MANUFACTURING-SITE STORAGE OF FERRIC CHLORIDE FROM ACIDS FORMED DURING THE PRODUCTION OF TITANIUM DIOXIDE USING THE CHLORIDE-ILMENITE PROCESS.

. Waste code: K181
. Waste name: Nonwastewaters from the production of dyes and/or pigments.

. Waste code: LABP
. Waste name: LAB PACK

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P002
. Waste name: 1-ACETYL-2-THIOUREA (OR) ACETAMIDE, N-(AMINOTHIOXOMETHYL)-

. Waste code: P003
. Waste name: 2-PROPENAL (OR) ACROLEIN

. Waste code: P004
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA)- (OR) ALDRIN

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: P006
. Waste name: ALUMINUM PHOSPHIDE (R,T)

. Waste code: P007
. Waste name: 3(2H)-ISOXAZOLONE, 5-(AMINOMETHYL)- (OR) 5-(AMINOMETHYL)-3-ISOXAZOLOL

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P009
. Waste name: AMMONIUM PICRATE (R) (OR) PHENOL, 2,4,6-TRINITRO-, AMMONIUM SALT (R)

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011
. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P014
. Waste name: BENZENETHIOL (OR) THIOPHENOL

. Waste code: P015
. Waste name: BERYLLIUM

. Waste code: P016
. Waste name: DICHLOROMETHYL ETHER (OR) METHANE, OXYBIS[CHLORO-

. Waste code: P017
. Waste name: 2-PROPANONE, 1-BROMO- (OR) BROMOACETONE

. Waste code: P018
. Waste name: BRUCINE (OR) STRYCHNIDIN-10-ONE, 2,3-DIMETHOXY-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P020
. Waste name: DINOSEB (OR) PHENOL, 2-(1-METHYLPROPYL)-4,6-DINITRO-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P023
. Waste name: ACETALDEHYDE, CHLORO- (OR) CHLOROACETALDEHYDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P026
. Waste name: 1-(O-CHLOROPHENYL)THIOUREA (OR) THIOUREA, (2-CHLOROPHENYL)-

. Waste code: P027
. Waste name: 3-CHLOROPROPIONITRILE (OR) PROPANENITRILE, 3-CHLORO-

. Waste code: P028
. Waste name: BENZENE, (CHLOROMETHYL)- (OR) BENZYL CHLORIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P031
. Waste name: CYANOGEN (OR) ETHANEDINITRILE

. Waste code: P033
. Waste name: CYANOGEN CHLORIDE (OR) CYANOGEN CHLORIDE (CN)CL

. Waste code: P034
. Waste name: 2-CYCLOHEXYL-4,6-DINITROPHENOL (OR) PHENOL, 2-CYCLOHEXYL-4,6-DINITRO-

. Waste code: P036
. Waste name: ARSONOUS DICHLORIDE, PHENYL- (OR) DICHLOROPHENYLARSINE

. Waste code: P037
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2AALPHA, 3BETA, 6BETA, 6AALPHA, 7BETA, 7AALPHA)- (OR) DIELDRIN

. Waste code: P038
. Waste name: ARSINE, DIETHYL- (OR) DIETHYLARSINE

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

. Waste code: P040
. Waste name: O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P041
. Waste name: DIETHYL-P-NITROPHENYL PHOSPHATE (OR) PHOSPHORIC ACID, DIETHYL 4-NITROPHENYL ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P043
. Waste name: DIISOPROPYLFLUOROPHOSPHATE (DFP) (OR) PHOSPHOROFLUORIDIC ACID, BIS(1-METHYLETHYL) ESTER

. Waste code: P044
. Waste name: DIMETHOATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-[2-(METHYLAMINO)-2-OXOETHYL] ESTER

. Waste code: P045
. Waste name: 2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-[METHYLAMINO)CARBONYL] OXIME (OR) THIOFANOX

. Waste code: P046
. Waste name: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

. Waste code: P047
. Waste name: 4,6-DINITRO-O-CRESOL, & SALTS (OR) PHENOL, 2-METHYL-4,6-DINITRO-, & SALTS

. Waste code: P048
. Waste name: 2,4-DINITROPHENOL (OR) PHENOL, 2,4-DINITRO-

. Waste code: P049
. Waste name: DITHIOBIURET (OR) THIOIMIDODICARBONIC DIAMIDE [(H2N)C(S)]2NH

. Waste code: P050
. Waste name: 6,9-METHANO-2,4,3-BENZODIOXATHIEPIN,6,7,8,9,10,10-HEXACHLORO-1,5,5A,6, ,9A-HEXAHYDRO-,3-OXIDE (OR) ENDOSULFAN

. Waste code: P051
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2ABETA, 3ALPHA, 6ALPHA, 6ABETA, 7BETA, 7AALPHA)- & METABOLITES (OR) ENDRIN (OR) ENDRIN, & METABOLITES

. Waste code: P054
. Waste name: AZIRIDINE (OR) ETHYLENEIMINE

. Waste code: P056
. Waste name: FLUORINE

. Waste code: P057
. Waste name: ACETAMIDE, 2-FLUORO- (OR) FLUOROACETAMIDE

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P059

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO-(OR) HEPTACHLOR

. Waste code: P060
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5BETA, 8BETA, 8ABETA)- (OR) ISODRIN

. Waste code: P062
. Waste name: HEXAETHYL TETRAPHOSPHATE (OR) TETRAPHOSPHORIC ACID, HEXAETHYL ESTER

. Waste code: P063
. Waste name: HYDROCYANIC ACID (OR) HYDROGEN CYANIDE

. Waste code: P064
. Waste name: METHANE, ISOCYANATO- (OR) METHYL ISOCYANATE

. Waste code: P065
. Waste name: FULMINIC ACID, MERCURY(2+) SALT (R,T) (OR) MERCURY FULMINATE (R,T)

. Waste code: P066
. Waste name: ETHANIMIDOTHIOIC ACID, N-[[(METHYLAMINO)CARBONYL]OXY]-, METHYL ESTER (OR) METHOMYL

. Waste code: P067
. Waste name: 1,2-PROPYLENIMINE (OR) AZIRIDINE, 2-METHYL-

. Waste code: P068
. Waste name: HYDRAZINE, METHYL- (OR) METHYL HYDRAZINE

. Waste code: P069
. Waste name: 2-METHYLLACTONITRILE (OR) PROPANENITRILE, 2-HYDROXY-2-METHYL-

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P071
. Waste name: METHYL PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O,-DIMETHYL O-(4-NITROPHENYL) ESTER

. Waste code: P072
. Waste name: ALPHA-NAPHTHYLTHIOUREA (OR) THIOUREA, 1-NAPHTHALENYL-

. Waste code: P073
. Waste name: NICKEL CARBONYL (OR) NICKEL CARBONYL NI(CO)4, (T-4)-

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P076
. Waste name: NITRIC OXIDE (OR) NITROGEN OXIDE NO

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P078
. Waste name: NITROGEN DIOXIDE (OR) NITROGEN OXIDE NO2

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: P082
. Waste name: METHANIMINE, N-METHYL-N-NITROSO- (OR) N-NITROSODIMETHYLAMINE

. Waste code: P084
. Waste name: N-NITROSOMETHYLVINYLAMINE (OR) VINYLAMINE, N-METHYL-N-NITROSO-

. Waste code: P085
. Waste name: DIPHOSPHORAMIDE, OCTAMETHYL- (OR) OCTAMETHYLPYROPHOSPHORAMIDE

. Waste code: P087
. Waste name: OSMIUM OXIDE OSO4, (T-4)- (OR) OSMIUM TETROXIDE

. Waste code: P088
. Waste name: 7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC ACID (OR) ENDOTHALL

. Waste code: P089
. Waste name: PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P093
. Waste name: PHENYLTHIOUREA (OR) THIOUREA, PHENYL-

. Waste code: P094
. Waste name: PHORATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[(ETHYLTHIO)METHYL] ESTER

. Waste code: P095
. Waste name: CARBONIC DICHLORIDE (OR) PHOSGENE

. Waste code: P096
. Waste name: HYDROGEN PHOSPHIDE (OR) PHOSPHINE

. Waste code: P097
. Waste name: FAMPHUR (OR) PHOSPHOROTHIOIC ACID O-[4-[(DIMETHYLAMINO)SULFONYL]PHENYL] O,O-DIMETHYL ESTER

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P099
. Waste name: ARGENTATE (1-), BIS(CYANO-C)-, POTASSIUM (OR) POTASSIUM SILVER CYANIDE

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P102
. Waste name: 2-PROPYN-1-OL (OR) PROPARGYL ALCOHOL

. Waste code: P103
. Waste name: SELENOUREA

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P107
. Waste name: STRONTIUM SULFIDE SRS

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P109
. Waste name: TETRAETHYLDITHIOPYROPHOSPHATE (OR) THIODIPHOSPHORIC ACID, TETRAETHYL ESTER

. Waste code: P110
. Waste name: PLUMBANE, TETRAETHYL- (OR) TETRAETHYL LEAD

. Waste code: P111
. Waste name: DIPHOSPHORIC ACID, TETRAETHYL ESTER (OR) TETRAETHYL PYROPHOSPHATE

. Waste code: P112
. Waste name: METHANE, TETRANITRO- (R) (OR) TETRANITROMETHANE (R)

. Waste code: P113
. Waste name: THALLIC OXIDE (OR) THALLIUM OXIDE TL2O3

. Waste code: P114
. Waste name: SELENIOUS ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SELENITE

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P116
. Waste name: HYDRAZINECARBOTHIOAMIDE (OR) THIOSEMICARBAZIDE

. Waste code: P118
. Waste name: METHANETHIOL, TRICHLORO- (OR) TRICHLOROMETHANETHIOL

. Waste code: P119
. Waste name: AMMONIUM VANADATE (OR) VANADIC ACID, AMMONIUM SALT

. Waste code: P120
. Waste name: VANADIUM OXIDE V2O5 (OR) VANADIUM PENTOXIDE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P122
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 10% (R,T)

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P128
. Waste name: PHENOL, 4-(DIMETHYLAMINO)-3,5-DIMETHYL-, METHYLCARBAMATE (ESTER)

. Waste code: P185
. Waste name: 1,3-DITHIOLANE-2-CARBOXALDEHYDE, 2,4-DIMETHYL-, O-[(METHYLAMINO)-CARBONYL]OXIME (OR) TIRPATE

. Waste code: P188
. Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL--YL METHYLCARBAMATE ESTER (1:1) (OR) PHYSOSTIGMINE SALICYLATE

. Waste code: P189
. Waste name: CARBAMIC ACID, [(DIBUTYLAMINO)-THIO]METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL -7-BENZOFURANYL ESTER (OR) CARBOSULFAN

. Waste code: P190
. Waste name: CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER (OR) METOLCARB

. Waste code: P191
. Waste name: CARBAMIC ACID, DIMETHYL-, 1-[(DIMETHYL-AMINO)CARBONYL]- 5-METHYL-1H-PYRAZOL-3-YL ESTER (OR) DIMETILAN

. Waste code: P192
. Waste name: ISOLAN (OR) CARBAMIC ACID, DIMETHYL-, 3-METHY-L-(1-METHYLETHYL)-1H-PYRAZOL-5-YL ESTER

. Waste code: P194
. Waste name: ETHANIMIDOTHIOC ACID, 2-(DIMETHYLAMINO)-N-[[(METHYLAMINO) CARBONYL]OXY]-2-OXO-, METHYL ESTER (OR) OXAMYL

. Waste code: P196
. Waste name: MANGANESE DIMETHYLDITHIOCARBAMATE (OR) MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-,

. Waste code: P197
. Waste name: FORMPARANATE (OR) METHANIMIDAMIDE, N,N-DIMETHYL-N'-[2-METHYL-4-[[(METHYLAMINO)CARBONYL]OXY]PHENYL]

. Waste code: P198
. Waste name: METHANIMIDAMIDE, N,N-DIMETHYL-N'-[3-[[(METHYLAMINO)-CARBONYL]OXY]PHENYL]-, MONOHYDROCHLORIDE (OR) FORMETANATE HYDROCHLORIDE

. Waste code: P199
. Waste name: METHIOCARB (OR) MEXACARBATE (OR) PHENOL,

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

(3,5-DIMETHYL-4-(METHYLTHIO)-, METHYLCARBAMATE

. Waste code: P201
. Waste name: PHENOL, 3-METHYL-5-(1-METHYLETHYL)-, METHYL CARBAMATE (OR) PROMECARB

. Waste code: P202
. Waste name: M-CUMENYL METHYLCARBAMATE (OR) 3-ISOPROPYLPHENYL N-METHYLCARBAMATE (OR) PHENOL, 3-(1-METHYLETHYL)-, METHYL CARBAMATE

. Waste code: P203
. Waste name: ALDICARB SULFONE (OR) PROPANAL, 2-METHYL-2-(METHYL-SULFONYL)-, O-[(METHYLAMINO)CARBONYL] OXIME

. Waste code: P204
. Waste name: PHYSOSTIGMINE (OR) PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-METHYLCARBAMATE (ESTER), (3AS-CIS)-

. Waste code: P205
. Waste name: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (OR) ZIRAM

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U005
. Waste name: 2-ACETYLAMINOFLUORENE (OR) ACETAMIDE, N-9H-FLUOREN-2-YL

. Waste code: U006
. Waste name: ACETYL CHLORIDE (C,R,T)

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U008
. Waste name: 2-PROPENOIC ACID (I) (OR) ACRYLIC ACID (I)

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-MET OXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U011
. Waste name: 1H-1,2,4-TRIAZOL-3-AMINE (OR) AMITROLE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U012
. Waste name: ANILINE (I,T) (OR) BENZENAMINE (I,T)

. Waste code: U014
. Waste name: AURAMINE (OR) BENZENAMINE, 4,4'-CARBONIMIDOYLBIS[N,N-DIMETHYL-

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U016
. Waste name: BENZ[C]ACRIDINE

. Waste code: U017
. Waste name: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

. Waste code: U018
. Waste name: BENZ[A]ANTHRACENE

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U020
. Waste name: BENZENESULFONIC ACID CHLORIDE (C,R) (OR) BENZENESULFONYL CHLORIDE (C,R)

. Waste code: U021
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE (OR) BENZIDINE

. Waste code: U022
. Waste name: BENZO[A]PYRENE

. Waste code: U023
. Waste name: BENZENE, (TRICHLOROMETHYL)- (OR) BENZOTRICHLORIDE (C,R,T)

. Waste code: U024
. Waste name: DICHLOROMETHOXY ETHANE (OR) ETHANE, 1,1'-[METHYLENEBIS(OXY)]BIS[2-CHLORO-

. Waste code: U025
. Waste name: DICHLOROETHYL ETHER (OR) ETHANE, 1,1'-OXYBIS[2-CHLORO-

. Waste code: U026
. Waste name: CHLORNAPHAZIN (OR) NAPHTHALENAMINE, N,N'-BIS(2-CHLOROETHYL)-

. Waste code: U027
. Waste name: DICHLOROISOPROPYL ETHER (OR) PROPANE, 2,2'-OXYBIS[2-CHLORO-

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U029
. Waste name: METHANE, BROMO- (OR) METHYL BROMIDE

. Waste code: U030
. Waste name: 4-BROMOPHENYL PHENYL ETHER (OR) BENZENE, 1-BROMO-4-PHENOXY-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U032
. Waste name: CALCIUM CHROMATE (OR) CHROMIC ACID H2CRO4, CALCIUM SALT

. Waste code: U033
. Waste name: CARBON OXYFLUORIDE (R,T) (OR) CARBONIC DIFLUORIDE

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U038
. Waste name: BENZENEACETIC ACID, 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXY-, ETHYL ESTER (OR) CHLOROBENZILATE

. Waste code: U039
. Waste name: P-CHLORO-M-CRESOL (OR) PHENOL, 4-CHLORO-3-METHYL-

. Waste code: U041
. Waste name: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

. Waste code: U042
. Waste name: 2-CHLOROETHYL VINYL ETHER (OR) ETHENE, (2-CHLOROETHOXY)-

. Waste code: U043
. Waste name: ETHENE, CHLORO- (OR) VINYL CHLORIDE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U046
. Waste name: CHLOROMETHYL METHYL ETHER (OR) METHANE, CHLOROMETHOXY-

. Waste code: U047
. Waste name: BETA-CHLORONAPHTHALENE (OR) NAPHTHALENE, 2-CHLORO-

. Waste code: U048
. Waste name: O-CHLOROPHENOL (OR) PHENOL, 2-CHLORO-

. Waste code: U049
. Waste name: 4-CHLORO-O-TOLUIDINE, HYDROCHLORIDE (OR) BENZENAMINE, 4-CHLORO-2-METHYL-, HYDROCHLORIDE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U050
. Waste name: CHRYSENE

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U053
. Waste name: 2-BUTENAL (OR) CROTONALDEHYDE

. Waste code: U055
. Waste name: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

. Waste code: U056
. Waste name: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

. Waste code: U057
. Waste name: CYCLOHEXANONE (I)

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U060
. Waste name: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDD

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U062
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3-DICHLORO-2-PROPENYL) ESTER (OR) DIALLATE

. Waste code: U063
. Waste name: DIBENZ[A,H]ANTHRACENE

. Waste code: U064
. Waste name: BENZO[RST]PENTAPHENE (OR) DIBENZO[A,I]PYRENE

. Waste code: U066
. Waste name: 1,2-DIBROMO-3-CHLOROPROPANE (OR) PROPANE, 1,2-DIBROMO-3-CHLORO-

. Waste code: U067
. Waste name: ETHANE, 1,2-DIBROMO- (OR) ETHYLENE DIBROMIDE

. Waste code: U068
. Waste name: METHANE, DIBROMO- (OR) METHYLENE BROMIDE

. Waste code: U069

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U071
. Waste name: BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U073
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO- (OR) 3,3'-DICHLOROBENZIDINE

. Waste code: U074
. Waste name: 1,4-DICHLORO-2-BUTENE (I,T) (OR) 2-BUTENE, 1,4-DICHLORO- (I,T)

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U076
. Waste name: ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE

. Waste code: U077
. Waste name: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

. Waste code: U078
. Waste name: 1,1-DICHLOROETHYLENE (OR) ETHENE, 1,1-DICHLORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U081
. Waste name: 2,4-DICHLOROPHENOL (OR) PHENOL, 2,4-DICHLORO-

. Waste code: U082
. Waste name: 2,6-DICHLOROPHENOL (OR) PHENOL, 2,6-DICHLORO-

. Waste code: U083
. Waste name: PROPANE, 1,2-DICHLORO- (OR) PROPYLENE DICHLORIDE

. Waste code: U084
. Waste name: 1,3-DICHLOROPROPENE (OR) 1-PROPENE, 1,3-DICHLORO-

. Waste code: U085
. Waste name: 1,2:3,4-DIEPOXYBUTANE (I,T) (OR) 2,2'-BIOXIRANE

. Waste code: U086
. Waste name: HYDRAZINE, 1,2-DIETHYL- (OR) N,N'-DIETHYLHYDRAZINE

. Waste code: U087
. Waste name: O,O-DIETHYL S-METHYL DITHIOPHOSPHATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-METHYL ESTER

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U090
. Waste name: 1,3-BENZODIOXOLE, 5-PROPYL- (OR) DIHYDROSAFROLE

. Waste code: U091
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY- (OR) 3,3'-DIMETHOXYBENZIDINE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U093
. Waste name: BENZENAMINE, N,N-DIMETHYL-4-(PHENYLAZO)- (OR) P-DIMETHYLAMINOAZOBENZENE

. Waste code: U094
. Waste name: 7,12-DIMETHYLBENZ[A]ANTHRACENE (OR) BENZ[A]ANTHRACENE, 7,12-DIMETHYL-

. Waste code: U095
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL- (OR) 3,3'-DIMETHYLBENZIDINE

. Waste code: U096
. Waste name: ALPHA,ALPHA-DIMETHYLBENZYLHYDROPEROXIDE (R) (OR) HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL- (R)

. Waste code: U097
. Waste name: CARBAMIC CHLORIDE, DIMETHYL- (OR) DIMETHYLCARBAMOYL CHLORIDE

. Waste code: U098
. Waste name: 1,1-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,1-DIMETHYL-

. Waste code: U099
. Waste name: 1,2-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U101
. Waste name: 2,4-DIMETHYLPHENOL (OR) PHENOL, 2,4-DIMETHYL-

. Waste code: U102
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER (OR) DIMETHYL PHTHALATE

. Waste code: U103
. Waste name: DIMETHYL SULFATE (OR) SULFURIC ACID, DIMETHYL ESTER

. Waste code: U105
. Waste name: 2,4-DINITROTOLUENE (OR) BENZENE, 1-METHYL-2,4-DINITRO-

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U107

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U109
. Waste name: 1,2-DIPHENYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U111
. Waste name: 1-PROPANAMINE, N-NITROSO-N-PROPYL- (OR) DI-N-PROPYLNITROSAMINE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U114
. Waste name: CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, SALTS & ESTERS (OR) ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

. Waste code: U116
. Waste name: 2-IMIDAZOLIDINETHIONE (OR) ETHYLENETHIOUREA

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

. Waste code: U119
. Waste name: ETHYL METHANESULFONATE (OR) METHANESULFONIC ACID, ETHYL ESTER

. Waste code: U120
. Waste name: FLUORANTHENE

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U125
. Waste name: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U126
. Waste name: GLYCIDYLALDEHYDE (OR) OXIRANECARBOXYALDEHYDE

. Waste code: U127
. Waste name: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

. Waste code: U128
. Waste name: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U130
. Waste name: 1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO- (OR) HEXACHLOROCYCLOPENTADIENE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U133
. Waste name: HYDRAZINE (R,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U136
. Waste name: ARSINIC ACID, DIMETHYL- (OR) CACODYLIC ACID

. Waste code: U137
. Waste name: INDENO[1,2,3-CD]PYRENE

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U141
. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: U142
. Waste name: 1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALEN-2-ONE, 1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTAHYDRO- (OR) KEPONE

. Waste code: U143
. Waste name: 2-BUTENOIC ACID, 2-METHYL-, 7-[[2,3-DIHYDROXY-2-(1-METHOXYETHYL)-3-METHYL-1-OXOBUTOXY]METHYL]-2,3, ,7A-TETRAHYDRO-1H-PYRROLIZIN-1-YL ESTER, [1S-[1ALPHA(Z), 7(2S*,3R*), 7AALPHA]]- (OR) LASIOCARPINE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U145
. Waste name: LEAD PHOSPHATE (OR) PHOSPHORIC ACID, LEAD(2+) SALT (2:3)

. Waste code: U146
. Waste name: LEAD SUBACETATE (OR) LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U148
. Waste name: 3,6-PYRIDAZINEDIONE, 1,2-DIHYDRO- (OR) MALEIC HYDRAZIDE

. Waste code: U149
. Waste name: MALONONITRILE (OR) PROPANEDINITRILE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U152
. Waste name: 2-PROPENENITRILE, 2-METHYL- (I,T) (OR) METHACRYLONITRILE (I,T)

. Waste code: U153
. Waste name: METHANETHIOL (I,T) (OR) THIOMETHANOL (I,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U155
. Waste name: 1,2-ETHANEDIAMINE, N,N-DIMETHYL-N'-2-PYRIDINYL-N'-(2-THIENYLMETHYL)-
(OR) METHAPYRILENE

. Waste code: U156
. Waste name: CARBONOCHLORIDIC ACID, METHYL ESTER, (I,T) (OR) METHYL CHLOROCARBONATE
(I,T)

. Waste code: U157
. Waste name: 3-METHYLCHOLANTHRENE (OR) BENZ[J]ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-

. Waste code: U158
. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE,
4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U160
. Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

. Waste code: U161
. Waste name: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR)
PENTANOL, 4-METHYL-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U163
. Waste name: GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO- (OR) MNNG

. Waste code: U164
. Waste name: 4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-6-METHYL-2-THIOXO- (OR) METHYLTHIOURACIL

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U167
. Waste name: 1-NAPTHALENAMINE (OR) ALPHA-NAPHTHYLAMINE

. Waste code: U168
. Waste name: 2-NAPTHALENAMINE (OR) BETA-NAPHTHYLAMINE

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U171
. Waste name: 2-NITROPROPANE (I,T) (OR) PROPANE, 2-NITRO- (I,T)

. Waste code: U172
. Waste name: 1-BUTANAMINE, N-BUTYL-N-NITROSO- (OR) N-NITROSODI-N-BUTYLAMINE

. Waste code: U173
. Waste name: ETHANOL, 2,2'-(NITROSOIMINO)BIS- (OR) N-NITROSODIETHANOLAMINE

. Waste code: U174
. Waste name: ETHANAMINE, N-ETHYL-N-NITROSO- (OR) N-NITROSODIETHYLAMINE

. Waste code: U176
. Waste name: N-NITROSO-N-ETHYLUREA (OR) UREA, N-ETHYL-N-NITROSO-

. Waste code: U177
. Waste name: N-NITROSO-N-METHYLUREA (OR) UREA, N-METHYL-N-NITROSO-

. Waste code: U178
. Waste name: CARBAMIC ACID, METHYLNITROSO-, ETHYL ESTER (OR) N-NITROSO-N-METHYLURETHANE

. Waste code: U179
. Waste name: N-NITROSOPIPERIDINE (OR) PIPERIDINE, 1-NITROSO-

. Waste code: U180
. Waste name: N-NITROSOPYRROLIDINE (OR) PYRROLIDINE, 1-NITROSO-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U181
. Waste name: 5-NITRO-O-TOLUIDINE (OR) BENZENAMINE, 2-METHYL-5-NITRO

. Waste code: U182
. Waste name: 1,3,5-TRIOXANE, 2,4,6-TRIMETHYL- (OR) PARALDEHYDE

. Waste code: U183
. Waste name: BENZENE, PENTACHLORO- (OR) PENTACHLOROBENZENE

. Waste code: U184
. Waste name: ETHANE, PENTACHLORO- (OR) PENTACHLOROETHANE

. Waste code: U185
. Waste name: BENZENE, PENTACHLORONITRO- (OR) PENTACHLORONITROBENZENE (PCNB)

. Waste code: U186
. Waste name: 1,3-PENTADIENE (I) (OR) 1-METHYLBUTADIENE (I)

. Waste code: U187
. Waste name: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

. Waste code: U188
. Waste name: PHENOL

. Waste code: U189
. Waste name: PHOSPHORUS SULFIDE (R) (OR) SULFUR PHOSPHIDE (R)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U191
. Waste name: 2-PICOLINE (OR) PYRIDINE, 2-METHYL-

. Waste code: U192
. Waste name: BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)- (OR) PRONAMIDE

. Waste code: U193
. Waste name: 1,2-OXATHIOLANE, 2,2-DIOXIDE (OR) 1,3-PROPANE SULTONE

. Waste code: U194
. Waste name: 1-PROPANAMINE (I,T) (OR) N-PROPYLAMINE (I,T)

. Waste code: U196
. Waste name: PYRIDINE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U202

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, & SALTS (OR) SACCHARIN, & SALTS

. Waste code: U203
. Waste name: 1,3-BENZODIOXOLE, 5-(2-PROPENYL)- (OR) SAFROLE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U207
. Waste name: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

. Waste code: U208
. Waste name: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

. Waste code: U209
. Waste name: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U215
. Waste name: CARBONIC ACID, DITHALLIUM(1+) SALT (OR) THALLIUM(I) CARBONATE

. Waste code: U216
. Waste name: THALLIUM CHLORIDE TLCL (OR) THALLIUM(I) CHLORIDE

. Waste code: U217
. Waste name: NITRIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) NITRATE

. Waste code: U218
. Waste name: ETHANETHIOAMIDE (OR) THIOACETAMIDE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U221

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BENZENEDIAMINE, AR-METHYL- (OR) TOLUENEDIAMINE

. Waste code: U222
. Waste name: BENZENAMINE, 2-METHYL-, HYDROCHLORIDE (OR) O-TOLUIDINE HYDROCHLORIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U225
. Waste name: BROMOFORM (OR) METHANE, TRIBROMO-

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U234
. Waste name: 1,3,5-TRINITROBENZENE (R,T) (OR) BENZENE, 1,3,5-TRINITRO-

. Waste code: U235
. Waste name: 1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1) (OR) TRIS(2,3,-DIBROMOPROPYL) PHOSPHATE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U237
. Waste name: 2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U243
. Waste name: 1-PROPENE, 1,1,2,3,3,3-HEXACHLORO- (OR) HEXACHLOROPROPENE

. Waste code: U244
. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: U246
. Waste name: CYANOGEN BROMIDE (CN)BR

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

METHOXYCHLOR

. Waste code: U248
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYL-BUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS

. Waste code: U249
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

. Waste code: U271
. Waste name: BENOMYL (OR) CARBAMIC ACID, [1-[(BUTYLAMINO)CARBONYL]-1H-BENZIMIDAZOL-2-YL]-, METHYL ESTER

. Waste code: U278
. Waste name: BENDIOCARB (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-, METHYL CARBAMATE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U280
. Waste name: BARBAN (OR) CARBAMIC ACID, (3-CHLOROPHENYL)-, 4-CHLORO-2-BUTYNYL ESTER

. Waste code: U328
. Waste name: BENZENAMINE, 2-METHYL- (OR) O-TOLUIDINE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: U359
. Waste name: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

. Waste code: U372
. Waste name: CARBAMIC ACID, 1H-BENZIMIDAZOL-2-YL, METHYL ESTER (OR) CARBENDAZIM

. Waste code: U373
. Waste name: CARBAMIC ACID, PHENYL-, 1-METHYLETHYL ESTER (OR) PROPHAM

. Waste code: U387
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER (OR) PROSULFOCARB

. Waste code: U389
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3,3-TRICHLORO-2-PROPENYL) ESTER (OR) TRIALLATE

. Waste code: U394
. Waste name: A2213 (OR) ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-2-OXO-, METHYL ESTER

. Waste code: U409
. Waste name: CARBAMIC ACID, [1,2-PHENYLENEBIS (IMINOCARBONOTHIOYL)]BIS-, DIMETHYL ESTER (OR) THIOPHANATE-METHYL

. Waste code: U410
. Waste name: ETHANIMIDOTHIOIC ACID, N,N'-[THIOBIS[(METHYLIMINO)CARBONYLOXY]]BIS-, DIMETHYL ESTER (OR) THIODICARB

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U411
. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

. Waste code: MA00
. Waste name: HW Designated Pursuant to 310 CMR 30.144

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA02
. Waste name: PCB WASTES

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Historical Generators:
Date form received by agency: 02/29/2012
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P010

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ARSENIC ACID H3ASO4

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P068
. Waste name: HYDRAZINE, METHYL- (OR) METHYL HYDRAZINE

. Waste code: P069
. Waste name: 2-METHYLLACTONITRILE (OR) PROPANENITRILE, 2-HYDROXY-2-METHYL-

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P076
. Waste name: NITRIC OXIDE (OR) NITROGEN OXIDE NO

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P078
. Waste name: NITROGEN DIOXIDE (OR) NITROGEN OXIDE NO2

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: P087
. Waste name: OSMIUM OXIDE OSO4, (T-4)- (OR) OSMIUM TETROXIDE

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P095
. Waste name: CARBONIC DICHLORIDE (OR) PHOSGENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P112
. Waste name: METHANE, TETRANITRO- (R) (OR) TETRANITROMETHANE (R)

. Waste code: P113
. Waste name: THALLIC OXIDE (OR) THALLIUM OXIDE TL2O3

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P116
. Waste name: HYDRAZINECARBOTHIOAMIDE (OR) THIOSEMICARBAZIDE

. Waste code: P119
. Waste name: AMMONIUM VANADATE (OR) VANADIC ACID, AMMONIUM SALT

. Waste code: P120
. Waste name: VANADIUM OXIDE V2O5 (OR) VANADIUM PENTOXIDE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P188
. Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL--YL METHYLCARBAMATE ESTER (1:1) (OR) PHYSOSTIGMINE SALICYLATE

. Waste code: P204
. Waste name: PHYSOSTIGMINE (OR) PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-METHYLCARBAMATE (ESTER), (3AS-CIS)-

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ACETONITRILE (I,T)

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U144

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U188
. Waste name: PHENOL

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U202
. Waste name: 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, & SALTS (OR) SACCHARIN, & SALTS

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 02/29/2012
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D024
. Waste name: M-CRESOL

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: LABP
. Waste name: LAB PACK

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011
. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P018
. Waste name: BRUCINE (OR) STRYCHNIDIN-10-ONE, 2,3-DIMETHOXY-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P048
. Waste name: 2,4-DINITROPHENOL (OR) PHENOL, 2,4-DINITRO-

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P068
. Waste name: HYDRAZINE, METHYL- (OR) METHYL HYDRAZINE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P076
. Waste name: NITRIC OXIDE (OR) NITROGEN OXIDE NO

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P078
. Waste name: NITROGEN DIOXIDE (OR) NITROGEN OXIDE NO2

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: P087
. Waste name: OSMIUM OXIDE OSO4, (T-4)- (OR) OSMIUM TETROXIDE

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P095
. Waste name: CARBONIC DICHLORIDE (OR) PHOSGENE

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P103
. Waste name: SELENOUREA

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P112

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: METHANE, TETRANITRO- (R) (OR) TETRANITROMETHANE (R)

. Waste code: P113
. Waste name: THALLIC OXIDE (OR) THALLIUM OXIDE TL2O3

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P116
. Waste name: HYDRAZINECARBOTHIOAMIDE (OR) THIOSEMICARBAZIDE

. Waste code: P119
. Waste name: AMMONIUM VANADATE (OR) VANADIC ACID, AMMONIUM SALT

. Waste code: P120
. Waste name: VANADIUM OXIDE V2O5 (OR) VANADIUM PENTOXIDE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P188
. Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL--YL METHYLCARBAMATE ESTER (1:1) (OR) PHYSOSTIGMINE SALICYLATE

. Waste code: P204
. Waste name: PHYSOSTIGMINE (OR) PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-METHYLCARBAMATE (ESTER), (3AS-CIS)-

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U165
. Waste name: NAPHTHALENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U188
. Waste name: PHENOL

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U202
. Waste name: 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, & SALTS (OR) SACCHARIN, & SALTS

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U218
. Waste name: ETHANETHIOAMIDE (OR) THIOACETAMIDE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 03/01/2010
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: K062
. Waste name: SPENT PICKLE LIQUOR FROM STEEL FINISHING OPERATIONS OF PLANTS THAT PRODUCE IRON OR STEEL.

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U069
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U151

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: MERCURY

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U218
. Waste name: ETHANETHIOAMIDE (OR) THIOACETAMIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

Date form received by agency: 03/01/2010
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D012
. Waste name: ENDRIN (1,2,3,4,10,10-HEXACHLORO-1,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-ENO, ENDO-5,8-DIMETH-ANO-NAPHTHALENE)

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

. Waste code: D015
. Waste name: TOXAPHENE (C10 H10 CL8, TECHNICAL CHLORINATED CAMPHENE, 67-69 PERCENT CHLORINE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D017
. Waste name: 2,4,5-TP SILVEX (2,4,5-TRICHLOROPHENOXYPROPIONIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D031
. Waste name: HEPTACHLOR (AND ITS EPOXIDE)

. Waste code: D032
. Waste name: HEXACHLOROBENZENE

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D037
. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D041
. Waste name: 2,4,5-TRICHLOROPHENOL

. Waste code: D042
. Waste name: 2,4,6-TRICHLOROPHENOL

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F010
. Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: F012
. Waste name: QUENCHING WASTEWATER TREATMENT SLUDGES FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: F024
. Waste name: PROCESS WASTES INCLUDING, BUT NOT LIMITED TO, DISTILLATION RESIDUES, HEAVY ENDS, TARS, AND REACTOR CLEAN-OUT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION. (THIS LISTING DOES NOT INCLUDE WASTEWATERS, WASTEWATER TREATMENT SLUDGE, SPENT CATALYSTS, AND WASTES LISTED IN SECTIONS 261.31. OR 261.32)

. Waste code: F025
. Waste name: CONDENSED LIGHT ENDS, SPENT FILTERS AND FILTER AIDS, AND SPENT DESICCANT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION.

. Waste code: F037
. Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORM WATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGES GENERATED IN STORM WATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F038
. Waste name: PETROLEUM REFINERY SECONDARY (EMULSIFIED) OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE AND/OR FLOAT GENERATED FROM THE PHYSICAL AND/OR

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

CHEMICAL SEPARATION OF OIL/WATER/SOLIDS IN PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH WASTES INCLUDE, BUT ARE NOT LIMITED TO, ALL SLUDGES AND FLOATS GENERATED IN INDUCED AIR FLOTATION (IAF) UNITS, TANKS AND IMPOUNDMENTS, AND ALL SLUDGES GENERATED IN DAF UNITS. SLUDGES GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND F037, K048, AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F039
. Waste name: LEACHATE RESULTING FROM THE TREATMENT, STORAGE, OR DISPOSAL OF WASTES CLASSIFIED BY MORE THAN ONE WASTE CODE UNDER SUBPART D, OR FROM A MIXTURE OF WASTES CLASSIFIED UNDER SUBPARTS C AND D OF THIS PART. (LEACHATE RESULTING FROM THE MANAGEMENT OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS HAZARDOUS WASTE CODE(S): F020, F021, F022, F023, F026, F027, AND/OR F028.)

. Waste code: K001
. Waste name: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: K002
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME YELLOW AND ORANGE PIGMENTS.

. Waste code: K003
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF MOLYBDATE ORANGE PIGMENTS.

. Waste code: K004
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF ZINC YELLOW PIGMENTS.

. Waste code: K005
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME GREEN PIGMENTS.

. Waste code: K006
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS (ANHYDROUS AND HYDRATED).

. Waste code: K007
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF IRON BLUE PIGMENTS.

. Waste code: K008
. Waste name: OVEN RESIDUE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS.

. Waste code: K009
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K010
. Waste name: DISTILLATION SIDE CUTS FROM THE PRODUCTION OF ACETALDEHYDE FROM

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

ETHYLENE.

. Waste code: K011
. Waste name: BOTTOM STREAM FROM THE WASTEWATER STRIPPER IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K013
. Waste name: BOTTOM STREAM FROM THE ACETONITRILE COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K014
. Waste name: BOTTOMS FROM THE ACETONITRILE PURIFICATION COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K015
. Waste name: STILL BOTTOMS FROM THE DISTILLATION OF BENZYL CHLORIDE.

. Waste code: K016
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE PRODUCTION OF CARBON TETRACHLORIDE.

. Waste code: K017
. Waste name: HEAVY ENDS (STILL BOTTOMS) FROM THE PURIFICATION COLUMN IN THE PRODUCTION OF EPICHLOROHYDRIN.

. Waste code: K018
. Waste name: HEAVY ENDS FROM THE FRACTIONATION COLUMN IN ETHYL CHLORIDE PRODUCTION.

. Waste code: K019
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE DICHLORIDE PRODUCTION.

. Waste code: K020
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF VINYL CHLORIDE IN VINYL CHLORIDE MONOMER PRODUCTION.

. Waste code: K021
. Waste name: AQUEOUS SPENT ANTIMONY CATALYST WASTE FROM FLUOROMETHANE PRODUCTION.

. Waste code: K022
. Waste name: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM CUMENE.

. Waste code: K023
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K024
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K025
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF NITROBENZENE BY THE NITRATION OF BENZENE.

. Waste code: K026
. Waste name: STRIPPING STILL TAILS FROM THE PRODUCTION OF METHYL ETHYL PYRIDINES.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K027
. Waste name: CENTRIFUGE AND DISTILLATION RESIDUES FROM TOLUENE DIISOCYANATE PRODUCTION.

. Waste code: K028
. Waste name: SPENT CATALYST FROM THE HYDROCHLORINATOR REACTOR IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K029
. Waste name: WASTE FROM THE PRODUCT STEAM STRIPPER IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K030
. Waste name: COLUMN BOTTOMS OR HEAVY ENDS FROM THE COMBINED PRODUCTION OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE.

. Waste code: K031
. Waste name: BY-PRODUCT SALTS GENERATED IN THE PRODUCTION OF MSMA AND CACODYLIC ACID.

. Waste code: K032
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHLORDANE.

. Waste code: K033
. Waste name: WASTEWATER AND SCRUB WATER FROM THE CHLORINATION OF CYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K034
. Waste name: FILTER SOLIDS FROM THE FILTRATION OF HEXACHLOROCYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K035
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED IN THE PRODUCTION OF CREOSOTE.

. Waste code: K036
. Waste name: STILL BOTTOMS FROM TOLUENE RECLAMATION DISTILLATION IN THE PRODUCTION OF DISULFOTON.

. Waste code: K037
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF DISULFOTON.

. Waste code: K038
. Waste name: WASTEWATER FROM THE WASHING AND STRIPPING OF PHORATE PRODUCTION.

. Waste code: K039
. Waste name: FILTER CAKE FROM THE FILTRATION OF DIETHYLPHOSPHORODITHIOIC ACID IN THE PRODUCTION OF PHORATE.

. Waste code: K040
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF PHORATE.

. Waste code: K041
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K042
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE DISTILLATION OF TETRACHLOROBENZENE IN THE PRODUCTION OF 2,4,5-T.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K043
. Waste name: 2,6-DICHLOROPHENOL WASTE FROM THE PRODUCTION OF 2,4-D.

. Waste code: K048
. Waste name: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K049
. Waste name: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K050
. Waste name: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K051
. Waste name: API SEPARATOR SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K060
. Waste name: AMMONIA STILL LIME SLUDGE FROM COKING OPERATIONS.

. Waste code: K061
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.

. Waste code: K064
. Waste name: ACID PLANT BLOWDOWN SLURRY/SLUDGE RESULTING FROM THE THICKENING OF BLOWDOWN SLURRY FROM PRIMARY COPPER PRODUCTION.

. Waste code: K065
. Waste name: SURFACE IMPOUNDMENT SOLIDS CONTAINED IN AND DREDGED FROM SURFACE IMPOUNDMENTS AT PRIMARY LEAD SMELTING FACILITIES.

. Waste code: K066
. Waste name: SLUDGE FROM TREATMENT OF PROCESS WASTEWATER AND/OR ACID PLANT BLOWDOWN FROM PRIMARY ZINC PRODUCTION.

. Waste code: K069
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K071
. Waste name: BRINE PURIFICATION MUDS FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION, IN WHICH SEPARATELY PREPURIFIED BRINE IS NOT USED.

. Waste code: K073
. Waste name: CHLORINATED HYDROCARBON WASTE FROM THE PURIFICATION STEP OF THE DIAPHRAGM CELL PROCESS USING GRAPHITE ANODES IN CHLORINE PRODUCTION.

. Waste code: K083
. Waste name: DISTILLATION BOTTOMS FROM ANILINE PRODUCTION.

. Waste code: K084
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED DURING THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K085
. Waste name: DISTILLATION OR FRACTIONATION COLUMN BOTTOMS FROM THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

. Waste code: K087
. Waste name: DECANTER TANK TAR SLUDGE FROM COKING OPERATIONS.

. Waste code: K088
. Waste name: SPENT POTLINERS FROM PRIMARY ALUMINUM REDUCTION.

. Waste code: K090
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUMSILICON PRODUCTION.

. Waste code: K091
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUM PRODUCTION.

. Waste code: K093
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K094
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K095
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K096
. Waste name: HEAVY ENDS FROM THE HEAVY ENDS COLUMN FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K097
. Waste name: VACUUM STRIPPER DISCHARGE FROM THE CHLORDANE CHLORINATOR IN THE PRODUCTION OF CHLORDANE.

. Waste code: K098
. Waste name: UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K099
. Waste name: UNTREATED WASTEWATER FROM THE PRODUCTION OF 2,4-D.

. Waste code: K100
. Waste name: WASTE LEACHING SOLUTION FROM ACID LEACHING OF EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K101
. Waste name: DISTILLATION TAR RESIDUES FROM THE DISTILLATION OF ANILINE-BASED COMPOUNDS IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K102

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: RESIDUE FROM THE USE OF ACTIVATED CARBON FOR DECOLORIZATION IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K103
. Waste name: PROCESS RESIDUES FROM ANILINE EXTRACTION FROM THE PRODUCTION OF ANILINE.

. Waste code: K104
. Waste name: COMBINED WASTEWATERS GENERATED FROM NITROBENZENE/ANILINE PRODUCTION.

. Waste code: K105
. Waste name: SEPARATED AQUEOUS STREAM FROM THE REACTOR PRODUCT WASHING STEP IN THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K106
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION.

. Waste code: K107
. Waste name: COLUMN BOTTOMS FROM PRODUCT SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE (UDMH) FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K108
. Waste name: CONDENSED COLUMN OVERHEADS FROM PRODUCT SEPARATION AND CONDENSED REACTOR VENT GASES FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K109
. Waste name: SPENT FILTER CARTRIDGES FROM PRODUCT PURIFICATION FROM THE PRODUCT OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K110
. Waste name: CONDENSED COLUMN OVERHEADS FROM INTERMEDIATE SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K111
. Waste name: PRODUCT WASHWATERS FROM THE PRODUCTION OF DINITROTOLUENE VIA NITRATION OF TOLUENE.

. Waste code: K112
. Waste name: REACTION BY-PRODUCT WATER FROM THE DRYING COLUMN IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K113
. Waste name: CONDENSED LIQUID LIGHT ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K114
. Waste name: VICINALS FROM THE PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K115
. Waste name: HEAVY ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K116

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ORGANIC CONDENSATE FROM THE SOLVENT RECOVERY COLUMN IN THE PRODUCTION OF TOLUENE DIISOCYANATE VIA PHOSGENATION OF TOLUENEDIAMINE.

. Waste code: K117
. Waste name: WASTEWATER FROM THE REACTOR VENT GAS SCRUBBER IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K118
. Waste name: SPENT ADSORBENT SOLIDS FROM PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K123
. Waste name: PROCESS WASTEWATER (INCLUDING SUPERNATES, FILTRATES, AND WASHWATERS) FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K124
. Waste name: REACTOR VENT SCRUBBER WATER FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K125
. Waste name: FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K126
. Waste name: BAGHOUSE DUST AND FLOOR SWEEPINGS IN MILLING AND PACKAGING OPERATIONS FROM PRODUCTION OR FORMULATION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K131
. Waste name: WASTEWATER FROM THE REACTOR AND SPENT SULFURIC ACID FROM THE ACID DRYER FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K132
. Waste name: SPENT ABSORBENT AND WASTEWATER SEPARATOR SOLIDS FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K136
. Waste name: STILL BOTTOMS FROM THE PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K141
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF COAL TAR, INCLUDING, BUT NOT LIMITED TO, TAR COLLECTING SUMP RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL. THIS LISTING DOES NOT INCLUDE K087 (DECANTER TANK SLUDGE FROM COKING OPERATIONS).

. Waste code: K142
. Waste name: TANK STORAGE RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR FROM THE RECOVERY OF COKE BY-PRODUCTS FROM COAL.

. Waste code: K143
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF LIGHT OIL, INCLUDING, BUT NOT LIMITED TO, THOSE GENERATED IN STILLS, DECANTERS, AND WASH OIL RECOVERY UNITS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K144
. Waste name: WASTEWATER SUMP RESIDUES FROM LIGHT OIL REFINING, INCLUDING, BUT NOT LIMITED TO, INTERCEPTING OR CONTAMINATION SUMP SLUDGES FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K145
. Waste name: RESIDUES FROM NAPHTHALENE COLLECTION AND RECOVERY OPERATIONS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K147
. Waste name: TAR STORAGE RESIDUES FROM COAL TAR REFINING.

. Waste code: K148
. Waste name: RESIDUES FROM COAL TAR DISTILLATION, INCLUDING, BUT NOT LIMITED TO, STILL BOTTOMS.

. Waste code: K149
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, RING-CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS. [THIS WASTE DOES NOT INCLUDE STILL BOTTOMS FROM THE DISTILLATION OF BENZOYL CHLORIDE]

. Waste code: K150
. Waste name: ORGANIC RESIDULES EXCLUDING SPENT CARBON ADSORBENT, FROM THE SPENT CHLORINE GAS AND HYDROCHLORIC ACID RECOVERY PROCESSES ASSOCIATED WITH THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K151
. Waste name: WASTEWATER TREATMENT SLUDGES, EXCLUDING NEUTRALIZATION AND BIOLOGICAL SLUDGES, GENERATED DURING THE TREATMENT OF WASTEWATERS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K156
. Waste name: ORGANIC WASTE (INCLUDING HEAVY ENDS, STILL BOTTOMS, LIGHT ENDS, SPENT SOLVENTS, FILTRATES, AND DECANTATES) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K157
. Waste name: WASTEWATERS (INCLUDING SCRUBBER WATERS, CONDENSER WATERS, WASHWATERS, AND SEPARATION WATERS) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K158
. Waste name: BAG HOUSE DUSTS AND FILTER/SEPARATION SOLIDS FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K159
. Waste name: ORGANICS FROM THE TREATMENT OF THIOCARBAMATE WASTES.

. Waste code: K161
. Waste name: PURIFICATION SOLIDS (INCLUDING FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS), BAG HOUSE DUST AND FLOOR SWEEPINGS FROM THE PRODUCTION OF DITHIOCARBAMATE ACIDS AND THEIR SALTS. (THIS LISTING DOES NOT INCLUDE K125 OR K126).

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P002
. Waste name: 1-ACETYL-2-THIOUREA (OR) ACETAMIDE, N-(AMINOTHIOXOMETHYL)-

. Waste code: P003
. Waste name: 2-PROPENAL (OR) ACROLEIN

. Waste code: P004
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA)- (OR) ALDRIN

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: P006
. Waste name: ALUMINUM PHOSPHIDE (R,T)

. Waste code: P007
. Waste name: 3(2H)-ISOXAZOLONE, 5-(AMINOMETHYL)- (OR) 5-(AMINOMETHYL)-3-ISOXAZOLOL

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011
. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P020
. Waste name: DINOSEB (OR) PHENOL, 2-(1-METHYLPROPYL)-4,6-DINITRO-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P028
. Waste name: BENZENE, (CHLOROMETHYL)- (OR) BENZYL CHLORIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P034
. Waste name: 2-CYCLOHEXYL-4,6-DINITROPHENOL (OR) PHENOL, 2-CYCLOHEXYL-4,6-DINITRO-

. Waste code: P037
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2AALPHA, 3BETA, 6BETA, 6AALPHA, 7BETA, 7AALPHA)- (OR) DIELDRIN

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

. Waste code: P040
. Waste name: O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P044
. Waste name: DIMETHOATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-[2-(METHYLAMINO)-2-OXOETHYL] ESTER

. Waste code: P045
. Waste name: 2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-[METHYLAMINO)CARBONYL] OXIME (OR) THIOFANOX

. Waste code: P047
. Waste name: 4,6-DINITRO-O-CRESOL, & SALTS (OR) PHENOL, 2-METHYL-4,6-DINITRO-, & SALTS

. Waste code: P050
. Waste name: 6,9-METHANO-2,4,3-BENZODIOXATHIEPIN,6,7,8,9,10,10-HEXACHLORO-1,5,5A,6, ,9A-HEXAHYDRO-,3-OXIDE (OR) ENDOSULFAN

. Waste code: P051
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2ABETA, 3ALPHA, 6ALPHA, 6ABETA, 7BETA, 7AALPHA)- & METABOLITES (OR) ENDRIN (OR) ENDRIN, & METABOLITES

. Waste code: P057
. Waste name: ACETAMIDE, 2-FLUORO- (OR) FLUOROACETAMIDE

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P059
. Waste name: 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO- (OR) HEPTACHLOR

. Waste code: P060
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE,

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1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5BETA, 8BETA, 8ABETA)- (OR) ISODRIN

. Waste code: P063
. Waste name: HYDROCYANIC ACID (OR) HYDROGEN CYANIDE

. Waste code: P066
. Waste name: ETHANIMIDOTHIOIC ACID, N-[[(METHYLAMINO)CARBONYL]OXY]-, METHYL ESTER (OR) METHOMYL

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P071
. Waste name: METHYL PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O,-DIMETHYL O-(4-NITROPHENYL) ESTER

. Waste code: P072
. Waste name: ALPHA-NAPHTHYLTHIOUREA (OR) THIOUREA, 1-NAPHTHALENYL-

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P085
. Waste name: DIPHOSPHORAMIDE, OCTAMETHYL- (OR) OCTAMETHYLPYROPHOSPHORAMIDE

. Waste code: P088
. Waste name: 7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC ACID (OR) ENDOTHALL

. Waste code: P089
. Waste name: PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P094
. Waste name: PHORATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[(ETHYLTHIO)METHYL] ESTER

. Waste code: P096
. Waste name: HYDROGEN PHOSPHIDE (OR) PHOSPHINE

. Waste code: P097
. Waste name: FAMPHUR (OR) PHOSPHOROTHIOIC ACID O-[4-[(DIMETHYLAMINO)SULFONYL]PHENYL] O,O-DIMETHYL ESTER

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P099
. Waste name: ARGENTATE (1-), BIS(CYANO-C)-, POTASSIUM (OR) POTASSIUM SILVER CYANIDE

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P109
. Waste name: TETRAETHYLDITHIOPYROPHOSPHATE (OR) THIODIPHOSPHORIC ACID, TETRAETHYL ESTER

. Waste code: P111
. Waste name: DIPHOSPHORIC ACID, TETRAETHYL ESTER (OR) TETRAETHYL PYROPHOSPHATE

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P128
. Waste name: PHENOL, 4-(DIMETHYLAMINO)-3,5-DIMETHYL-, METHYLCARBAMATE (ESTER)

. Waste code: P189
. Waste name: CARBAMIC ACID, [(DIBUTYLAMINO)-THIO]METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL -7-BENZOFURANYL ESTER (OR) CARBOSULFAN

. Waste code: P190
. Waste name: CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER (OR) METOLCARB

. Waste code: P199
. Waste name: METHIOCARB (OR) MEXACARBATE (OR) PHENOL, (3,5-DIMETHYL-4-(METHYLTHIO)-, METHYLCARBAMATE

. Waste code: P201
. Waste name: PHENOL, 3-METHYL-5-(1-METHYLETHYL)-, METHYL CARBAMATE (OR) PROMECARB

. Waste code: P202
. Waste name: M-CUMENYL METHYLCARBAMATE (OR) 3-ISOPROPYLPHENYL N-METHYLCARBAMATE (OR) PHENOL, 3-(1-METHYLETHYL)-, METHYL CARBAMATE

. Waste code: P203

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ALDICARB SULFONE (OR) PROPANAL, 2-METHYL-2-(METHYL-SULFONYL)-, O-[(METHYLAMINO)CARBONYL] OXIME

. Waste code: P205
. Waste name: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (OR) ZIRAM

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U005
. Waste name: 2-ACETYLAMINOFLUORENE (OR) ACETAMIDE, N-9H-FLUOREN-2-YL

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U008
. Waste name: 2-PROPENOIC ACID (I) (OR) ACRYLIC ACID (I)

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U011
. Waste name: 1H-1,2,4-TRIAZOL-3-AMINE (OR) AMITROLE

. Waste code: U012
. Waste name: ANILINE (I,T) (OR) BENZENAMINE (I,T)

. Waste code: U014
. Waste name: AURAMINE (OR) BENZENAMINE, 4,4'-CARBONIMIDOYLBIS[N,N-DIMETHYL-

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U016
. Waste name: BENZ[C]ACRIDINE

. Waste code: U017
. Waste name: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

. Waste code: U018
. Waste name: BENZ[A]ANTHRACENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U020
. Waste name: BENZENESULFONIC ACID CHLORIDE (C,R) (OR) BENZENESULFONYL CHLORIDE (C,R)

. Waste code: U021
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE (OR) BENZIDINE

. Waste code: U022
. Waste name: BENZO[A]PYRENE

. Waste code: U023
. Waste name: BENZENE, (TRICHLOROMETHYL)- (OR) BENZOTRICHLORIDE (C,R,T)

. Waste code: U024
. Waste name: DICHLOROMETHOXY ETHANE (OR) ETHANE, 1,1'-[METHYLENEBIS(OXY)]BIS[2-CHLORO-

. Waste code: U025
. Waste name: DICHLOROETHYL ETHER (OR) ETHANE, 1,1'-OXYBIS[2-CHLORO-

. Waste code: U026
. Waste name: CHLORNAPHAZIN (OR) NAPHTHALENAMINE, N,N'-BIS(2-CHLOROETHYL)-

. Waste code: U027
. Waste name: DICHLOROISOPROPYL ETHER (OR) PROPANE, 2,2'-OXYBIS[2-CHLORO-

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U029
. Waste name: METHANE, BROMO- (OR) METHYL BROMIDE

. Waste code: U030
. Waste name: 4-BROMOPHENYL PHENYL ETHER (OR) BENZENE, 1-BROMO-4-PHENOXY-

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U032
. Waste name: CALCIUM CHROMATE (OR) CHROMIC ACID H2CRO4, CALCIUM SALT

. Waste code: U033
. Waste name: CARBON OXYFLUORIDE (R,T) (OR) CARBONIC DIFLUORIDE

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE,

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U038
. Waste name: BENZENEACETIC ACID, 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXY-, ETHYL ESTER (OR) CHLOROBENZILATE

. Waste code: U039
. Waste name: P-CHLORO-M-CRESOL (OR) PHENOL, 4-CHLORO-3-METHYL-

. Waste code: U041
. Waste name: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

. Waste code: U042
. Waste name: 2-CHLOROETHYL VINYL ETHER (OR) ETHENE, (2-CHLOROETHOXY)-

. Waste code: U043
. Waste name: ETHENE, CHLORO- (OR) VINYL CHLORIDE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U046
. Waste name: CHLOROMETHYL METHYL ETHER (OR) METHANE, CHLOROMETHOXY-

. Waste code: U047
. Waste name: BETA-CHLORONAPHTHALENE (OR) NAPHTHALENE, 2-CHLORO-

. Waste code: U048
. Waste name: O-CHLOROPHENOL (OR) PHENOL, 2-CHLORO-

. Waste code: U049
. Waste name: 4-CHLORO-O-TOLUIDINE, HYDROCHLORIDE (OR) BENZENAMINE, 4-CHLORO-2-METHYL-, HYDROCHLORIDE

. Waste code: U050
. Waste name: CHRYSENE

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U053
. Waste name: 2-BUTENAL (OR) CROTONALDEHYDE

. Waste code: U055
. Waste name: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

. Waste code: U056
. Waste name: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U057
. Waste name: CYCLOHEXANONE (I)

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U060
. Waste name: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDD

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U062
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3-DICHLORO-2-PROPENYL) ESTER (OR) DIALLATE

. Waste code: U063
. Waste name: DIBENZ[A,H]ANTHRACENE

. Waste code: U064
. Waste name: BENZO[RST]PENTAPHENE (OR) DIBENZO[A,I]PYRENE

. Waste code: U066
. Waste name: 1,2-DIBROMO-3-CHLOROPROPANE (OR) PROPANE, 1,2-DIBROMO-3-CHLORO-

. Waste code: U067
. Waste name: ETHANE, 1,2-DIBROMO- (OR) ETHYLENE DIBROMIDE

. Waste code: U068
. Waste name: METHANE, DIBROMO- (OR) METHYLENE BROMIDE

. Waste code: U069
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U071
. Waste name: BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U073
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO- (OR) 3,3'-DICHLOROBENZIDINE

. Waste code: U074
. Waste name: 1,4-DICHLORO-2-BUTENE (I,T) (OR) 2-BUTENE, 1,4-DICHLORO- (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U076
. Waste name: ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE

. Waste code: U077
. Waste name: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

. Waste code: U078
. Waste name: 1,1-DICHLOROETHYLENE (OR) ETHENE, 1,1-DICHLORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U081
. Waste name: 2,4-DICHLOROPHENOL (OR) PHENOL, 2,4-DICHLORO-

. Waste code: U082
. Waste name: 2,6-DICHLOROPHENOL (OR) PHENOL, 2,6-DICHLORO-

. Waste code: U083
. Waste name: PROPANE, 1,2-DICHLORO- (OR) PROPYLENE DICHLORIDE

. Waste code: U085
. Waste name: 1,2:3,4-DIEPOXYBUTANE (I,T) (OR) 2,2'-BIOXIRANE

. Waste code: U086
. Waste name: HYDRAZINE, 1,2-DIETHYL- (OR) N,N'-DIETHYLHYDRAZINE

. Waste code: U087
. Waste name: O,O-DIETHYL S-METHYL DITHIOPHOSPHATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-METHYL ESTER

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U090
. Waste name: 1,3-BENZODIOXOLE, 5-PROPYL- (OR) DIHYDROSAFROLE

. Waste code: U091
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY- (OR) 3,3'-DIMETHOXYBENZIDINE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U093
. Waste name: BENZENAMINE, N,N-DIMETHYL-4-(PHENYLAZO)- (OR) P-DIMETHYLAMINOAZOBENZENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U094
. Waste name: 7,12-DIMETHYLBENZ[A]ANTHRACENE (OR) BENZ[A]ANTHRACENE, 7,12-DIMETHYL-

. Waste code: U095
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL- (OR) 3,3'-DIMETHYLBENZIDINE

. Waste code: U096
. Waste name: ALPHA,ALPHA-DIMETHYLBENZYLHYDROPEROXIDE (R) (OR) HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL- (R)

. Waste code: U097
. Waste name: CARBAMIC CHLORIDE, DIMETHYL- (OR) DIMETHYLCARBAMOYL CHLORIDE

. Waste code: U099
. Waste name: 1,2-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U101
. Waste name: 2,4-DIMETHYLPHENOL (OR) PHENOL, 2,4-DIMETHYL-

. Waste code: U102
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER (OR) DIMETHYL PHTHALATE

. Waste code: U103
. Waste name: DIMETHYL SULFATE (OR) SULFURIC ACID, DIMETHYL ESTER

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U107
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U109
. Waste name: 1,2-DIPHENYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U111
. Waste name: 1-PROPANAMINE, N-NITROSO-N-PROPYL- (OR) DI-N-PROPYLNITROSAMINE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U114
. Waste name: CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, SALTS & ESTERS (OR) ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U116
. Waste name: 2-IMIDAZOLIDINETHIONE (OR) ETHYLENETHIOUREA

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

. Waste code: U119
. Waste name: ETHYL METHANESULFONATE (OR) METHANESULFONIC ACID, ETHYL ESTER

. Waste code: U120
. Waste name: FLUORANTHENE

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U125
. Waste name: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

. Waste code: U127
. Waste name: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

. Waste code: U128
. Waste name: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U130
. Waste name: 1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO- (OR) HEXACHLOROCYCLOPENTADIENE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U133
. Waste name: HYDRAZINE (R,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U136
. Waste name: ARSINIC ACID, DIMETHYL- (OR) CACODYLIC ACID

. Waste code: U137
. Waste name: INDENO[1,2,3-CD]PYRENE

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U141
. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: U142
. Waste name: 1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALEN-2-ONE, 1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTAHYDRO- (OR) KEPONE

. Waste code: U143
. Waste name: 2-BUTENOIC ACID, 2-METHYL-, 7-[[2,3-DIHYDROXY-2-(1-METHOXYETHYL)-3-METHYL-1-OXOBUTOXY]METHYL]-2,3, ,7A-TETRAHYDRO-1H-PYRROLIZIN-1-YL ESTER, [1S-[1ALPHA(Z), 7(2S*,3R*), 7AALPHA]]- (OR) LASIOCARPINE

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U145
. Waste name: LEAD PHOSPHATE (OR) PHOSPHORIC ACID, LEAD(2+) SALT (2:3)

. Waste code: U146
. Waste name: LEAD SUBACETATE (OR) LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U148
. Waste name: 3,6-PYRIDAZINEDIONE, 1,2-DIHYDRO- (OR) MALEIC HYDRAZIDE

. Waste code: U149
. Waste name: MALONONITRILE (OR) PROPANEDINITRILE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U152
. Waste name: 2-PROPENENITRILE, 2-METHYL- (I,T) (OR) METHACRYLONITRILE (I,T)

. Waste code: U153
. Waste name: METHANETHIOL (I,T) (OR) THIOMETHANOL (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U155
. Waste name: 1,2-ETHANEDIAMINE, N,N-DIMETHYL-N'-2-PYRIDINYL-N'-(2-THIENYLMETHYL)- (OR) METHAPYRILENE

. Waste code: U156
. Waste name: CARBONOCHLORIDIC ACID, METHYL ESTER, (I,T) (OR) METHYL CHLOROCARBONATE (I,T)

. Waste code: U157
. Waste name: 3-METHYLCHOLANTHRENE (OR) BENZ[J]ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-

. Waste code: U158
. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE, 4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U161
. Waste name: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR) PENTANOL, 4-METHYL-

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U163
. Waste name: GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO- (OR) MNNG

. Waste code: U164
. Waste name: 4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-6-METHYL-2-THIOXO- (OR) METHYLTHIOURACIL

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U167
. Waste name: 1-NAPTHALENAMINE (OR) ALPHA-NAPHTHYLAMINE

. Waste code: U168
. Waste name: 2-NAPTHALENAMINE (OR) BETA-NAPHTHYLAMINE

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U171
. Waste name: 2-NITROPROPANE (I,T) (OR) PROPANE, 2-NITRO- (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U172
. Waste name: 1-BUTANAMINE, N-BUTYL-N-NITROSO- (OR) N-NITROSODI-N-BUTYLAMINE

. Waste code: U173
. Waste name: ETHANOL, 2,2'-(NITROSOIMINO)BIS- (OR) N-NITROSODIETHANOLAMINE

. Waste code: U174
. Waste name: ETHANAMINE, N-ETHYL-N-NITROSO- (OR) N-NITROSODIETHYLAMINE

. Waste code: U176
. Waste name: N-NITROSO-N-ETHYLUREA (OR) UREA, N-ETHYL-N-NITROSO-

. Waste code: U177
. Waste name: N-NITROSO-N-METHYLUREA (OR) UREA, N-METHYL-N-NITROSO-

. Waste code: U178
. Waste name: CARBAMIC ACID, METHYLNITROSO-, ETHYL ESTER (OR) N-NITROSO-N-METHYLURETHANE

. Waste code: U179
. Waste name: N-NITROSOPIPERIDINE (OR) PIPERIDINE, 1-NITROSO-

. Waste code: U180
. Waste name: N-NITROSOPYRROLIDINE (OR) PYRROLIDINE, 1-NITROSO-

. Waste code: U181
. Waste name: 5-NITRO-O-TOLUIDINE (OR) BENZENAMINE, 2-METHYL-5-NITRO

. Waste code: U182
. Waste name: 1,3,5-TRIOXANE, 2,4,6-TRIMETHYL- (OR) PARALDEHYDE

. Waste code: U183
. Waste name: BENZENE, PENTACHLORO- (OR) PENTACHLOROBENZENE

. Waste code: U185
. Waste name: BENZENE, PENTACHLORONITRO- (OR) PENTACHLORONITROBENZENE (PCNB)

. Waste code: U186
. Waste name: 1,3-PENTADIENE (I) (OR) 1-METHYLBUTADIENE (I)

. Waste code: U187
. Waste name: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

. Waste code: U188
. Waste name: PHENOL

. Waste code: U189
. Waste name: PHOSPHORUS SULFIDE (R) (OR) SULFUR PHOSPHIDE (R)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U191
. Waste name: 2-PICOLINE (OR) PYRIDINE, 2-METHYL-

. Waste code: U192
. Waste name: BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)- (OR) PRONAMIDE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U193
. Waste name: 1,2-OXATHIOLANE, 2,2-DIOXIDE (OR) 1,3-PROPANE SULTONE

. Waste code: U194
. Waste name: 1-PROPANAMINE (I,T) (OR) N-PROPYLAMINE (I,T)

. Waste code: U196
. Waste name: PYRIDINE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U203
. Waste name: 1,3-BENZODIOXOLE, 5-(2-PROPENYL)- (OR) SAFROLE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U207
. Waste name: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

. Waste code: U208
. Waste name: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

. Waste code: U209
. Waste name: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U215
. Waste name: CARBONIC ACID, DITHALLIUM(1+) SALT (OR) THALLIUM(I) CARBONATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U216
. Waste name: THALLIUM CHLORIDE TLCL (OR) THALLIUM(I) CHLORIDE

. Waste code: U217
. Waste name: NITRIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) NITRATE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U221
. Waste name: BENZENEDIAMINE, AR-METHYL- (OR) TOLUENEDIAMINE

. Waste code: U222
. Waste name: BENZENAMINE, 2-METHYL-, HYDROCHLORIDE (OR) O-TOLUIDINE HYDROCHLORIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U225
. Waste name: BROMOFORM (OR) METHANE, TRIBROMO-

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U234
. Waste name: 1,3,5-TRINITROBENZENE (R,T) (OR) BENZENE, 1,3,5-TRINITRO-

. Waste code: U235
. Waste name: 1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1) (OR) TRIS(2,3,-DIBROMOPROPYL) PHOSPHATE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U237
. Waste name: 2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U243

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1-PROPENE, 1,1,2,3,3,3-HEXACHLORO- (OR) HEXACHLOROPROPENE

. Waste code: U244
. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: U246
. Waste name: CYANOGEN BROMIDE (CN)BR

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U248
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYL-BUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS

. Waste code: U249
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

. Waste code: U271
. Waste name: BENOMYL (OR) CARBAMIC ACID, [1-[(BUTYLAMINO)CARBONYL]-1H-BENZIMIDAZOL-2-YL]-, METHYL ESTER

. Waste code: U277
. Waste name: SULFALLATE (OR) CARBAMODITHIOIC ACID, DIETHYL-, 2-CHLORO-2-PROPENYL ESTER

. Waste code: U278
. Waste name: BENDIOCARB (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-, METHYL CARBAMATE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U280
. Waste name: BARBAN (OR) CARBAMIC ACID, (3-CHLOROPHENYL)-, 4-CHLORO-2-BUTYNYL ESTER

. Waste code: U328
. Waste name: BENZENAMINE, 2-METHYL- (OR) O-TOLUIDINE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: U359
. Waste name: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

. Waste code: U364
. Waste name: BENDIOCARB PHENOL (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-

. Waste code: U365
. Waste name: H-AZEPINE-1-CARBOTHIOIC ACID, HEXAHYDRO-, S-ETHYL ESTER (OR) MOLINATE

. Waste code: U366
. Waste name: DAZOMET (OR) 2H-1,3,5-THIADIAZINE- 2-THIONE, TETRAHYDRO-3,5-DIMETHYL-

. Waste code: U367
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL- (OR) CARBOFURAN PHENOL

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U372
. Waste name: CARBAMIC ACID, 1H-BENZIMIDAZOL-2-YL, METHYL ESTER (OR) CARBENDAZIM

. Waste code: U373
. Waste name: CARBAMIC ACID, PHENYL-, 1-METHYLETHYL ESTER (OR) PROPHAM

. Waste code: U375
. Waste name: CARBAMIC ACID, BUTYL-, 3-IODO-2-PROPYNYL ESTER (OR) 3-IODO-2-PROPYNYL N-BUTYLCARBAMATE

. Waste code: U376
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, TETRAANHYDROSULFIDE WITH ORTHOTHIOSETENIOUS ACID (OR) SELENIUM, TETRAKIS (DIMETHYLDITHIOCARBAMATE)

. Waste code: U378
. Waste name: CARBAMODITHIOIC ACID, (HYDROXYMETHYL) METHYL-, MONOPOTASSIUM SALT (OR) POTASSIUM N-HYDROXYMETHYL- N-METHYLDI-THIOCARBAMATE

. Waste code: U379
. Waste name: SODIUM DIBUTYLDITHIOCARBAMATE (OR) CARBAMODITHIOIC ACID, DIBUTYL, SODIUM SALT

. Waste code: U381
. Waste name: CARBAMODITHIOIC ACID, DIETHYL-, SODIUM SALT (OR) SODIUM DIETHYLDITHIOCARBAMATE

. Waste code: U382
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, SODIUM SALT (OR) SODIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U383
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL, POTASSIUM SALT (OR) POTASSIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U384
. Waste name: CARBAMODITHIOIC ACID, METHYL-, MONOSODIUM SALT (OR) METAM SODIUM

. Waste code: U385
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-PROPYL ESTER

. Waste code: U386
. Waste name: CARBAMOTHIOIC ACID, CYCLOHEXYLETHYL-, S-ETHYL ESTER (OR) CYCLOATE

. Waste code: U387
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER (OR) PROSULFOCARB

. Waste code: U389
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3,3-TRICHLORO-2-PROPENYL) ESTER (OR) TRIALLATE

. Waste code: U390
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-ETHYL ESTER (OR) EPTC

. Waste code: U391
. Waste name: CARBAMOTHIOIC ACID, BUTYLETHYL-, S-PROPYL ESTER (OR) PEBULATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U392
. Waste name: BUTYLATE (OR) CARBAMOTHIOIC ACID, BIS(2-METHYLPROPYL)-, S-ETHYL ESTER

. Waste code: U393
. Waste name: COPPER, BIS(DIMETHYLCARBAMODITHIOATO-S,S')- (OR) COPPER DIMETHYLDITHIOCARBAMATE

. Waste code: U394
. Waste name: A2213 (OR) ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-2-OXO-, METHYL ESTER

. Waste code: U395
. Waste name: DIETHYLENE GLYCOL, DICARBAMATE (OR) ETHANOL, 2,2'-OXYBIS-, DICARBAMATE

. Waste code: U396
. Waste name: FERBAM (OR) IRON, TRIS(DIMETHYLCARBAMODITHIOATO-S,S')-,

. Waste code: U400
. Waste name: BIS(PENTAMETHYLENE)THIURAM TETRASULFIDE (OR) PIPERIDINE, 1,1'-(TETRATHIODICARBONOTHIOYL)-BIS-

. Waste code: U401
. Waste name: BIS(DIMETHYLTHIOCARBAMOYL) SULFIDE (OR) TETRAMETHYLTHIURAM MONOSULFIDE

. Waste code: U402
. Waste name: TETRABUTYLTHIURAM DISULFIDE (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRABUTYL

. Waste code: U403
. Waste name: DISULFIRAM (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRAETHYL

. Waste code: U404
. Waste name: ETHANAMINE, N,N-DIETHYL- (OR) TRIETHYLAMINE

. Waste code: U409
. Waste name: CARBAMIC ACID, [1,2-PHENYLENEBIS (IMINOCARBONOTHIOYL)]BIS-, DIMETHYL ESTER (OR) THIOPHANATE-METHYL

. Waste code: U410
. Waste name: ETHANIMIDOTHIOIC ACID, N,N'-[THIOBIS[(METHYLIMINO)CARBONYLOXY]]BIS-, DIMETHYL ESTER (OR) THIODICARB

. Waste code: U411
. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 12/28/2008
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D012
. Waste name: ENDRIN (1,2,3,4,10,10-HEXACHLORO-1,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-ENO, ENDO-5,8-DIMETH-ANO-NAPHTHALENE)

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D015
. Waste name: TOXAPHENE (C10 H10 CL8, TECHNICAL CHLORINATED CAMPHENE, 67-69 PERCENT CHLORINE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D017
. Waste name: 2,4,5-TP SILVEX (2,4,5-TRICHLOROPHENOXYPROPIONIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D031
. Waste name: HEPTACHLOR (AND ITS EPOXIDE)

. Waste code: D032
. Waste name: HEXACHLOROBENZENE

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D037
. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D041
. Waste name: 2,4,5-TRICHLOROPHENOL

. Waste code: D042
. Waste name: 2,4,6-TRICHLOROPHENOL

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F010
. Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: F012
. Waste name: QUENCHING WASTEWATER TREATMENT SLUDGES FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: F024
. Waste name: PROCESS WASTES INCLUDING, BUT NOT LIMITED TO, DISTILLATION RESIDUES, HEAVY ENDS, TARS, AND REACTOR CLEAN-OUT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION. (THIS LISTING DOES NOT INCLUDE WASTEWATERS, WASTEWATER TREATMENT SLUDGE, SPENT CATALYSTS, AND WASTES LISTED IN SECTIONS 261.31. OR 261.32)

. Waste code: F025
. Waste name: CONDENSED LIGHT ENDS, SPENT FILTERS AND FILTER AIDS, AND SPENT DESICCANT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION.

. Waste code: F037
. Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORM WATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGES GENERATED IN STORM WATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F038
. Waste name: PETROLEUM REFINERY SECONDARY (EMULSIFIED) OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE AND/OR FLOAT GENERATED FROM THE PHYSICAL AND/OR CHEMICAL SEPARATION OF OIL/WATER/SOLIDS IN PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH WASTES INCLUDE, BUT ARE NOT LIMITED TO, ALL SLUDGES AND FLOATS GENERATED IN INDUCED AIR FLOTATION (IAF) UNITS, TANKS AND IMPOUNDMENTS, AND ALL SLUDGES GENERATED IN DAF UNITS. SLUDGES GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND F037, K048, AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F039
. Waste name: LEACHATE RESULTING FROM THE TREATMENT, STORAGE, OR DISPOSAL OF WASTES CLASSIFIED BY MORE THAN ONE WASTE CODE UNDER SUBPART D, OR FROM A MIXTURE OF WASTES CLASSIFIED UNDER SUBPARTS C AND D OF THIS PART. (LEACHATE RESULTING FROM THE MANAGEMENT OF ONE OR MORE OF THE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS HAZARDOUS WASTE CODE(S): F020, F021, F022, F023, F026, F027, AND/OR F028.)

. Waste code: K001
. Waste name: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: K002
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME YELLOW AND ORANGE PIGMENTS.

. Waste code: K003
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF MOLYBDATE ORANGE PIGMENTS.

. Waste code: K004
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF ZINC YELLOW PIGMENTS.

. Waste code: K005
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME GREEN PIGMENTS.

. Waste code: K006
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS (ANHYDROUS AND HYDRATED).

. Waste code: K007
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF IRON BLUE PIGMENTS.

. Waste code: K008
. Waste name: OVEN RESIDUE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS.

. Waste code: K009
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K010
. Waste name: DISTILLATION SIDE CUTS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K011
. Waste name: BOTTOM STREAM FROM THE WASTEWATER STRIPPER IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K013
. Waste name: BOTTOM STREAM FROM THE ACETONITRILE COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K014
. Waste name: BOTTOMS FROM THE ACETONITRILE PURIFICATION COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K015
. Waste name: STILL BOTTOMS FROM THE DISTILLATION OF BENZYL CHLORIDE.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K016
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE PRODUCTION OF CARBON TETRACHLORIDE.

. Waste code: K017
. Waste name: HEAVY ENDS (STILL BOTTOMS) FROM THE PURIFICATION COLUMN IN THE PRODUCTION OF EPICHLOROHYDRIN.

. Waste code: K018
. Waste name: HEAVY ENDS FROM THE FRACTIONATION COLUMN IN ETHYL CHLORIDE PRODUCTION.

. Waste code: K019
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE DICHLORIDE PRODUCTION.

. Waste code: K020
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF VINYL CHLORIDE IN VINYL CHLORIDE MONOMER PRODUCTION.

. Waste code: K021
. Waste name: AQUEOUS SPENT ANTIMONY CATALYST WASTE FROM FLUOROMETHANE PRODUCTION.

. Waste code: K022
. Waste name: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM CUMENE.

. Waste code: K023
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K024
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K025
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF NITROBENZENE BY THE NITRATION OF BENZENE.

. Waste code: K026
. Waste name: STRIPPING STILL TAILS FROM THE PRODUCTION OF METHYL ETHYL PYRIDINES.

. Waste code: K027
. Waste name: CENTRIFUGE AND DISTILLATION RESIDUES FROM TOLUENE DIISOCYANATE PRODUCTION.

. Waste code: K028
. Waste name: SPENT CATALYST FROM THE HYDROCHLORINATOR REACTOR IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K029
. Waste name: WASTE FROM THE PRODUCT STEAM STRIPPER IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K030
. Waste name: COLUMN BOTTOMS OR HEAVY ENDS FROM THE COMBINED PRODUCTION OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K031
. Waste name: BY-PRODUCT SALTS GENERATED IN THE PRODUCTION OF MSMA AND CACODYLIC ACID.

. Waste code: K032
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHLORDANE.

. Waste code: K033
. Waste name: WASTEWATER AND SCRUB WATER FROM THE CHLORINATION OF CYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K034
. Waste name: FILTER SOLIDS FROM THE FILTRATION OF HEXACHLOROCYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K035
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED IN THE PRODUCTION OF CREOSOTE.

. Waste code: K036
. Waste name: STILL BOTTOMS FROM TOLUENE RECLAMATION DISTILLATION IN THE PRODUCTION OF DISULFOTON.

. Waste code: K037
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF DISULFOTON.

. Waste code: K038
. Waste name: WASTEWATER FROM THE WASHING AND STRIPPING OF PHORATE PRODUCTION.

. Waste code: K039
. Waste name: FILTER CAKE FROM THE FILTRATION OF DIETHYLPHOSPHORODITHIOIC ACID IN THE PRODUCTION OF PHORATE.

. Waste code: K040
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF PHORATE.

. Waste code: K041
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K042
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE DISTILLATION OF TETRACHLOROBENZENE IN THE PRODUCTION OF 2,4,5-T.

. Waste code: K043
. Waste name: 2,6-DICHLOROPHENOL WASTE FROM THE PRODUCTION OF 2,4-D.

. Waste code: K048
. Waste name: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K049
. Waste name: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K050
. Waste name: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K051

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: API SEPARATOR SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K060
. Waste name: AMMONIA STILL LIME SLUDGE FROM COKING OPERATIONS.

. Waste code: K061
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.

. Waste code: K064
. Waste name: ACID PLANT BLOWDOWN SLURRY/SLUDGE RESULTING FROM THE THICKENING OF BLOWDOWN SLURRY FROM PRIMARY COPPER PRODUCTION.

. Waste code: K065
. Waste name: SURFACE IMPOUNDMENT SOLIDS CONTAINED IN AND DREDGED FROM SURFACE IMPOUNDMENTS AT PRIMARY LEAD SMELTING FACILITIES.

. Waste code: K066
. Waste name: SLUDGE FROM TREATMENT OF PROCESS WASTEWATER AND/OR ACID PLANT BLOWDOWN FROM PRIMARY ZINC PRODUCTION.

. Waste code: K069
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K071
. Waste name: BRINE PURIFICATION MUDS FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION, IN WHICH SEPARATELY PREPURIFIED BRINE IS NOT USED.

. Waste code: K073
. Waste name: CHLORINATED HYDROCARBON WASTE FROM THE PURIFICATION STEP OF THE DIAPHRAGM CELL PROCESS USING GRAPHITE ANODES IN CHLORINE PRODUCTION.

. Waste code: K083
. Waste name: DISTILLATION BOTTOMS FROM ANILINE PRODUCTION.

. Waste code: K084
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED DURING THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K085
. Waste name: DISTILLATION OR FRACTIONATION COLUMN BOTTOMS FROM THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

. Waste code: K087
. Waste name: DECANTER TANK TAR SLUDGE FROM COKING OPERATIONS.

. Waste code: K088
. Waste name: SPENT POTLINERS FROM PRIMARY ALUMINUM REDUCTION.

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. Waste code: K090
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUMSILICON PRODUCTION.

. Waste code: K091
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUM PRODUCTION.

. Waste code: K093
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K094
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K095
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K096
. Waste name: HEAVY ENDS FROM THE HEAVY ENDS COLUMN FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K097
. Waste name: VACUUM STRIPPER DISCHARGE FROM THE CHLORDANE CHLORINATOR IN THE PRODUCTION OF CHLORDANE.

. Waste code: K098
. Waste name: UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K099
. Waste name: UNTREATED WASTEWATER FROM THE PRODUCTION OF 2,4-D.

. Waste code: K100
. Waste name: WASTE LEACHING SOLUTION FROM ACID LEACHING OF EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K101
. Waste name: DISTILLATION TAR RESIDUES FROM THE DISTILLATION OF ANILINE-BASED COMPOUNDS IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K102
. Waste name: RESIDUE FROM THE USE OF ACTIVATED CARBON FOR DECOLORIZATION IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K103
. Waste name: PROCESS RESIDUES FROM ANILINE EXTRACTION FROM THE PRODUCTION OF ANILINE.

. Waste code: K104
. Waste name: COMBINED WASTEWATERS GENERATED FROM NITROBENZENE/ANILINE PRODUCTION.

. Waste code: K105
. Waste name: SEPARATED AQUEOUS STREAM FROM THE REACTOR PRODUCT WASHING STEP IN THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K106

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION.

. Waste code: K107
. Waste name: COLUMN BOTTOMS FROM PRODUCT SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE (UDMH) FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K108
. Waste name: CONDENSED COLUMN OVERHEADS FROM PRODUCT SEPARATION AND CONDENSED REACTOR VENT GASES FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K109
. Waste name: SPENT FILTER CARTRIDGES FROM PRODUCT PURIFICATION FROM THE PRODUCT OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K110
. Waste name: CONDENSED COLUMN OVERHEADS FROM INTERMEDIATE SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K111
. Waste name: PRODUCT WASHWATERS FROM THE PRODUCTION OF DINITROTOLUENE VIA NITRATION OF TOLUENE.

. Waste code: K112
. Waste name: REACTION BY-PRODUCT WATER FROM THE DRYING COLUMN IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K113
. Waste name: CONDENSED LIQUID LIGHT ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K114
. Waste name: VICINALS FROM THE PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K115
. Waste name: HEAVY ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K116
. Waste name: ORGANIC CONDENSATE FROM THE SOLVENT RECOVERY COLUMN IN THE PRODUCTION OF TOLUENE DIISOCYANATE VIA PHOSGENATION OF TOLUENEDIAMINE.

. Waste code: K117
. Waste name: WASTEWATER FROM THE REACTOR VENT GAS SCRUBBER IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K118
. Waste name: SPENT ADSORBENT SOLIDS FROM PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K123
. Waste name: PROCESS WASTEWATER (INCLUDING SUPERNATES, FILTRATES, AND WASHWATERS) FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K124

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. Waste name: REACTOR VENT SCRUBBER WATER FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K125
. Waste name: FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K126
. Waste name: BAGHOUSE DUST AND FLOOR SWEEPINGS IN MILLING AND PACKAGING OPERATIONS FROM PRODUCTION OR FORMULATION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K131
. Waste name: WASTEWATER FROM THE REACTOR AND SPENT SULFURIC ACID FROM THE ACID DRYER FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K132
. Waste name: SPENT ABSORBENT AND WASTEWATER SEPARATOR SOLIDS FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K136
. Waste name: STILL BOTTOMS FROM THE PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K141
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF COAL TAR, INCLUDING, BUT NOT LIMITED TO, TAR COLLECTING SUMP RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL. THIS LISTING DOES NOT INCLUDE K087 (DECANTER TANK SLUDGE FROM COKING OPERATIONS).

. Waste code: K142
. Waste name: TANK STORAGE RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR FROM THE RECOVERY OF COKE BY-PRODUCTS FROM COAL.

. Waste code: K143
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF LIGHT OIL, INCLUDING, BUT NOT LIMITED TO, THOSE GENERATED IN STILLS, DECANTERS, AND WASH OIL RECOVERY UNITS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K144
. Waste name: WASTEWATER SUMP RESIDUES FROM LIGHT OIL REFINING, INCLUDING, BUT NOT LIMITED TO, INTERCEPTING OR CONTAMINATION SUMP SLUDGES FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K145
. Waste name: RESIDUES FROM NAPHTHALENE COLLECTION AND RECOVERY OPERATIONS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K147
. Waste name: TAR STORAGE RESIDUES FROM COAL TAR REFINING.

. Waste code: K148
. Waste name: RESIDUES FROM COAL TAR DISTILLATION, INCLUDING, BUT NOT LIMITED TO, STILL BOTTOMS.

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. Waste code: K149
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, RING-CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS. [THIS WASTE DOES NOT INCLUDE STILL BOTTOMS FROM THE DISTILLATION OF BENZOYL CHLORIDE]

. Waste code: K150
. Waste name: ORGANIC RESIDULES EXCLUDING SPENT CARBON ADSORBENT, FROM THE SPENT CHLORINE GAS AND HYDROCHLORIC ACID RECOVERY PROCESSES ASSOCIATED WITH THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K151
. Waste name: WASTEWATER TREATMENT SLUDGES, EXCLUDING NEUTRALIZATION AND BIOLOGICAL SLUDGES, GENERATED DURING THE TREATMENT OF WASTEWATERS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K156
. Waste name: ORGANIC WASTE (INCLUDING HEAVY ENDS, STILL BOTTOMS, LIGHT ENDS, SPENT SOLVENTS, FILTRATES, AND DECANTATES) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K157
. Waste name: WASTEWATERS (INCLUDING SCRUBBER WATERS, CONDENSER WATERS, WASHWATERS, AND SEPARATION WATERS) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K158
. Waste name: BAG HOUSE DUSTS AND FILTER/SEPARATION SOLIDS FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K159
. Waste name: ORGANICS FROM THE TREATMENT OF THIOCARBAMATE WASTES.

. Waste code: K161
. Waste name: PURIFICATION SOLIDS (INCLUDING FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS), BAG HOUSE DUST AND FLOOR SWEEPINGS FROM THE PRODUCTION OF DITHIOCARBAMATE ACIDS AND THEIR SALTS. (THIS LISTING DOES NOT INCLUDE K125 OR K126).

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P002
. Waste name: 1-ACETYL-2-THIOUREA (OR) ACETAMIDE, N-(AMINOTHIOXOMETHYL)-

. Waste code: P003
. Waste name: 2-PROPENAL (OR) ACROLEIN

. Waste code: P004
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA)- (OR) ALDRIN

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. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: P006
. Waste name: ALUMINUM PHOSPHIDE (R,T)

. Waste code: P007
. Waste name: 3(2H)-ISOXAZOLONE, 5-(AMINOMETHYL)- (OR) 5-(AMINOMETHYL)-3-ISOXAZOLOL

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011
. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P020
. Waste name: DINOSEB (OR) PHENOL, 2-(1-METHYLPROPYL)-4,6-DINITRO-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P028
. Waste name: BENZENE, (CHLOROMETHYL)- (OR) BENZYL CHLORIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P034
. Waste name: 2-CYCLOHEXYL-4,6-DINITROPHENOL (OR) PHENOL, 2-CYCLOHEXYL-4,6-DINITRO-

. Waste code: P037
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE,
3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA,
2BETA, 2AALPHA, 3BETA, 6BETA, 6AALPHA, 7BETA, 7AALPHA)- (OR) DIELDRIN

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL
S-[2-(ETHYLTHIO)ETHYL] ESTER

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. Waste code: P040
. Waste name: O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P044
. Waste name: DIMETHOATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-[2-(METHYLAMINO)-2-OXOETHYL] ESTER

. Waste code: P045
. Waste name: 2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-[METHYLAMINO)CARBONYL] OXIME (OR) THIOFANOX

. Waste code: P047
. Waste name: 4,6-DINITRO-O-CRESOL, & SALTS (OR) PHENOL, 2-METHYL-4,6-DINITRO-, & SALTS

. Waste code: P050
. Waste name: 6,9-METHANO-2,4,3-BENZODIOXATHIEPIN,6,7,8,9,10,10-HEXACHLORO-1,5,5A,6, ,9A-HEXAHYDRO-,3-OXIDE (OR) ENDOSULFAN

. Waste code: P051
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2ABETA, 3ALPHA, 6ALPHA, 6ABETA, 7BETA, 7AALPHA)- & METABOLITES (OR) ENDRIN (OR) ENDRIN, & METABOLITES

. Waste code: P057
. Waste name: ACETAMIDE, 2-FLUORO- (OR) FLUOROACETAMIDE

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P059
. Waste name: 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO- (OR) HEPTACHLOR

. Waste code: P060
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5BETA, 8BETA, 8ABETA)- (OR) ISODRIN

. Waste code: P063
. Waste name: HYDROCYANIC ACID (OR) HYDROGEN CYANIDE

. Waste code: P066
. Waste name: ETHANIMIDOTHIOIC ACID, N-[[(METHYLAMINO)CARBONYL]OXY]-, METHYL ESTER (OR) METHOMYL

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P071

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. Waste name: METHYL PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O,-DIMETHYL O-(4-NITROPHENYL) ESTER

. Waste code: P072
. Waste name: ALPHA-NAPHTHYLTHIOUREA (OR) THIOUREA, 1-NAPHTHALENYL-

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P085
. Waste name: DIPHOSPHORAMIDE, OCTAMETHYL- (OR) OCTAMETHYLPYROPHOSPHORAMIDE

. Waste code: P088
. Waste name: 7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC ACID (OR) ENDOTHALL

. Waste code: P089
. Waste name: PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P094
. Waste name: PHORATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[(ETHYLTHIO)METHYL] ESTER

. Waste code: P096
. Waste name: HYDROGEN PHOSPHIDE (OR) PHOSPHINE

. Waste code: P097
. Waste name: FAMPHUR (OR) PHOSPHOROTHIOIC ACID O-[4-[(DIMETHYLAMINO)SULFONYL]PHENYL] O,O-DIMETHYL ESTER

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P099
. Waste name: ARGENTATE (1-), BIS(CYANO-C)-, POTASSIUM (OR) POTASSIUM SILVER CYANIDE

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P109
. Waste name: TETRAETHYLDITHIOPYROPHOSPHATE (OR) THIODIPHOSPHORIC ACID, TETRAETHYL ESTER

. Waste code: P111
. Waste name: DIPHOSPHORIC ACID, TETRAETHYL ESTER (OR) TETRAETHYL PYROPHOSPHATE

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P128
. Waste name: PHENOL, 4-(DIMETHYLAMINO)-3,5-DIMETHYL-, METHYLCARBAMATE (ESTER)

. Waste code: P189
. Waste name: CARBAMIC ACID, [(DIBUTYLAMINO)-THIO]METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL -7-BENZOFURANYL ESTER (OR) CARBOSULFAN

. Waste code: P190
. Waste name: CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER (OR) METOLCARB

. Waste code: P199
. Waste name: METHIOCARB (OR) MEXACARBATE (OR) PHENOL, (3,5-DIMETHYL-4-(METHYLTHIO)-, METHYLCARBAMATE

. Waste code: P201
. Waste name: PHENOL, 3-METHYL-5-(1-METHYLETHYL)-, METHYL CARBAMATE (OR) PROMECARB

. Waste code: P202
. Waste name: M-CUMENYL METHYLCARBAMATE (OR) 3-ISOPROPYLPHENYL N-METHYLCARBAMATE (OR) PHENOL, 3-(1-METHYLETHYL)-, METHYL CARBAMATE

. Waste code: P203
. Waste name: ALDICARB SULFONE (OR) PROPANAL, 2-METHYL-2-(METHYL-SULFONYL)-, O-[(METHYLAMINO)CARBONYL] OXIME

. Waste code: P205
. Waste name: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (OR) ZIRAM

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U005
. Waste name: 2-ACETYLAMINOFLUORENE (OR) ACETAMIDE, N-9H-FLUOREN-2-YL

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U008
. Waste name: 2-PROPENOIC ACID (I) (OR) ACRYLIC ACID (I)

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-MET OXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U011
. Waste name: 1H-1,2,4-TRIAZOL-3-AMINE (OR) AMITROLE

. Waste code: U012
. Waste name: ANILINE (I,T) (OR) BENZENAMINE (I,T)

. Waste code: U014
. Waste name: AURAMINE (OR) BENZENAMINE, 4,4'-CARBONIMIDOYLBIS[N,N-DIMETHYL-

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U016
. Waste name: BENZ[C]ACRIDINE

. Waste code: U017
. Waste name: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

. Waste code: U018
. Waste name: BENZ[A]ANTHRACENE

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U020
. Waste name: BENZENESULFONIC ACID CHLORIDE (C,R) (OR) BENZENESULFONYL CHLORIDE (C,R)

. Waste code: U021
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE (OR) BENZIDINE

. Waste code: U022
. Waste name: BENZO[A]PYRENE

. Waste code: U023
. Waste name: BENZENE, (TRICHLOROMETHYL)- (OR) BENZOTRICHLORIDE (C,R,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U024
. Waste name: DICHLOROMETHOXY ETHANE (OR) ETHANE, 1,1'-[METHYLENEBIS(OXY)]BIS[2-CHLORO-

. Waste code: U025
. Waste name: DICHLOROETHYL ETHER (OR) ETHANE, 1,1'-OXYBIS[2-CHLORO-

. Waste code: U026
. Waste name: CHLORNAPHAZIN (OR) NAPHTHALENAMINE, N,N'-BIS(2-CHLOROETHYL)-

. Waste code: U027
. Waste name: DICHLOROISOPROPYL ETHER (OR) PROPANE, 2,2'-OXYBIS[2-CHLORO-

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U029
. Waste name: METHANE, BROMO- (OR) METHYL BROMIDE

. Waste code: U030
. Waste name: 4-BROMOPHENYL PHENYL ETHER (OR) BENZENE, 1-BROMO-4-PHENOXY-

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U032
. Waste name: CALCIUM CHROMATE (OR) CHROMIC ACID H2CRO4, CALCIUM SALT

. Waste code: U033
. Waste name: CARBON OXYFLUORIDE (R,T) (OR) CARBONIC DIFLUORIDE

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U038
. Waste name: BENZENEACETIC ACID, 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXY-, ETHYL ESTER (OR) CHLOROBENZILATE

. Waste code: U039
. Waste name: P-CHLORO-M-CRESOL (OR) PHENOL, 4-CHLORO-3-METHYL-

. Waste code: U041
. Waste name: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

. Waste code: U042

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2-CHLOROETHYL VINYL ETHER (OR) ETHENE, (2-CHLOROETHOXY)-

. Waste code: U043
. Waste name: ETHENE, CHLORO- (OR) VINYL CHLORIDE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U046
. Waste name: CHLOROMETHYL METHYL ETHER (OR) METHANE, CHLOROMETHOXY-

. Waste code: U047
. Waste name: BETA-CHLORONAPHTHALENE (OR) NAPHTHALENE, 2-CHLORO-

. Waste code: U048
. Waste name: O-CHLOROPHENOL (OR) PHENOL, 2-CHLORO-

. Waste code: U049
. Waste name: 4-CHLORO-O-TOLUIDINE, HYDROCHLORIDE (OR) BENZENAMINE, 4-CHLORO-2-METHYL-, HYDROCHLORIDE

. Waste code: U050
. Waste name: CHRYSENE

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U053
. Waste name: 2-BUTENAL (OR) CROTONALDEHYDE

. Waste code: U055
. Waste name: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

. Waste code: U056
. Waste name: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

. Waste code: U057
. Waste name: CYCLOHEXANONE (I)

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U060
. Waste name: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDD

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U062
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3-DICHLORO-2-PROPENYL) ESTER (OR) DIALLATE

. Waste code: U063
. Waste name: DIBENZ[A,H]ANTHRACENE

. Waste code: U064
. Waste name: BENZO[RST]PENTAPHENE (OR) DIBENZO[A,I]PYRENE

. Waste code: U066
. Waste name: 1,2-DIBROMO-3-CHLOROPROPANE (OR) PROPANE, 1,2-DIBROMO-3-CHLORO-

. Waste code: U067
. Waste name: ETHANE, 1,2-DIBROMO- (OR) ETHYLENE DIBROMIDE

. Waste code: U068
. Waste name: METHANE, DIBROMO- (OR) METHYLENE BROMIDE

. Waste code: U069
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U071
. Waste name: BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U073
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO- (OR) 3,3'-DICHLOROBENZIDINE

. Waste code: U074
. Waste name: 1,4-DICHLORO-2-BUTENE (I,T) (OR) 2-BUTENE, 1,4-DICHLORO- (I,T)

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U076
. Waste name: ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE

. Waste code: U077
. Waste name: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

. Waste code: U078
. Waste name: 1,1-DICHLOROETHYLENE (OR) ETHENE, 1,1-DICHLORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U081
. Waste name: 2,4-DICHLOROPHENOL (OR) PHENOL, 2,4-DICHLORO-

. Waste code: U082
. Waste name: 2,6-DICHLOROPHENOL (OR) PHENOL, 2,6-DICHLORO-

. Waste code: U083
. Waste name: PROPANE, 1,2-DICHLORO- (OR) PROPYLENE DICHLORIDE

. Waste code: U085
. Waste name: 1,2:3,4-DIEPOXYBUTANE (I,T) (OR) 2,2'-BIOXIRANE

. Waste code: U086
. Waste name: HYDRAZINE, 1,2-DIETHYL- (OR) N,N'-DIETHYLHYDRAZINE

. Waste code: U087
. Waste name: O,O-DIETHYL S-METHYL DITHIOPHOSPHATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-METHYL ESTER

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U090
. Waste name: 1,3-BENZODIOXOLE, 5-PROPYL- (OR) DIHYDROSAFROLE

. Waste code: U091
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY- (OR) 3,3'-DIMETHOXYBENZIDINE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U093
. Waste name: BENZENAMINE, N,N-DIMETHYL-4-(PHENYLAZO)- (OR) P-DIMETHYLAMINOAZOBENZENE

. Waste code: U094
. Waste name: 7,12-DIMETHYLBENZ[A]ANTHRACENE (OR) BENZ[A]ANTHRACENE, 7,12-DIMETHYL-

. Waste code: U095
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL- (OR) 3,3'-DIMETHYLBENZIDINE

. Waste code: U096
. Waste name: ALPHA,ALPHA-DIMETHYLBENZYLHYDROPEROXIDE (R) (OR) HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL- (R)

. Waste code: U097
. Waste name: CARBAMIC CHLORIDE, DIMETHYL- (OR) DIMETHYLCARBAMOYL CHLORIDE

. Waste code: U099

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,2-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U101
. Waste name: 2,4-DIMETHYLPHENOL (OR) PHENOL, 2,4-DIMETHYL-

. Waste code: U102
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER (OR) DIMETHYL PHTHALATE

. Waste code: U103
. Waste name: DIMETHYL SULFATE (OR) SULFURIC ACID, DIMETHYL ESTER

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U107
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U109
. Waste name: 1,2-DIPHENYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U111
. Waste name: 1-PROPANAMINE, N-NITROSO-N-PROPYL- (OR) DI-N-PROPYLNITROSAMINE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U114
. Waste name: CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, SALTS & ESTERS (OR) ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

. Waste code: U116
. Waste name: 2-IMIDAZOLIDINETHIONE (OR) ETHYLENETHIOUREA

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

. Waste code: U119
. Waste name: ETHYL METHANESULFONATE (OR) METHANESULFONIC ACID, ETHYL ESTER

. Waste code: U120
. Waste name: FLUORANTHENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U125
. Waste name: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

. Waste code: U127
. Waste name: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

. Waste code: U128
. Waste name: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U130
. Waste name: 1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO- (OR) HEXACHLOROCYCLOPENTADIENE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U133
. Waste name: HYDRAZINE (R,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U136
. Waste name: ARSINIC ACID, DIMETHYL- (OR) CACODYLIC ACID

. Waste code: U137
. Waste name: INDENO[1,2,3-CD]PYRENE

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U141

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: U142
. Waste name: 1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALEN-2-ONE, 1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTAHYDRO- (OR) KEPONE

. Waste code: U143
. Waste name: 2-BUTENOIC ACID, 2-METHYL-, 7-[[2,3-DIHYDROXY-2-(1-METHOXYETHYL)-3-METHYL-1-OXOBUTOXY]METHYL]-2,3, ,7A-TETRAHYDRO-1H-PYRROLIZIN-1-YL ESTER, [1S-[1ALPHA(Z), 7(2S*,3R*), 7AALPHA]]- (OR) LASIOCARPINE

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U145
. Waste name: LEAD PHOSPHATE (OR) PHOSPHORIC ACID, LEAD(2+) SALT (2:3)

. Waste code: U146
. Waste name: LEAD SUBACETATE (OR) LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U148
. Waste name: 3,6-PYRIDAZINEDIONE, 1,2-DIHYDRO- (OR) MALEIC HYDRAZIDE

. Waste code: U149
. Waste name: MALONONITRILE (OR) PROPANEDINITRILE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U152
. Waste name: 2-PROPENENITRILE, 2-METHYL- (I,T) (OR) METHACRYLONITRILE (I,T)

. Waste code: U153
. Waste name: METHANETHIOL (I,T) (OR) THIOMETHANOL (I,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U155
. Waste name: 1,2-ETHANEDIAMINE, N,N-DIMETHYL-N'-2-PYRIDINYL-N'-(2-THIENYLMETHYL)- (OR) METHAPYRILENE

. Waste code: U156
. Waste name: CARBONOCHLORIDIC ACID, METHYL ESTER, (I,T) (OR) METHYL CHLOROCARBONATE (I,T)

. Waste code: U157
. Waste name: 3-METHYLCHOLANTHRENE (OR) BENZ[J]ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-

. Waste code: U158

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE, 4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U161
. Waste name: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR) PENTANOL, 4-METHYL-

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U163
. Waste name: GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO- (OR) MNNG

. Waste code: U164
. Waste name: 4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-6-METHYL-2-THIOXO- (OR) METHYLTHIOURACIL

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U167
. Waste name: 1-NAPTHALENAMINE (OR) ALPHA-NAPHTHYLAMINE

. Waste code: U168
. Waste name: 2-NAPTHALENAMINE (OR) BETA-NAPHTHYLAMINE

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U171
. Waste name: 2-NITROPROPANE (I,T) (OR) PROPANE, 2-NITRO- (I,T)

. Waste code: U172
. Waste name: 1-BUTANAMINE, N-BUTYL-N-NITROSO- (OR) N-NITROSODI-N-BUTYLAMINE

. Waste code: U173
. Waste name: ETHANOL, 2,2'-(NITROSOIMINO)BIS- (OR) N-NITROSODIETHANOLAMINE

. Waste code: U174
. Waste name: ETHANAMINE, N-ETHYL-N-NITROSO- (OR) N-NITROSODIETHYLAMINE

. Waste code: U176
. Waste name: N-NITROSO-N-ETHYLUREA (OR) UREA, N-ETHYL-N-NITROSO-

. Waste code: U177
. Waste name: N-NITROSO-N-METHYLUREA (OR) UREA, N-METHYL-N-NITROSO-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U178
. Waste name: CARBAMIC ACID, METHYLNITROSO-, ETHYL ESTER (OR) N-NITROSO-N-METHYLURETHANE

. Waste code: U179
. Waste name: N-NITROSOPIPERIDINE (OR) PIPERIDINE, 1-NITROSO-

. Waste code: U180
. Waste name: N-NITROSOPYRROLIDINE (OR) PYRROLIDINE, 1-NITROSO-

. Waste code: U181
. Waste name: 5-NITRO-O-TOLUIDINE (OR) BENZENAMINE, 2-METHYL-5-NITRO

. Waste code: U182
. Waste name: 1,3,5-TRIOXANE, 2,4,6-TRIMETHYL- (OR) PARALDEHYDE

. Waste code: U183
. Waste name: BENZENE, PENTACHLORO- (OR) PENTACHLOROBENZENE

. Waste code: U185
. Waste name: BENZENE, PENTACHLORONITRO- (OR) PENTACHLORONITROBENZENE (PCNB)

. Waste code: U186
. Waste name: 1,3-PENTADIENE (I) (OR) 1-METHYLBUTADIENE (I)

. Waste code: U187
. Waste name: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

. Waste code: U188
. Waste name: PHENOL

. Waste code: U189
. Waste name: PHOSPHORUS SULFIDE (R) (OR) SULFUR PHOSPHIDE (R)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U191
. Waste name: 2-PICOLINE (OR) PYRIDINE, 2-METHYL-

. Waste code: U192
. Waste name: BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)- (OR) PRONAMIDE

. Waste code: U193
. Waste name: 1,2-OXATHIOLANE, 2,2-DIOXIDE (OR) 1,3-PROPANE SULTONE

. Waste code: U194
. Waste name: 1-PROPANAMINE (I,T) (OR) N-PROPYLAMINE (I,T)

. Waste code: U196
. Waste name: PYRIDINE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID,

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U203
. Waste name: 1,3-BENZODIOXOLE, 5-(2-PROPENYL)- (OR) SAFROLE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U207
. Waste name: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

. Waste code: U208
. Waste name: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

. Waste code: U209
. Waste name: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U215
. Waste name: CARBONIC ACID, DITHALLIUM(1+) SALT (OR) THALLIUM(I) CARBONATE

. Waste code: U216
. Waste name: THALLIUM CHLORIDE TLCL (OR) THALLIUM(I) CHLORIDE

. Waste code: U217
. Waste name: NITRIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) NITRATE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U221

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BENZENEDIAMINE, AR-METHYL- (OR) TOLUENEDIAMINE

. Waste code: U222
. Waste name: BENZENAMINE, 2-METHYL-, HYDROCHLORIDE (OR) O-TOLUIDINE HYDROCHLORIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U225
. Waste name: BROMOFORM (OR) METHANE, TRIBROMO-

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U234
. Waste name: 1,3,5-TRINITROBENZENE (R,T) (OR) BENZENE, 1,3,5-TRINITRO-

. Waste code: U235
. Waste name: 1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1) (OR) TRIS(2,3,-DIBROMOPROPYL) PHOSPHATE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U237
. Waste name: 2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U243
. Waste name: 1-PROPENE, 1,1,2,3,3,3-HEXACHLORO- (OR) HEXACHLOROPROPENE

. Waste code: U244
. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: U246
. Waste name: CYANOGEN BROMIDE (CN)BR

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U248

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYL-BUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS

. Waste code: U249
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

. Waste code: U271
. Waste name: BENOMYL (OR) CARBAMIC ACID, [1-[(BUTYLAMINO)CARBONYL]-1H-BENZIMIDAZOL-2-YL]-, METHYL ESTER

. Waste code: U277
. Waste name: SULFALLATE (OR) CARBAMODITHIOIC ACID, DIETHYL-, 2-CHLORO-2-PROPENYL ESTER

. Waste code: U278
. Waste name: BENDIOCARB (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-, METHYL CARBAMATE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U280
. Waste name: BARBAN (OR) CARBAMIC ACID, (3-CHLOROPHENYL)-, 4-CHLORO-2-BUTYNYL ESTER

. Waste code: U328
. Waste name: BENZENAMINE, 2-METHYL- (OR) O-TOLUIDINE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: U359
. Waste name: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

. Waste code: U364
. Waste name: BENDIOCARB PHENOL (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-

. Waste code: U365
. Waste name: H-AZEPINE-1-CARBOTHIOIC ACID, HEXAHYDRO-, S-ETHYL ESTER (OR) MOLINATE

. Waste code: U366
. Waste name: DAZOMET (OR) 2H-1,3,5-THIADIAZINE- 2-THIONE, TETRAHYDRO-3,5-DIMETHYL-

. Waste code: U367
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL- (OR) CARBOFURAN PHENOL

. Waste code: U372
. Waste name: CARBAMIC ACID, 1H-BENZIMIDAZOL-2-YL, METHYL ESTER (OR) CARBENDAZIM

. Waste code: U373
. Waste name: CARBAMIC ACID, PHENYL-, 1-METHYLETHYL ESTER (OR) PROPHAM

. Waste code: U375
. Waste name: CARBAMIC ACID, BUTYL-, 3-IODO-2-PROPYNYL ESTER (OR) 3-IODO-2-PROPYNYL N-BUTYLCARBAMATE

. Waste code: U376
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, TETRAANHYDROSULFIDE WITH

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

ORTHOTHIOSETENIOUS ACID (OR) SELENIUM, TETRAKIS (DIMETHYLDITHIOCARBAMATE)

. Waste code: U378
. Waste name: CARBAMODITHIOIC ACID, (HYDROXYMETHYL) METHYL-, MONOPOTASSIUM SALT (OR) POTASSIUM N-HYDROXYMETHYL- N-METHYLDI-THIOCARBAMATE

. Waste code: U379
. Waste name: SODIUM DIBUTYLDITHIOCARBAMATE (OR) CARBAMODITHIOIC ACID, DIBUTYL, SODIUM SALT

. Waste code: U381
. Waste name: CARBAMODITHIOIC ACID, DIETHYL-, SODIUM SALT (OR) SODIUM DIETHYLDITHIOCARBAMATE

. Waste code: U382
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, SODIUM SALT (OR) SODIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U383
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL, POTASSIUM SALT (OR) POTASSIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U384
. Waste name: CARBAMODITHIOIC ACID, METHYL-, MONOSODIUM SALT (OR) METAM SODIUM

. Waste code: U385
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-PROPYL ESTER

. Waste code: U386
. Waste name: CARBAMOTHIOIC ACID, CYCLOHEXYLETHYL-, S-ETHYL ESTER (OR) CYCLOATE

. Waste code: U387
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER (OR) PROSULFOCARB

. Waste code: U389
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3,3-TRICHLORO-2-PROPENYL) ESTER (OR) TRIALLATE

. Waste code: U390
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-ETHYL ESTER (OR) EPTC

. Waste code: U391
. Waste name: CARBAMOTHIOIC ACID, BUTYLETHYL-, S-PROPYL ESTER (OR) PEBULATE

. Waste code: U392
. Waste name: BUTYLATE (OR) CARBAMOTHIOIC ACID, BIS(2-METHYLPROPYL)-, S-ETHYL ESTER

. Waste code: U393
. Waste name: COPPER, BIS(DIMETHYLCARBAMODITHIOATO-S,S')- (OR) COPPER DIMETHYLDITHIOCARBAMATE

. Waste code: U394
. Waste name: A2213 (OR) ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-2-OXO-, METHYL ESTER

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U395
. Waste name: DIETHYLENE GLYCOL, DICARBAMATE (OR) ETHANOL, 2,2'-OXYBIS-, DICARBAMATE

. Waste code: U396
. Waste name: FERBAM (OR) IRON, TRIS(DIMETHYLCARBAMODITHIOATO-S,S')-,

. Waste code: U400
. Waste name: BIS(PENTAMETHYLENE)THIURAM TETRASULFIDE (OR) PIPERIDINE, 1,1'-(TETRATHIODICARBONOTHIOYL)-BIS-

. Waste code: U401
. Waste name: BIS(DIMETHYLTHIOCARBAMOYL) SULFIDE (OR) TETRAMETHYLTHIURAM MONOSULFIDE

. Waste code: U402
. Waste name: TETRABUTYLTHIURAM DISULFIDE (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRABUTYL

. Waste code: U403
. Waste name: DISULFIRAM (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRAETHYL

. Waste code: U404
. Waste name: ETHANAMINE, N,N-DIETHYL- (OR) TRIETHYLAMINE

. Waste code: U409
. Waste name: CARBAMIC ACID, [1,2-PHENYLENEBIS (IMINOCARBONOTHIOYL)]BIS-, DIMETHYL ESTER (OR) THIOPHANATE-METHYL

. Waste code: U410
. Waste name: ETHANIMIDOTHIOIC ACID, N,N'-[THIOBIS[(METHYLIMINO)CARBONYLOXY]]BIS-, DIMETHYL ESTER (OR) THIODICARB

. Waste code: U411
. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 02/25/2008
Site name: ENVIRO-SAFE CORPORATION (NE)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D012
. Waste name: ENDRIN
(1,2,3,4,10,10-HEXACHLORO-1,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-EN
O, ENDO-5,8-DIMETH-ANO-NAPHTHALENE)

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

. Waste code: D015
. Waste name: TOXAPHENE (C10 H10 CL8, TECHNICAL CHLORINATED CAMPHENE, 67-69 PERCENT CHLORINE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D017
. Waste name: 2,4,5-TP SILVEX (2,4,5-TRICHLOROPHENOXYPROPIONIC ACID)

. Waste code: D018

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D031
. Waste name: HEPTACHLOR (AND ITS EPOXIDE)

. Waste code: D032
. Waste name: HEXACHLOROBENZENE

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D037

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D041
. Waste name: 2,4,5-TRICHLOROPHENOL

. Waste code: D042
. Waste name: 2,4,6-TRICHLOROPHENOL

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F010
. Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: F012
. Waste name: QUENCHING WASTEWATER TREATMENT SLUDGES FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: F024
. Waste name: PROCESS WASTES INCLUDING, BUT NOT LIMITED TO, DISTILLATION RESIDUES, HEAVY ENDS, TARS, AND REACTOR CLEAN-OUT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH

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VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION. (THIS LISTING DOES NOT INCLUDE WASTEWATERS, WASTEWATER TREATMENT SLUDGE, SPENT CATALYSTS, AND WASTES LISTED IN SECTIONS 261.31. OR 261.32)

. Waste code: F025
. Waste name: CONDENSED LIGHT ENDS, SPENT FILTERS AND FILTER AIDS, AND SPENT DESICCANT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION.

. Waste code: F037
. Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORM WATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGES GENERATED IN STORM WATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F038
. Waste name: PETROLEUM REFINERY SECONDARY (EMULSIFIED) OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE AND/OR FLOAT GENERATED FROM THE PHYSICAL AND/OR CHEMICAL SEPARATION OF OIL/WATER/SOLIDS IN PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH WASTES INCLUDE, BUT ARE NOT LIMITED TO, ALL SLUDGES AND FLOATS GENERATED IN INDUCED AIR FLOTATION (IAF) UNITS, TANKS AND IMPOUNDMENTS, AND ALL SLUDGES GENERATED IN DAF UNITS. SLUDGES GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND F037, K048, AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F039
. Waste name: LEACHATE RESULTING FROM THE TREATMENT, STORAGE, OR DISPOSAL OF WASTES CLASSIFIED BY MORE THAN ONE WASTE CODE UNDER SUBPART D, OR FROM A MIXTURE OF WASTES CLASSIFIED UNDER SUBPARTS C AND D OF THIS PART. (LEACHATE RESULTING FROM THE MANAGEMENT OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS HAZARDOUS WASTE CODE(S): F020, F021, F022, F023, F026, F027, AND/OR F028.)

. Waste code: K001
. Waste name: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: K002
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME YELLOW AND

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ORANGE PIGMENTS.

. Waste code: K003
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF MOLYBDATE ORANGE PIGMENTS.

. Waste code: K004
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF ZINC YELLOW PIGMENTS.

. Waste code: K005
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME GREEN PIGMENTS.

. Waste code: K006
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS (ANHYDROUS AND HYDRATED).

. Waste code: K007
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF IRON BLUE PIGMENTS.

. Waste code: K008
. Waste name: OVEN RESIDUE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS.

. Waste code: K009
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K010
. Waste name: DISTILLATION SIDE CUTS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K011
. Waste name: BOTTOM STREAM FROM THE WASTEWATER STRIPPER IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K013
. Waste name: BOTTOM STREAM FROM THE ACETONITRILE COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K014
. Waste name: BOTTOMS FROM THE ACETONITRILE PURIFICATION COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K015
. Waste name: STILL BOTTOMS FROM THE DISTILLATION OF BENZYL CHLORIDE.

. Waste code: K016
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE PRODUCTION OF CARBON TETRACHLORIDE.

. Waste code: K017
. Waste name: HEAVY ENDS (STILL BOTTOMS) FROM THE PURIFICATION COLUMN IN THE PRODUCTION OF EPICHLOROHYDRIN.

. Waste code: K018
. Waste name: HEAVY ENDS FROM THE FRACTIONATION COLUMN IN ETHYL CHLORIDE PRODUCTION.

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. Waste code: K019
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE DICHLORIDE PRODUCTION.

. Waste code: K020
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF VINYL CHLORIDE IN VINYL CHLORIDE MONOMER PRODUCTION.

. Waste code: K021
. Waste name: AQUEOUS SPENT ANTIMONY CATALYST WASTE FROM FLUOROMETHANE PRODUCTION.

. Waste code: K022
. Waste name: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM CUMENE.

. Waste code: K023
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K024
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K025
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF NITROBENZENE BY THE NITRATION OF BENZENE.

. Waste code: K026
. Waste name: STRIPPING STILL TAILS FROM THE PRODUCTION OF METHYL ETHYL PYRIDINES.

. Waste code: K027
. Waste name: CENTRIFUGE AND DISTILLATION RESIDUES FROM TOLUENE DIISOCYANATE PRODUCTION.

. Waste code: K028
. Waste name: SPENT CATALYST FROM THE HYDROCHLORINATOR REACTOR IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K029
. Waste name: WASTE FROM THE PRODUCT STEAM STRIPPER IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K030
. Waste name: COLUMN BOTTOMS OR HEAVY ENDS FROM THE COMBINED PRODUCTION OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE.

. Waste code: K031
. Waste name: BY-PRODUCT SALTS GENERATED IN THE PRODUCTION OF MSMA AND CACODYLIC ACID.

. Waste code: K032
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHLORDANE.

. Waste code: K033
. Waste name: WASTEWATER AND SCRUB WATER FROM THE CHLORINATION OF CYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

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. Waste code: K034
. Waste name: FILTER SOLIDS FROM THE FILTRATION OF HEXACHLOROCYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K036
. Waste name: STILL BOTTOMS FROM TOLUENE RECLAMATION DISTILLATION IN THE PRODUCTION OF DISULFOTON.

. Waste code: K037
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF DISULFOTON.

. Waste code: K038
. Waste name: WASTEWATER FROM THE WASHING AND STRIPPING OF PHORATE PRODUCTION.

. Waste code: K039
. Waste name: FILTER CAKE FROM THE FILTRATION OF DIETHYLPHOSPHORODITHIOIC ACID IN THE PRODUCTION OF PHORATE.

. Waste code: K040
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF PHORATE.

. Waste code: K041
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K042
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE DISTILLATION OF TETRACHLOROBENZENE IN THE PRODUCTION OF 2,4,5-T.

. Waste code: K043
. Waste name: 2,6-DICHLOROPHENOL WASTE FROM THE PRODUCTION OF 2,4-D.

. Waste code: K048
. Waste name: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K049
. Waste name: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K050
. Waste name: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K051
. Waste name: API SEPARATOR SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K060
. Waste name: AMMONIA STILL LIME SLUDGE FROM COKING OPERATIONS.

. Waste code: K061
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.

. Waste code: K062
. Waste name: SPENT PICKLE LIQUOR FROM STEEL FINISHING OPERATIONS OF PLANTS THAT

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PRODUCE IRON OR STEEL.

. Waste code: K064
. Waste name: ACID PLANT BLOWDOWN SLURRY/SLUDGE RESULTING FROM THE THICKENING OF BLOWDOWN SLURRY FROM PRIMARY COPPER PRODUCTION.

. Waste code: K065
. Waste name: SURFACE IMPOUNDMENT SOLIDS CONTAINED IN AND DREDGED FROM SURFACE IMPOUNDMENTS AT PRIMARY LEAD SMELTING FACILITIES.

. Waste code: K066
. Waste name: SLUDGE FROM TREATMENT OF PROCESS WASTEWATER AND/OR ACID PLANT BLOWDOWN FROM PRIMARY ZINC PRODUCTION.

. Waste code: K069
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K071
. Waste name: BRINE PURIFICATION MUDS FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION, IN WHICH SEPARATELY PREPURIFIED BRINE IS NOT USED.

. Waste code: K073
. Waste name: CHLORINATED HYDROCARBON WASTE FROM THE PURIFICATION STEP OF THE DIAPHRAGM CELL PROCESS USING GRAPHITE ANODES IN CHLORINE PRODUCTION.

. Waste code: K083
. Waste name: DISTILLATION BOTTOMS FROM ANILINE PRODUCTION.

. Waste code: K084
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED DURING THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K085
. Waste name: DISTILLATION OR FRACTIONATION COLUMN BOTTOMS FROM THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

. Waste code: K087
. Waste name: DECANTER TANK TAR SLUDGE FROM COKING OPERATIONS.

. Waste code: K088
. Waste name: SPENT POTLINERS FROM PRIMARY ALUMINUM REDUCTION.

. Waste code: K090
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUMSILICON PRODUCTION.

. Waste code: K091
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUM PRODUCTION.

. Waste code: K093
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

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. Waste code: K094
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K095
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K096
. Waste name: HEAVY ENDS FROM THE HEAVY ENDS COLUMN FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K097
. Waste name: VACUUM STRIPPER DISCHARGE FROM THE CHLORDANE CHLORINATOR IN THE PRODUCTION OF CHLORDANE.

. Waste code: K098
. Waste name: UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K099
. Waste name: UNTREATED WASTEWATER FROM THE PRODUCTION OF 2,4-D.

. Waste code: K100
. Waste name: WASTE LEACHING SOLUTION FROM ACID LEACHING OF EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K101
. Waste name: DISTILLATION TAR RESIDUES FROM THE DISTILLATION OF ANILINE-BASED COMPOUNDS IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K102
. Waste name: RESIDUE FROM THE USE OF ACTIVATED CARBON FOR DECOLORIZATION IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K103
. Waste name: PROCESS RESIDUES FROM ANILINE EXTRACTION FROM THE PRODUCTION OF ANILINE.

. Waste code: K104
. Waste name: COMBINED WASTEWATERS GENERATED FROM NITROBENZENE/ANILINE PRODUCTION.

. Waste code: K105
. Waste name: SEPARATED AQUEOUS STREAM FROM THE REACTOR PRODUCT WASHING STEP IN THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K106
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION.

. Waste code: K107
. Waste name: COLUMN BOTTOMS FROM PRODUCT SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE (UDMH) FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K108
. Waste name: CONDENSED COLUMN OVERHEADS FROM PRODUCT SEPARATION AND CONDENSED REACTOR VENT GASES FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM

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CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K109
. Waste name: SPENT FILTER CARTRIDGES FROM PRODUCT PURIFICATION FROM THE PRODUCT OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K110
. Waste name: CONDENSED COLUMN OVERHEADS FROM INTERMEDIATE SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K111
. Waste name: PRODUCT WASHWATERS FROM THE PRODUCTION OF DINITROTOLUENE VIA NITRATION OF TOLUENE.

. Waste code: K112
. Waste name: REACTION BY-PRODUCT WATER FROM THE DRYING COLUMN IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K113
. Waste name: CONDENSED LIQUID LIGHT ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K114
. Waste name: VICINALS FROM THE PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K115
. Waste name: HEAVY ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K116
. Waste name: ORGANIC CONDENSATE FROM THE SOLVENT RECOVERY COLUMN IN THE PRODUCTION OF TOLUENE DIISOCYANATE VIA PHOSGENATION OF TOLUENEDIAMINE.

. Waste code: K117
. Waste name: WASTEWATER FROM THE REACTOR VENT GAS SCRUBBER IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K118
. Waste name: SPENT ADSORBENT SOLIDS FROM PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K123
. Waste name: PROCESS WASTEWATER (INCLUDING SUPERNATES, FILTRATES, AND WASHWATERS) FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K124
. Waste name: REACTOR VENT SCRUBBER WATER FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K125
. Waste name: FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K126
. Waste name: BAGHOUSE DUST AND FLOOR SWEEPINGS IN MILLING AND PACKAGING OPERATIONS FROM PRODUCTION OR FORMULATION OF ETHYLENEBISDITHIOCARBAMIC ACID AND

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ITS SALTS.

. Waste code: K131
. Waste name: WASTEWATER FROM THE REACTOR AND SPENT SULFURIC ACID FROM THE ACID DRYER FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K132
. Waste name: SPENT ABSORBENT AND WASTEWATER SEPARATOR SOLIDS FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K136
. Waste name: STILL BOTTOMS FROM THE PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K141
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF COAL TAR, INCLUDING, BUT NOT LIMITED TO, TAR COLLECTING SUMP RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL. THIS LISTING DOES NOT INCLUDE K087 (DECANTER TANK SLUDGE FROM COKING OPERATIONS).

. Waste code: K142
. Waste name: TANK STORAGE RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR FROM THE RECOVERY OF COKE BY-PRODUCTS FROM COAL.

. Waste code: K143
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF LIGHT OIL, INCLUDING, BUT NOT LIMITED TO, THOSE GENERATED IN STILLS, DECANTERS, AND WASH OIL RECOVERY UNITS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K144
. Waste name: WASTEWATER SUMP RESIDUES FROM LIGHT OIL REFINING, INCLUDING, BUT NOT LIMITED TO, INTERCEPTING OR CONTAMINATION SUMP SLUDGES FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K145
. Waste name: RESIDUES FROM NAPHTHALENE COLLECTION AND RECOVERY OPERATIONS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K147
. Waste name: TAR STORAGE RESIDUES FROM COAL TAR REFINING.

. Waste code: K148
. Waste name: RESIDUES FROM COAL TAR DISTILLATION, INCLUDING, BUT NOT LIMITED TO, STILL BOTTOMS.

. Waste code: K149
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, RING-CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS. [THIS WASTE DOES NOT INCLUDE STILL BOTTOMS FROM THE DISTILLATION OF BENZOYL CHLORIDE]

. Waste code: K150
. Waste name: ORGANIC RESIDULES EXCLUDING SPENT CARBON ADSORBENT, FROM THE SPENT CHLORINE GAS AND HYDROCHLORIC ACID RECOVERY PROCESSES ASSOCIATED WITH THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL

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CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K151
. Waste name: WASTEWATER TREATMENT SLUDGES, EXCLUDING NEUTRALIZATION AND BIOLOGICAL SLUDGES, GENERATED DURING THE TREATMENT OF WASTEWATERS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K156
. Waste name: ORGANIC WASTE (INCLUDING HEAVY ENDS, STILL BOTTOMS, LIGHT ENDS, SPENT SOLVENTS, FILTRATES, AND DECANTATES) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K157
. Waste name: WASTEWATERS (INCLUDING SCRUBBER WATERS, CONDENSER WATERS, WASHWATERS, AND SEPARATION WATERS) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K158
. Waste name: BAG HOUSE DUSTS AND FILTER/SEPARATION SOLIDS FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K159
. Waste name: ORGANICS FROM THE TREATMENT OF THIOCARBAMATE WASTES.

. Waste code: K161
. Waste name: PURIFICATION SOLIDS (INCLUDING FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS), BAG HOUSE DUST AND FLOOR SWEEPINGS FROM THE PRODUCTION OF DITHIOCARBAMATE ACIDS AND THEIR SALTS. (THIS LISTING DOES NOT INCLUDE K125 OR K126).

. Waste code: LABP
. Waste name: LAB PACK

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P003
. Waste name: 2-PROPENAL (OR) ACROLEIN

. Waste code: P004
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA)- (OR) ALDRIN

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P020
. Waste name: DINOSEB (OR) PHENOL, 2-(1-METHYLPROPYL)-4,6-DINITRO-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P028
. Waste name: BENZENE, (CHLOROMETHYL)- (OR) BENZYL CHLORIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P034
. Waste name: 2-CYCLOHEXYL-4,6-DINITROPHENOL (OR) PHENOL, 2-CYCLOHEXYL-4,6-DINITRO-

. Waste code: P037
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2AALPHA, 3BETA, 6BETA, 6AALPHA, 7BETA, 7AALPHA)- (OR) DIELDRIN

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

. Waste code: P040
. Waste name: O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P044
. Waste name: DIMETHOATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-[2-(METHYLAMINO)-2-OXOETHYL] ESTER

. Waste code: P045
. Waste name: 2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-[METHYLAMINO)CARBONYL] OXIME (OR) THIOFANOX

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P047
. Waste name: 4,6-DINITRO-O-CRESOL, & SALTS (OR) PHENOL, 2-METHYL-4,6-DINITRO-, & SALTS

. Waste code: P050
. Waste name: 6,9-METHANO-2,4,3-BENZODIOXATHIEPIN,6,7,8,9,10,10-HEXACHLORO-1,5,5A,6, ,9A-HEXAHYDRO-,3-OXIDE (OR) ENDOSULFAN

. Waste code: P051
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2ABETA, 3ALPHA, 6ALPHA, 6ABETA, 7BETA, 7AALPHA)- & METABOLITES (OR) ENDRIN (OR) ENDRIN, & METABOLITES

. Waste code: P057
. Waste name: ACETAMIDE, 2-FLUORO- (OR) FLUOROACETAMIDE

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P059
. Waste name: 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO- (OR) HEPTACHLOR

. Waste code: P060
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5BETA, 8BETA, 8ABETA)- (OR) ISODRIN

. Waste code: P063
. Waste name: HYDROCYANIC ACID (OR) HYDROGEN CYANIDE

. Waste code: P066
. Waste name: ETHANIMIDOTHIOIC ACID, N-[[(METHYLAMINO)CARBONYL]OXY]-, METHYL ESTER (OR) METHOMYL

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P071
. Waste name: METHYL PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O,-DIMETHYL O-(4-NITROPHENYL) ESTER

. Waste code: P072
. Waste name: ALPHA-NAPHTHYLTHIOUREA (OR) THIOUREA, 1-NAPHTHALENYL-

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P085
. Waste name: DIPHOSPHORAMIDE, OCTAMETHYL- (OR) OCTAMETHYLPYROPHOSPHORAMIDE

. Waste code: P088
. Waste name: 7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC ACID (OR) ENDOTHALL

. Waste code: P089
. Waste name: PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

. Waste code: P094
. Waste name: PHORATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[(ETHYLTHIO)METHYL] ESTER

. Waste code: P096
. Waste name: HYDROGEN PHOSPHIDE (OR) PHOSPHINE

. Waste code: P097
. Waste name: FAMPHUR (OR) PHOSPHOROTHIOIC ACID O-[4-[(DIMETHYLAMINO)SULFONYL]PHENYL] O,O-DIMETHYL ESTER

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P099
. Waste name: ARGENTATE (1-), BIS(CYANO-C)-, POTASSIUM (OR) POTASSIUM SILVER CYANIDE

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P109
. Waste name: TETRAETHYLDITHIOPYROPHOSPHATE (OR) THIODIPHOSPHORIC ACID, TETRAETHYL ESTER

. Waste code: P111
. Waste name: DIPHOSPHORIC ACID, TETRAETHYL ESTER (OR) TETRAETHYL PYROPHOSPHATE

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P123
. Waste name: TOXAPHENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P128
. Waste name: PHENOL, 4-(DIMETHYLAMINO)-3,5-DIMETHYL-, METHYLCARBAMATE (ESTER)

. Waste code: P189
. Waste name: CARBAMIC ACID, [(DIBUTYLAMINO)-THIO]METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL -7-BENZOFURANYL ESTER (OR) CARBOSULFAN

. Waste code: P190
. Waste name: CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER (OR) METOLCARB

. Waste code: P191
. Waste name: CARBAMIC ACID, DIMETHYL-, 1-[(DIMETHYL-AMINO)CARBONYL]- 5-METHYL-1H-PYRAZOL-3-YL ESTER (OR) DIMETILAN

. Waste code: P194
. Waste name: ETHANIMIDOTHIOC ACID, 2-(DIMETHYLAMINO)-N-[[(METHYLAMINO) CARBONYL]OXY]-2-OXO-, METHYL ESTER (OR) OXAMYL

. Waste code: P197
. Waste name: FORMPARANATE (OR) METHANIMIDAMIDE, N,N-DIMETHYL-N'-[2-METHYL-4-[[(METHYLAMINO)CARBONYL]OXY]PHENYL]

. Waste code: P198
. Waste name: METHANIMIDAMIDE, N,N-DIMETHYL-N'-[3-[[(METHYLAMINO)-CARBONYL]OXY]PHENYL]-, MONOHYDROCHLORIDE (OR) FORMETANATE HYDROCHLORIDE

. Waste code: P199
. Waste name: METHIOCARB (OR) MEXACARBATE (OR) PHENOL, (3,5-DIMETHYL-4-(METHYLTHIO)-, METHYLCARBAMATE

. Waste code: P201
. Waste name: PHENOL, 3-METHYL-5-(1-METHYLETHYL)-, METHYL CARBAMATE (OR) PROMECARB

. Waste code: P203
. Waste name: ALDICARB SULFONE (OR) PROPANAL, 2-METHYL-2-(METHYL-SULFONYL)-, O-[(METHYLAMINO)CARBONYL] OXIME

. Waste code: P205
. Waste name: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (OR) ZIRAM

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U005
. Waste name: 2-ACETYLAMINOFLUORENE (OR) ACETAMIDE, N-9H-FLUOREN-2-YL

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U008
. Waste name: 2-PROPENOIC ACID (I) (OR) ACRYLIC ACID (I)

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U011
. Waste name: 1H-1,2,4-TRIAZOL-3-AMINE (OR) AMITROLE

. Waste code: U012
. Waste name: ANILINE (I,T) (OR) BENZENAMINE (I,T)

. Waste code: U014
. Waste name: AURAMINE (OR) BENZENAMINE, 4,4'-CARBONIMIDOYLBIS[N,N-DIMETHYL-

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U016
. Waste name: BENZ[C]ACRIDINE

. Waste code: U017
. Waste name: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

. Waste code: U018
. Waste name: BENZ[A]ANTHRACENE

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U020
. Waste name: BENZENESULFONIC ACID CHLORIDE (C,R) (OR) BENZENESULFONYL CHLORIDE (C,R)

. Waste code: U021
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE (OR) BENZIDINE

. Waste code: U022
. Waste name: BENZO[A]PYRENE

. Waste code: U023
. Waste name: BENZENE, (TRICHLOROMETHYL)- (OR) BENZOTRICHLORIDE (C,R,T)

. Waste code: U024
. Waste name: DICHLOROMETHOXY ETHANE (OR) ETHANE,

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

1,1'-[METHYLENEBIS(OXY)]BIS[2-CHLORO-

. Waste code: U025
. Waste name: DICHLOROETHYL ETHER (OR) ETHANE, 1,1'-OXYBIS[2-CHLORO-

. Waste code: U026
. Waste name: CHLORNAPHAZIN (OR) NAPHTHALENAMINE, N,N'-BIS(2-CHLOROETHYL)-

. Waste code: U027
. Waste name: DICHLOROISOPROPYL ETHER (OR) PROPANE, 2,2'-OXYBIS[2-CHLORO-

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U029
. Waste name: METHANE, BROMO- (OR) METHYL BROMIDE

. Waste code: U030
. Waste name: 4-BROMOPHENYL PHENYL ETHER (OR) BENZENE, 1-BROMO-4-PHENOXY-

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U032
. Waste name: CALCIUM CHROMATE (OR) CHROMIC ACID H2CRO4, CALCIUM SALT

. Waste code: U033
. Waste name: CARBON OXYFLUORIDE (R,T) (OR) CARBONIC DIFLUORIDE

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U038
. Waste name: BENZENEACETIC ACID, 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXY-, ETHYL ESTER (OR) CHLOROBENZILATE

. Waste code: U039
. Waste name: P-CHLORO-M-CRESOL (OR) PHENOL, 4-CHLORO-3-METHYL-

. Waste code: U041
. Waste name: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

. Waste code: U042
. Waste name: 2-CHLOROETHYL VINYL ETHER (OR) ETHENE, (2-CHLOROETHOXY)-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U043
. Waste name: ETHENE, CHLORO- (OR) VINYL CHLORIDE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U046
. Waste name: CHLOROMETHYL METHYL ETHER (OR) METHANE, CHLOROMETHOXY-

. Waste code: U047
. Waste name: BETA-CHLORONAPHTHALENE (OR) NAPHTHALENE, 2-CHLORO-

. Waste code: U048
. Waste name: O-CHLOROPHENOL (OR) PHENOL, 2-CHLORO-

. Waste code: U049
. Waste name: 4-CHLORO-O-TOLUIDINE, HYDROCHLORIDE (OR) BENZENAMINE, 4-CHLORO-2-METHYL-, HYDROCHLORIDE

. Waste code: U050
. Waste name: CHRYSENE

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U053
. Waste name: 2-BUTENAL (OR) CROTONALDEHYDE

. Waste code: U055
. Waste name: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

. Waste code: U056
. Waste name: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

. Waste code: U057
. Waste name: CYCLOHEXANONE (I)

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U060
. Waste name: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDD

. Waste code: U061

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U062
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3-DICHLORO-2-PROPENYL) ESTER (OR) DIALLATE

. Waste code: U063
. Waste name: DIBENZ[A,H]ANTHRACENE

. Waste code: U064
. Waste name: BENZO[RST]PENTAPHENE (OR) DIBENZO[A,I]PYRENE

. Waste code: U066
. Waste name: 1,2-DIBROMO-3-CHLOROPROPANE (OR) PROPANE, 1,2-DIBROMO-3-CHLORO-

. Waste code: U067
. Waste name: ETHANE, 1,2-DIBROMO- (OR) ETHYLENE DIBROMIDE

. Waste code: U068
. Waste name: METHANE, DIBROMO- (OR) METHYLENE BROMIDE

. Waste code: U069
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U071
. Waste name: BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U073
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO- (OR) 3,3'-DICHLOROBENZIDINE

. Waste code: U074
. Waste name: 1,4-DICHLORO-2-BUTENE (I,T) (OR) 2-BUTENE, 1,4-DICHLORO- (I,T)

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U076
. Waste name: ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE

. Waste code: U077
. Waste name: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

. Waste code: U078
. Waste name: 1,1-DICHLOROETHYLENE (OR) ETHENE, 1,1-DICHLORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U081
. Waste name: 2,4-DICHLOROPHENOL (OR) PHENOL, 2,4-DICHLORO-

. Waste code: U082
. Waste name: 2,6-DICHLOROPHENOL (OR) PHENOL, 2,6-DICHLORO-

. Waste code: U083
. Waste name: PROPANE, 1,2-DICHLORO- (OR) PROPYLENE DICHLORIDE

. Waste code: U084
. Waste name: 1,3-DICHLOROPROPENE (OR) 1-PROPENE, 1,3-DICHLORO-

. Waste code: U085
. Waste name: 1,2:3,4-DIEPOXYBUTANE (I,T) (OR) 2,2'-BIOXIRANE

. Waste code: U086
. Waste name: HYDRAZINE, 1,2-DIETHYL- (OR) N,N'-DIETHYLHYDRAZINE

. Waste code: U087
. Waste name: O,O-DIETHYL S-METHYL DITHIOPHOSPHATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-METHYL ESTER

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U090
. Waste name: 1,3-BENZODIOXOLE, 5-PROPYL- (OR) DIHYDROSAFROLE

. Waste code: U091
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY- (OR) 3,3'-DIMETHOXYBENZIDINE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U093
. Waste name: BENZENAMINE, N,N-DIMETHYL-4-(PHENYLAZO)- (OR) P-DIMETHYLAMINOAZOBENZENE

. Waste code: U094
. Waste name: 7,12-DIMETHYLBENZ[A]ANTHRACENE (OR) BENZ[A]ANTHRACENE, 7,12-DIMETHYL-

. Waste code: U095
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL- (OR) 3,3'-DIMETHYLBENZIDINE

. Waste code: U096
. Waste name: ALPHA,ALPHA-DIMETHYLBENZYLHYDROPEROXIDE (R) (OR) HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL- (R)

. Waste code: U097
. Waste name: CARBAMIC CHLORIDE, DIMETHYL- (OR) DIMETHYLCARBAMOYL CHLORIDE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U098
. Waste name: 1,1-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,1-DIMETHYL-

. Waste code: U099
. Waste name: 1,2-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U101
. Waste name: 2,4-DIMETHYLPHENOL (OR) PHENOL, 2,4-DIMETHYL-

. Waste code: U102
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER (OR) DIMETHYL PHTHALATE

. Waste code: U103
. Waste name: DIMETHYL SULFATE (OR) SULFURIC ACID, DIMETHYL ESTER

. Waste code: U105
. Waste name: 2,4-DINITROTOLUENE (OR) BENZENE, 1-METHYL-2,4-DINITRO-

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U107
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U109
. Waste name: 1,2-DIPHENYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U111
. Waste name: 1-PROPANAMINE, N-NITROSO-N-PROPYL- (OR) DI-N-PROPYLNITROSAMINE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U114
. Waste name: CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, SALTS & ESTERS (OR) ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

. Waste code: U116
. Waste name: 2-IMIDAZOLIDINETHIONE (OR) ETHYLENETHIOUREA

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U119
. Waste name: ETHYL METHANESULFONATE (OR) METHANESULFONIC ACID, ETHYL ESTER

. Waste code: U120
. Waste name: FLUORANTHENE

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U125
. Waste name: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

. Waste code: U126
. Waste name: GLYCIDYLALDEHYDE (OR) OXIRANECARBOXYALDEHYDE

. Waste code: U127
. Waste name: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

. Waste code: U128
. Waste name: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U130
. Waste name: 1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO- (OR) HEXACHLOROCYCLOPENTADIENE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U133
. Waste name: HYDRAZINE (R,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U136
. Waste name: ARSINIC ACID, DIMETHYL- (OR) CACODYLIC ACID

. Waste code: U137

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: INDENO[1,2,3-CD]PYRENE

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U141
. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: U142
. Waste name: 1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALEN-2-ONE, 1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTAHYDRO- (OR) KEPONE

. Waste code: U143
. Waste name: 2-BUTENOIC ACID, 2-METHYL-, 7-[[2,3-DIHYDROXY-2-(1-METHOXYETHYL)-3-METHYL-1-OXOBUTOXY]METHYL]-2,3, ,7A-TETRAHYDRO-1H-PYRROLIZIN-1-YL ESTER, [1S-[1ALPHA(Z), 7(2S*,3R*), 7AALPHA]]- (OR) LASIOCARPINE

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U145
. Waste name: LEAD PHOSPHATE (OR) PHOSPHORIC ACID, LEAD(2+) SALT (2:3)

. Waste code: U146
. Waste name: LEAD SUBACETATE (OR) LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U148
. Waste name: 3,6-PYRIDAZINEDIONE, 1,2-DIHYDRO- (OR) MALEIC HYDRAZIDE

. Waste code: U149
. Waste name: MALONONITRILE (OR) PROPANEDINITRILE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U152
. Waste name: 2-PROPENENITRILE, 2-METHYL- (I,T) (OR) METHACRYLONITRILE (I,T)

. Waste code: U153
. Waste name: METHANETHIOL (I,T) (OR) THIOMETHANOL (I,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U155
. Waste name: 1,2-ETHANEDIAMINE, N,N-DIMETHYL-N'-2-PYRIDINYL-N'-(2-THIENYLMETHYL)- (OR) METHAPYRILENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U156
. Waste name: CARBONOCHLORIDIC ACID, METHYL ESTER, (I,T) (OR) METHYL CHLOROCARBONATE (I,T)

. Waste code: U157
. Waste name: 3-METHYLCHOLANTHRENE (OR) BENZ[J]ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-

. Waste code: U158
. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE, 4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U161
. Waste name: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR) PENTANOL, 4-METHYL-

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U163
. Waste name: GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO- (OR) MNNG

. Waste code: U164
. Waste name: 4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-6-METHYL-2-THIOXO- (OR) METHYLTHIOURACIL

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U167
. Waste name: 1-NAPTHALENAMINE (OR) ALPHA-NAPHTHYLAMINE

. Waste code: U168
. Waste name: 2-NAPTHALENAMINE (OR) BETA-NAPHTHYLAMINE

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U171
. Waste name: 2-NITROPROPANE (I,T) (OR) PROPANE, 2-NITRO- (I,T)

. Waste code: U172
. Waste name: 1-BUTANAMINE, N-BUTYL-N-NITROSO- (OR) N-NITROSODI-N-BUTYLAMINE

. Waste code: U173
. Waste name: ETHANOL, 2,2'-(NITROSOIMINO)BIS- (OR) N-NITROSODIETHANOLAMINE

. Waste code: U174

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ETHANAMINE, N-ETHYL-N-NITROSO- (OR) N-NITROSODIETHYLAMINE

. Waste code: U176
. Waste name: N-NITROSO-N-ETHYLUREA (OR) UREA, N-ETHYL-N-NITROSO-

. Waste code: U177
. Waste name: N-NITROSO-N-METHYLUREA (OR) UREA, N-METHYL-N-NITROSO-

. Waste code: U178
. Waste name: CARBAMIC ACID, METHYLNITROSO-, ETHYL ESTER (OR) N-NITROSO-N-METHYLURETHANE

. Waste code: U179
. Waste name: N-NITROSOPIPERIDINE (OR) PIPERIDINE, 1-NITROSO-

. Waste code: U180
. Waste name: N-NITROSOPYRROLIDINE (OR) PYRROLIDINE, 1-NITROSO-

. Waste code: U181
. Waste name: 5-NITRO-O-TOLUIDINE (OR) BENZENAMINE, 2-METHYL-5-NITRO

. Waste code: U182
. Waste name: 1,3,5-TRIOXANE, 2,4,6-TRIMETHYL- (OR) PARALDEHYDE

. Waste code: U183
. Waste name: BENZENE, PENTACHLORO- (OR) PENTACHLOROBENZENE

. Waste code: U184
. Waste name: ETHANE, PENTACHLORO- (OR) PENTACHLOROETHANE

. Waste code: U185
. Waste name: BENZENE, PENTACHLORONITRO- (OR) PENTACHLORONITROBENZENE (PCNB)

. Waste code: U186
. Waste name: 1,3-PENTADIENE (I) (OR) 1-METHYLBUTADIENE (I)

. Waste code: U187
. Waste name: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

. Waste code: U188
. Waste name: PHENOL

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U191
. Waste name: 2-PICOLINE (OR) PYRIDINE, 2-METHYL-

. Waste code: U192
. Waste name: BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)- (OR) PRONAMIDE

. Waste code: U193
. Waste name: 1,2-OXATHIOLANE, 2,2-DIOXIDE (OR) 1,3-PROPANE SULTONE

. Waste code: U194
. Waste name: 1-PROPANAMINE (I,T) (OR) N-PROPYLAMINE (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U196
. Waste name: PYRIDINE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U202
. Waste name: 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, & SALTS (OR) SACCHARIN, & SALTS

. Waste code: U203
. Waste name: 1,3-BENZODIOXOLE, 5-(2-PROPENYL)- (OR) SAFROLE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U207
. Waste name: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

. Waste code: U208
. Waste name: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

. Waste code: U209
. Waste name: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U215
. Waste name: CARBONIC ACID, DITHALLIUM(1+) SALT (OR) THALLIUM(I) CARBONATE

. Waste code: U216

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: THALLIUM CHLORIDE TLCL (OR) THALLIUM(I) CHLORIDE

. Waste code: U217
. Waste name: NITRIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) NITRATE

. Waste code: U218
. Waste name: ETHANETHIOAMIDE (OR) THIOACETAMIDE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U221
. Waste name: BENZENEDIAMINE, AR-METHYL- (OR) TOLUENEDIAMINE

. Waste code: U222
. Waste name: BENZENAMINE, 2-METHYL-, HYDROCHLORIDE (OR) O-TOLUIDINE HYDROCHLORIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U225
. Waste name: BROMOFORM (OR) METHANE, TRIBROMO-

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U235
. Waste name: 1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1) (OR) TRIS(2,3,-DIBROMOPROPYL) PHOSPHATE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U237
. Waste name: 2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U243
. Waste name: 1-PROPENE, 1,1,2,3,3,3-HEXACHLORO- (OR) HEXACHLOROPROPENE

. Waste code: U244
. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: U246
. Waste name: CYANOGEN BROMIDE (CN)BR

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U248
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYL-BUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS

. Waste code: U249
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

. Waste code: U271
. Waste name: BENOMYL (OR) CARBAMIC ACID, [1-[(BUTYLAMINO)CARBONYL]-1H-BENZIMIDAZOL-2-YL]-, METHYL ESTER

. Waste code: U278
. Waste name: BENDIOCARB (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-, METHYL CARBAMATE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U280
. Waste name: BARBAN (OR) CARBAMIC ACID, (3-CHLOROPHENYL)-, 4-CHLORO-2-BUTYNYL ESTER

. Waste code: U328
. Waste name: BENZENAMINE, 2-METHYL- (OR) O-TOLUIDINE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

. Waste code: U359
. Waste name: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

. Waste code: U372
. Waste name: CARBAMIC ACID, 1H-BENZIMIDAZOL-2-YL, METHYL ESTER (OR) CARBENDAZIM

. Waste code: U373
. Waste name: CARBAMIC ACID, PHENYL-, 1-METHYLETHYL ESTER (OR) PROPHAM

. Waste code: U387
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER (OR) PROSULFOCARB

. Waste code: U389
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3,3-TRICHLORO-2-PROPENYL) ESTER (OR) TRIALLATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U409
. Waste name: CARBAMIC ACID, [1,2-PHENYLENEBIS (IMINOCARBONOTHIOYL)]BIS-, DIMETHYL ESTER (OR) THIOPHANATE-METHYL

. Waste code: U410
. Waste name: ETHANIMIDOTHIOIC ACID, N,N'-[THIOBIS[(METHYLIMINO)CARBONYLOXY]]BIS-, DIMETHYL ESTER (OR) THIODICARB

. Waste code: U411
. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 02/25/2008
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D012
. Waste name: ENDRIN (1,2,3,4,10,10-HEXACHLORO-1,7-EPOXY-1,4,4A,5,6,7,8,8A-OCTAHYDRO-1,4-ENO, ENDO-5,8-DIMETH-ANO-NAPHTHALENE)

. Waste code: D013
. Waste name: LINDANE (1,2,3,4,5,6-HEXA-CHLOROCYCLOHEXANE, GAMMA ISOMER)

. Waste code: D014
. Waste name: METHOXYCHLOR (1,1,1-TRICHLORO-2,2-BIS [P-METHOXYPHENYL] ETHANE)

. Waste code: D015
. Waste name: TOXAPHENE (C10 H10 CL8, TECHNICAL CHLORINATED CAMPHENE, 67-69 PERCENT CHLORINE)

. Waste code: D016
. Waste name: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

. Waste code: D017
. Waste name: 2,4,5-TP SILVEX (2,4,5-TRICHLOROPHENOXYPROPIONIC ACID)

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D020
. Waste name: CHLORDANE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D030
. Waste name: 2,4-DINITROTOLUENE

. Waste code: D031
. Waste name: HEPTACHLOR (AND ITS EPOXIDE)

. Waste code: D032
. Waste name: HEXACHLOROBENZENE

. Waste code: D033
. Waste name: HEXACHLOROBUTADIENE

. Waste code: D034
. Waste name: HEXACHLOROETHANE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036
. Waste name: NITROBENZENE

. Waste code: D037
. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D041
. Waste name: 2,4,5-TRICHLOROPHENOL

. Waste code: D042
. Waste name: 2,4,6-TRICHLOROPHENOL

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE,

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F010
. Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: F012
. Waste name: QUENCHING WASTEWATER TREATMENT SLUDGES FROM METAL HEAT TREATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: F020
. Waste name: WASTES (EXCEPT WASTEWATER AND SPENT CARBON FROM HYDROGEN CHLORIDE PURIFICATION) FROM THE PRODUCTION OR MANUFACTURING USE (AS A REACTANT, CHEMICAL INTERMEDIATE, OR COMPONENT IN A FORMULATING PROCESS) OF TRI- OR TETRACHLOROPHENOL OR OF INTERMEDIATES USED TO PRODUCE THEIR PESTICIDE DERIVATIVES. (THIS LISTING DOES NOT INCLUDE WASTES FROM THE PRODUCTION OF HEXACHLOROPHENE FROM HIGHLY PURIFIED 2,4,5-TRICHLOROPHENOL.)

. Waste code: F021
. Waste name: WASTES (EXCEPT WASTEWATER AND SPENT CARBON FROM HYDROGEN CHLORIDE PURIFICATION) FROM THE PRODUCTION OR MANUFACTURING USE (AS A REACTANT, CHEMICAL INTERMEDIATE, OR COMPONENT IN A FORMULATING PROCESS) OF PENTACHLOROPHENOL, OR OF INTERMEDIATES USED TO PRODUCE DERIVATIVES.

. Waste code: F022
. Waste name: WASTES (EXCEPT WASTEWATER AND SPENT CARBON FROM HYDROGEN CHLORIDE PURIFICATION) FROM THE MANUFACTURING USE (AS A REACTANT, CHEMICAL INTERMEDIATE, OR COMPONENT IN A FORMULATING PROCESS) OF TETRA-, PENTA-, OR HEXACHLOROBENZENES UNDER ALKALINE CONDITIONS.

. Waste code: F023
. Waste name: WASTES (EXCEPT WASTEWATER AND SPENT CARBON FROM HYDROGEN CHLORIDE PURIFICATION) FROM THE PRODUCTION OF MATERIALS ON EQUIPMENT PREVIOUSLY USED FOR THE PRODUCTION OR MANUFACTURING USE (AS A REACTANT, CHEMICAL INTERMEDIATE, OR COMPONENT IN A FORMULATING PROCESS) OF TRI- AND TETRACHLOROPHENOLS. (THIS LISTING DOES NOT INCLUDE WASTES FROM EQUIPMENT USED ONLY FOR THE PRODUCTION OR USE OF HEXACHLOROPHENE FROM HIGHLY PURIFIED 2,4,5-TRICHLOROPHENOL.)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F024
. Waste name: PROCESS WASTES INCLUDING, BUT NOT LIMITED TO, DISTILLATION RESIDUES, HEAVY ENDS, TARS, AND REACTOR CLEAN-OUT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION. (THIS LISTING DOES NOT INCLUDE WASTEWATERS, WASTEWATER TREATMENT SLUDGE, SPENT CATALYSTS, AND WASTES LISTED IN SECTIONS 261.31. OR 261.32)

. Waste code: F025
. Waste name: CONDENSED LIGHT ENDS, SPENT FILTERS AND FILTER AIDS, AND SPENT DESICCANT WASTES FROM THE PRODUCTION OF CERTAIN CHLORINATED ALIPHATIC HYDROCARBONS BY FREE RADICAL CATALYZED PROCESSES. THESE CHLORINATED ALIPHATIC HYDROCARBONS ARE THOSE HAVING CARBON CHAIN LENGTHS RANGING FROM ONE TO, AND INCLUDING FIVE, WITH VARYING AMOUNTS AND POSITIONS OF CHLORINE SUBSTITUTION.

. Waste code: F026
. Waste name: WASTES (EXCEPT WASTEWATER AND SPENT CARBON FROM HYDROGEN CHLORIDE PURIFICATION) FROM THE PRODUCTION OF MATERIALS ON EQUIPMENT PREVIOUSLY USED FOR THE MANUFACTURING USE (AS A REACTANT, CHEMICAL INTERMEDIATE, OR COMPONENT IN A FORMULATING PROCESS) OF TETRA-, PENTA-, OR HEXACHLOROBENZENE UNDER ALKALINE CONDITIONS.

. Waste code: F027
. Waste name: DISCARDED UNUSED FORMULATIONS CONTAINING TRI-, TETRA-, OR PENTACHLOROPHENOL OR DISCARDED UNUSED FORMULATIONS CONTAINING COMPOUNDS DERIVED FROM THESE CHLOROPHENOLS. (THIS LISTING DOES NOT INCLUDE FORMULATIONS CONTAINING HEXACHLOROPHENE SYNTHESIZED FROM PREPURIFIED 2,4,5-TRICHLOROPHENOL AS THE SOLE COMPONENT.)

. Waste code: F028
. Waste name: RESIDUES RESULTING FROM THE INCINERATION OR THERMAL TREATMENT OF SOIL CONTAMINATED WITH EPA HAZARDOUS WASTE NOS. F020, F021, F022, F023, F026, AND F027.

. Waste code: F032
. Waste name: WASTEWATERS, PROCESS RESIDUALS, PRESERVATIVE DRIPPAGE, AND SPENT FORMULATIONS FROM WOOD PRESERVING PROCESSES GENERATED AT PLANTS THAT CURRENTLY USE, OR HAVE PREVIOUSLY USED, CHLOROPHENOLIC FORMULATIONS [EXCEPT POTENTIALLY CROSS-CONTAMINATED WASTES THAT HAVE HAD THE F032 WASTE CODE DELETED IN ACCORDANCE WITH SECTION 261.35 (I.E., THE NEWLY PROMULGATED EQUIPMENT CLEANING OR REPLACEMENT STANDARDS), AND WHERE THE GENERATOR DOES NOT RESUME OR INITIATE USE OF CHLOROPHENOLIC FORMULATIONS]. (THIS LISTING DOES NOT INCLUDE K001 BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATER FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.)

. Waste code: F034
. Waste name: WASTEWATERS, PROCESS RESIDUALS, PRESERVATIVE DRIPPAGE, AND SPENT FORMULATIONS FROM WOOD PRESERVING PROCESSES GENERATED AT PLANTS THAT USE CREOSOTE FORMULATIONS. THIS LISTING DOES NOT INCLUDE K001 BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATER FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: F035

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: WASTEWATERS, PROCESS RESIDUALS, PRESERVATIVE DRIPPAGE, AND SPENT FORMULATIONS FROM WOOD PRESERVING PROCESSES GENERATED AT PLANTS THAT USE INORGANIC PRESERVATIVES CONTAINING ARSENIC OR CHROMIUM. THIS LISTING DOES NOT INCLUDE K001 BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATER FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: F037
. Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORM WATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGES GENERATED IN STORM WATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F038
. Waste name: PETROLEUM REFINERY SECONDARY (EMULSIFIED) OIL/WATER/SOLIDS SEPARATION SLUDGE - ANY SLUDGE AND/OR FLOAT GENERATED FROM THE PHYSICAL AND/OR CHEMICAL SEPARATION OF OIL/WATER/SOLIDS IN PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH WASTES INCLUDE, BUT ARE NOT LIMITED TO, ALL SLUDGES AND FLOATS GENERATED IN INDUCED AIR FLOTATION (IAF) UNITS, TANKS AND IMPOUNDMENTS, AND ALL SLUDGES GENERATED IN DAF UNITS. SLUDGES GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS), AND F037, K048, AND K051 WASTES ARE EXEMPTED FROM THIS LISTING.

. Waste code: F039
. Waste name: LEACHATE RESULTING FROM THE TREATMENT, STORAGE, OR DISPOSAL OF WASTES CLASSIFIED BY MORE THAN ONE WASTE CODE UNDER SUBPART D, OR FROM A MIXTURE OF WASTES CLASSIFIED UNDER SUBPARTS C AND D OF THIS PART. (LEACHATE RESULTING FROM THE MANAGEMENT OF ONE OR MORE OF THE FOLLOWING EPA HAZARDOUS WASTES AND NO OTHER HAZARDOUS WASTES RETAINS ITS HAZARDOUS WASTE CODE(S): F020, F021, F022, F023, F026, F027, AND/OR F028.)

. Waste code: K001
. Waste name: BOTTOM SEDIMENT SLUDGE FROM THE TREATMENT OF WASTEWATERS FROM WOOD PRESERVING PROCESSES THAT USE CREOSOTE AND/OR PENTACHLOROPHENOL.

. Waste code: K002
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME YELLOW AND ORANGE PIGMENTS.

. Waste code: K003
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF MOLYBDATE ORANGE PIGMENTS.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K004
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF ZINC YELLOW PIGMENTS.

. Waste code: K005
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME GREEN PIGMENTS.

. Waste code: K006
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS (ANHYDROUS AND HYDRATED).

. Waste code: K007
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF IRON BLUE PIGMENTS.

. Waste code: K008
. Waste name: OVEN RESIDUE FROM THE PRODUCTION OF CHROME OXIDE GREEN PIGMENTS.

. Waste code: K009
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K010
. Waste name: DISTILLATION SIDE CUTS FROM THE PRODUCTION OF ACETALDEHYDE FROM ETHYLENE.

. Waste code: K011
. Waste name: BOTTOM STREAM FROM THE WASTEWATER STRIPPER IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K013
. Waste name: BOTTOM STREAM FROM THE ACETONITRILE COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K014
. Waste name: BOTTOMS FROM THE ACETONITRILE PURIFICATION COLUMN IN THE PRODUCTION OF ACRYLONITRILE.

. Waste code: K015
. Waste name: STILL BOTTOMS FROM THE DISTILLATION OF BENZYL CHLORIDE.

. Waste code: K016
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE PRODUCTION OF CARBON TETRACHLORIDE.

. Waste code: K017
. Waste name: HEAVY ENDS (STILL BOTTOMS) FROM THE PURIFICATION COLUMN IN THE PRODUCTION OF EPICHLOROHYDRIN.

. Waste code: K018
. Waste name: HEAVY ENDS FROM THE FRACTIONATION COLUMN IN ETHYL CHLORIDE PRODUCTION.

. Waste code: K019
. Waste name: HEAVY ENDS FROM THE DISTILLATION OF ETHYLENE DICHLORIDE IN ETHYLENE DICHLORIDE PRODUCTION.

. Waste code: K020

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: HEAVY ENDS FROM THE DISTILLATION OF VINYL CHLORIDE IN VINYL CHLORIDE MONOMER PRODUCTION.

. Waste code: K021
. Waste name: AQUEOUS SPENT ANTIMONY CATALYST WASTE FROM FLUOROMETHANE PRODUCTION.

. Waste code: K022
. Waste name: DISTILLATION BOTTOM TARS FROM THE PRODUCTION OF PHENOL/ACETONE FROM CUMENE.

. Waste code: K023
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K024
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM NAPHTHALENE.

. Waste code: K025
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF NITROBENZENE BY THE NITRATION OF BENZENE.

. Waste code: K026
. Waste name: STRIPPING STILL TAILS FROM THE PRODUCTION OF METHYL ETHYL PYRIDINES.

. Waste code: K027
. Waste name: CENTRIFUGE AND DISTILLATION RESIDUES FROM TOLUENE DIISOCYANATE PRODUCTION.

. Waste code: K028
. Waste name: SPENT CATALYST FROM THE HYDROCHLORINATOR REACTOR IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K029
. Waste name: WASTE FROM THE PRODUCT STEAM STRIPPER IN THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K030
. Waste name: COLUMN BOTTOMS OR HEAVY ENDS FROM THE COMBINED PRODUCTION OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE.

. Waste code: K031
. Waste name: BY-PRODUCT SALTS GENERATED IN THE PRODUCTION OF MSMA AND CACODYLIC ACID.

. Waste code: K032
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF CHLORDANE.

. Waste code: K033
. Waste name: WASTEWATER AND SCRUB WATER FROM THE CHLORINATION OF CYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K034
. Waste name: FILTER SOLIDS FROM THE FILTRATION OF HEXACHLOROCYCLOPENTADIENE IN THE PRODUCTION OF CHLORDANE.

. Waste code: K035

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED IN THE PRODUCTION OF CREOSOTE.

. Waste code: K036
. Waste name: STILL BOTTOMS FROM TOLUENE RECLAMATION DISTILLATION IN THE PRODUCTION OF DISULFOTON.

. Waste code: K037
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF DISULFOTON.

. Waste code: K038
. Waste name: WASTEWATER FROM THE WASHING AND STRIPPING OF PHORATE PRODUCTION.

. Waste code: K039
. Waste name: FILTER CAKE FROM THE FILTRATION OF DIETHYLPHOSPHORODITHIOIC ACID IN THE PRODUCTION OF PHORATE.

. Waste code: K040
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF PHORATE.

. Waste code: K041
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K042
. Waste name: HEAVY ENDS OR DISTILLATION RESIDUES FROM THE DISTILLATION OF TETRACHLOROBENZENE IN THE PRODUCTION OF 2,4,5-T.

. Waste code: K043
. Waste name: 2,6-DICHLOROPHENOL WASTE FROM THE PRODUCTION OF 2,4-D.

. Waste code: K044
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE MANUFACTURING AND PROCESSING OF EXPLOSIVES.

. Waste code: K045
. Waste name: SPENT CARBON FROM THE TREATMENT OF WASTEWATER CONTAINING EXPLOSIVES.

. Waste code: K046
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE MANUFACTURING, FORMULATION, AND LOADING OF LEAD-BASED INITIATING COMPOUNDS.

. Waste code: K047
. Waste name: PINK/RED WATER FROM TNT OPERATIONS.

. Waste code: K048
. Waste name: DISSOLVED AIR FLOTATION (DAF) FLOAT FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K049
. Waste name: SLOP OIL EMULSION SOLIDS FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K050
. Waste name: HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K051
. Waste name: API SEPARATOR SLUDGE FROM THE PETROLEUM REFINING INDUSTRY.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K052
. Waste name: TANK BOTTOMS (LEADED) FROM THE PETROLEUM REFINING INDUSTRY.

. Waste code: K060
. Waste name: AMMONIA STILL LIME SLUDGE FROM COKING OPERATIONS.

. Waste code: K061
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM THE PRIMARY PRODUCTION OF STEEL IN ELECTRIC FURNACES.

. Waste code: K062
. Waste name: SPENT PICKLE LIQUOR FROM STEEL FINISHING OPERATIONS OF PLANTS THAT PRODUCE IRON OR STEEL.

. Waste code: K064
. Waste name: ACID PLANT BLOWDOWN SLURRY/SLUDGE RESULTING FROM THE THICKENING OF BLOWDOWN SLURRY FROM PRIMARY COPPER PRODUCTION.

. Waste code: K065
. Waste name: SURFACE IMPOUNDMENT SOLIDS CONTAINED IN AND DREDGED FROM SURFACE IMPOUNDMENTS AT PRIMARY LEAD SMELTING FACILITIES.

. Waste code: K066
. Waste name: SLUDGE FROM TREATMENT OF PROCESS WASTEWATER AND/OR ACID PLANT BLOWDOWN FROM PRIMARY ZINC PRODUCTION.

. Waste code: K069
. Waste name: EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K071
. Waste name: BRINE PURIFICATION MUDS FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION, IN WHICH SEPARATELY PREPURIFIED BRINE IS NOT USED.

. Waste code: K073
. Waste name: CHLORINATED HYDROCARBON WASTE FROM THE PURIFICATION STEP OF THE DIAPHRAGM CELL PROCESS USING GRAPHITE ANODES IN CHLORINE PRODUCTION.

. Waste code: K083
. Waste name: DISTILLATION BOTTOMS FROM ANILINE PRODUCTION.

. Waste code: K084
. Waste name: WASTEWATER TREATMENT SLUDGES GENERATED DURING THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K085
. Waste name: DISTILLATION OR FRACTIONATION COLUMN BOTTOMS FROM THE PRODUCTION OF CHLOROBENZENES.

. Waste code: K086
. Waste name: SOLVENT WASHES AND SLUDGES, CAUSTIC WASHES AND SLUDGES, OR WATER WASHES AND SLUDGES FROM CLEANING TUBS AND EQUIPMENT USED IN THE FORMULATION OF INK FROM PIGMENTS, DRIERS, SOAPS, AND STABILIZERS CONTAINING CHROMIUM AND LEAD.

. Waste code: K087
. Waste name: DECANTER TANK TAR SLUDGE FROM COKING OPERATIONS.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: K088
. Waste name: SPENT POTLINERS FROM PRIMARY ALUMINUM REDUCTION.

. Waste code: K090
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUMSILICON PRODUCTION.

. Waste code: K091
. Waste name: EMISSION CONTROL DUST OR SLUDGE FROM FERROCHROMIUM PRODUCTION.

. Waste code: K093
. Waste name: DISTILLATION LIGHT ENDS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K094
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF PHTHALIC ANHYDRIDE FROM ORTHO-XYLENE.

. Waste code: K095
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K096
. Waste name: HEAVY ENDS FROM THE HEAVY ENDS COLUMN FROM THE PRODUCTION OF 1,1,1-TRICHLOROETHANE.

. Waste code: K097
. Waste name: VACUUM STRIPPER DISCHARGE FROM THE CHLORDANE CHLORINATOR IN THE PRODUCTION OF CHLORDANE.

. Waste code: K098
. Waste name: UNTREATED PROCESS WASTEWATER FROM THE PRODUCTION OF TOXAPHENE.

. Waste code: K099
. Waste name: UNTREATED WASTEWATER FROM THE PRODUCTION OF 2,4-D.

. Waste code: K100
. Waste name: WASTE LEACHING SOLUTION FROM ACID LEACHING OF EMISSION CONTROL DUST/SLUDGE FROM SECONDARY LEAD SMELTING.

. Waste code: K101
. Waste name: DISTILLATION TAR RESIDUES FROM THE DISTILLATION OF ANILINE-BASED COMPOUNDS IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K102
. Waste name: RESIDUE FROM THE USE OF ACTIVATED CARBON FOR DECOLORIZATION IN THE PRODUCTION OF VETERINARY PHARMACEUTICALS FROM ARSENIC OR ORGANO-ARSENIC COMPOUNDS.

. Waste code: K103
. Waste name: PROCESS RESIDUES FROM ANILINE EXTRACTION FROM THE PRODUCTION OF ANILINE.

. Waste code: K104
. Waste name: COMBINED WASTEWATERS GENERATED FROM NITROBENZENE/ANILINE PRODUCTION.

. Waste code: K105
. Waste name: SEPARATED AQUEOUS STREAM FROM THE REACTOR PRODUCT WASHING STEP IN THE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

PRODUCTION OF CHLOROBENZENES.

. Waste code: K106
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE MERCURY CELL PROCESS IN CHLORINE PRODUCTION.

. Waste code: K107
. Waste name: COLUMN BOTTOMS FROM PRODUCT SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE (UDMH) FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K108
. Waste name: CONDENSED COLUMN OVERHEADS FROM PRODUCT SEPARATION AND CONDENSED REACTOR VENT GASES FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K109
. Waste name: SPENT FILTER CARTRIDGES FROM PRODUCT PURIFICATION FROM THE PRODUCT OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K110
. Waste name: CONDENSED COLUMN OVERHEADS FROM INTERMEDIATE SEPARATION FROM THE PRODUCTION OF 1,1-DIMETHYLHYDRAZINE FROM CARBOXYLIC ACID HYDRAZIDES.

. Waste code: K111
. Waste name: PRODUCT WASHWATERS FROM THE PRODUCTION OF DINITROTOLUENE VIA NITRATION OF TOLUENE.

. Waste code: K112
. Waste name: REACTION BY-PRODUCT WATER FROM THE DRYING COLUMN IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K113
. Waste name: CONDENSED LIQUID LIGHT ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K114
. Waste name: VICINALS FROM THE PURIFICATION OF TOLUENEDIAMINE IN PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K115
. Waste name: HEAVY ENDS FROM PURIFICATION OF TOLUENEDIAMINE IN THE PRODUCTION OF TOLUENEDIAMINE VIA HYDROGENATION OF DINITROTOLUENE.

. Waste code: K116
. Waste name: ORGANIC CONDENSATE FROM THE SOLVENT RECOVERY COLUMN IN THE PRODUCTION OF TOLUENE DIISOCYANATE VIA PHOSGENATION OF TOLUENEDIAMINE.

. Waste code: K117
. Waste name: WASTEWATER FROM THE REACTOR VENT GAS SCRUBBER IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K118
. Waste name: SPENT ADSORBENT SOLIDS FROM PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K123
. Waste name: PROCESS WASTEWATER (INCLUDING SUPERNATES, FILTRATES, AND WASHWATERS)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K124
. Waste name: REACTOR VENT SCRUBBER WATER FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K125
. Waste name: FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS FROM THE PRODUCTION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K126
. Waste name: BAGHOUSE DUST AND FLOOR SWEEPINGS IN MILLING AND PACKAGING OPERATIONS FROM PRODUCTION OR FORMULATION OF ETHYLENEBISDITHIOCARBAMIC ACID AND ITS SALTS.

. Waste code: K131
. Waste name: WASTEWATER FROM THE REACTOR AND SPENT SULFURIC ACID FROM THE ACID DRYER FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K132
. Waste name: SPENT ABSORBENT AND WASTEWATER SEPARATOR SOLIDS FROM THE PRODUCTION OF METHYL BROMIDE.

. Waste code: K136
. Waste name: STILL BOTTOMS FROM THE PURIFICATION OF ETHYLENE DIBROMIDE IN THE PRODUCTION OF ETHYLENE DIBROMIDE VIA BROMINATION OF ETHENE.

. Waste code: K141
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF COAL TAR, INCLUDING, BUT NOT LIMITED TO, TAR COLLECTING SUMP RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL. THIS LISTING DOES NOT INCLUDE K087 (DECANTER TANK SLUDGE FROM COKING OPERATIONS).

. Waste code: K142
. Waste name: TANK STORAGE RESIDUES FROM THE PRODUCTION OF COKE FROM COAL OR FROM THE RECOVERY OF COKE BY-PRODUCTS FROM COAL.

. Waste code: K143
. Waste name: PROCESS RESIDUES FROM THE RECOVERY OF LIGHT OIL, INCLUDING, BUT NOT LIMITED TO, THOSE GENERATED IN STILLS, DECANTERS, AND WASH OIL RECOVERY UNITS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K144
. Waste name: WASTEWATER SUMP RESIDUES FROM LIGHT OIL REFINING, INCLUDING, BUT NOT LIMITED TO, INTERCEPTING OR CONTAMINATION SUMP SLUDGES FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K145
. Waste name: RESIDUES FROM NAPHTHALENE COLLECTION AND RECOVERY OPERATIONS FROM THE RECOVERY OF COKE BY-PRODUCTS PRODUCED FROM COAL.

. Waste code: K147
. Waste name: TAR STORAGE RESIDUES FROM COAL TAR REFINING.

. Waste code: K148

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: RESIDUES FROM COAL TAR DISTILLATION, INCLUDING, BUT NOT LIMITED TO, STILL BOTTOMS.

. Waste code: K149
. Waste name: DISTILLATION BOTTOMS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, RING-CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS. [THIS WASTE DOES NOT INCLUDE STILL BOTTOMS FROM THE DISTILLATION OF BENZOYL CHLORIDE]

. Waste code: K150
. Waste name: ORGANIC RESIDULES EXCLUDING SPENT CARBON ADSORBENT, FROM THE SPENT CHLORINE GAS AND HYDROCHLORIC ACID RECOVERY PROCESSES ASSOCIATED WITH THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K151
. Waste name: WASTEWATER TREATMENT SLUDGES, EXCLUDING NEUTRALIZATION AND BIOLOGICAL SLUDGES, GENERATED DURING THE TREATMENT OF WASTEWATERS FROM THE PRODUCTION OF ALPHA (OR METHYL-) CHLORINATED TOLUNES, BENZOYL CHLORIDES, AND COMPOUNDS WITH MIXTURES OF THESE FUNCTIONAL GROUPS.

. Waste code: K156
. Waste name: ORGANIC WASTE (INCLUDING HEAVY ENDS, STILL BOTTOMS, LIGHT ENDS, SPENT SOLVENTS, FILTRATES, AND DECANTATES) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K157
. Waste name: WASTEWATERS (INCLUDING SCRUBBER WATERS, CONDENSER WATERS, WASHWATERS, AND SEPARATION WATERS) FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K158
. Waste name: BAG HOUSE DUSTS AND FILTER/SEPARATION SOLIDS FROM THE PRODUCTION OF CARBAMATES AND CARBAMOYL OXIMES.

. Waste code: K159
. Waste name: ORGANICS FROM THE TREATMENT OF THIOCARBAMATE WASTES.

. Waste code: K161
. Waste name: PURIFICATION SOLIDS (INCLUDING FILTRATION, EVAPORATION, AND CENTRIFUGATION SOLIDS), BAG HOUSE DUST AND FLOOR SWEEPINGS FROM THE PRODUCTION OF DITHIOCARBAMATE ACIDS AND THEIR SALTS. (THIS LISTING DOES NOT INCLUDE K125 OR K126).

. Waste code: K169
. Waste name: CRUDE OIL STORAGE TANK SEDIMENT FROM PETROLEUM REFINING OPERATIONS

. Waste code: K170
. Waste name: CLARIFIED SLURRY OIL TANK SEDIMENT AND/OR IN-LINE FILTER/SEPARATION SOLIDS FROM PETROLEUM REFINING OPERATIONS

. Waste code: K171
. Waste name: SPENT HYDROTREATING CATALYST FROM PETROLEUM REFINING OPERATIONS,INCLUDING GUARD BEDS USED TO DESULFURIZE FEEDS TO OTHER CATALYTIC REACTORS (THIS LISTING DOES NOT INCLUDE INERT SUPPORT MEDIA)

. Waste code: K172

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: SPENT HYDROREFINING CATALYST FROM PETROLEUM REFINING OPERATIONS, INCLUDING GUARD BEDS USED TO DESULFURIZE FEEDS TO OTHER CATALYTIC REACTORS (THIS LISTING DOES NOT INCLUDE INERT SUPPORT MEDIA)

. Waste code: K174
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE PRODUCTION OF ETHLYENE DICHLORIDE OR VINYL CHLORIDE

. Waste code: K175
. Waste name: WASTEWATER TREATMENT SLUDGE FROM THE PRODUCTION OF VINYL CHLORIDE MONOMER..

. Waste code: K176
. Waste name: BAGHOUSE FILTERS FROM THE PRODUCTION OF ANTIMONY OXIDE, INCLUDING FILTERS FROM THE PRODUCTION OF INTERMEDIATES (E.G.,ANTIMONY METAL OR CRUDE ANTIMONY OXIDE)

. Waste code: K177
. Waste name: SLAG FROM THE PRODUCTION OF ANTIMONY OXIDE THAT IS SPECULATIVELY ACCUMULATED OR DISPOSED,INCLUDING SLAG FROM THE PRODUCTION OF INTERMEDIATES (E.G.,ANTIMONY METAL OR CRUDE ANTIMONY OXIDE)

. Waste code: K178
. Waste name: RESIDUES FROM MANUFACTURING AND MANUFACTURING-SITE STORAGE OF FERRIC CHLORIDE FROM ACIDS FORMED DURING THE PRODUCTION OF TITANIUM DIOXIDE USING THE CHLORIDE-ILMENITE PROCESS.

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P002
. Waste name: 1-ACETYL-2-THIOUREA (OR) ACETAMIDE, N-(AMINOTHIOXOMETHYL)-

. Waste code: P003
. Waste name: 2-PROPENAL (OR) ACROLEIN

. Waste code: P004
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5ALPHA, 8ALPHA, 8ABETA)- (OR) ALDRIN

. Waste code: P005
. Waste name: 2-PROPEN-1-OL (OR) ALLYL ALCOHOL

. Waste code: P006
. Waste name: ALUMINUM PHOSPHIDE (R,T)

. Waste code: P007
. Waste name: 3(2H)-ISOXAZOLONE, 5-(AMINOMETHYL)- (OR) 5-(AMINOMETHYL)-3-ISOXAZOLOL

. Waste code: P008
. Waste name: 4-AMINOPYRIDINE (OR) 4-PYRIDINAMINE

. Waste code: P009
. Waste name: AMMONIUM PICRATE (R) (OR) PHENOL, 2,4,6-TRINITRO-, AMMONIUM SALT (R)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P010
. Waste name: ARSENIC ACID H3ASO4

. Waste code: P011
. Waste name: ARSENIC OXIDE AS2O5 (OR) ARSENIC PENTOXIDE

. Waste code: P012
. Waste name: ARSENIC OXIDE AS2O3 (OR) ARSENIC TRIOXIDE

. Waste code: P013
. Waste name: BARIUM CYANIDE

. Waste code: P014
. Waste name: BENZENETHIOL (OR) THIOPHENOL

. Waste code: P015
. Waste name: BERYLLIUM

. Waste code: P016
. Waste name: DICHLOROMETHYL ETHER (OR) METHANE, OXYBIS[CHLORO-

. Waste code: P017
. Waste name: 2-PROPANONE, 1-BROMO- (OR) BROMOACETONE

. Waste code: P018
. Waste name: BRUCINE (OR) STRYCHNIDIN-10-ONE, 2,3-DIMETHOXY-

. Waste code: P020
. Waste name: DINOSEB (OR) PHENOL, 2-(1-METHYLPROPYL)-4,6-DINITRO-

. Waste code: P021
. Waste name: CALCIUM CYANIDE (OR) CALCIUM CYANIDE CA(CN)2

. Waste code: P022
. Waste name: CARBON DISULFIDE

. Waste code: P023
. Waste name: ACETALDEHYDE, CHLORO- (OR) CHLOROACETALDEHYDE

. Waste code: P024
. Waste name: BENZENAMINE, 4-CHLORO- (OR) P-CHLORANILINE

. Waste code: P026
. Waste name: 1-(O-CHLOROPHENYL)THIOUREA (OR) THIOUREA, (2-CHLOROPHENYL)-

. Waste code: P027
. Waste name: 3-CHLOROPROPIONITRILE (OR) PROPANENITRILE, 3-CHLORO-

. Waste code: P028
. Waste name: BENZENE, (CHLOROMETHYL)- (OR) BENZYL CHLORIDE

. Waste code: P029
. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P031
. Waste name: CYANOGEN (OR) ETHANEDINITRILE

. Waste code: P033
. Waste name: CYANOGEN CHLORIDE (OR) CYANOGEN CHLORIDE (CN)CL

. Waste code: P034
. Waste name: 2-CYCLOHEXYL-4,6-DINITROPHENOL (OR) PHENOL, 2-CYCLOHEXYL-4,6-DINITRO-

. Waste code: P036
. Waste name: ARSONOUS DICHLORIDE, PHENYL- (OR) DICHLOROPHENYLARSINE

. Waste code: P037
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2AALPHA, 3BETA, 6BETA, 6AALPHA, 7BETA, 7AALPHA)- (OR) DIELDRIN

. Waste code: P038
. Waste name: ARSINE, DIETHYL- (OR) DIETHYLARSINE

. Waste code: P039
. Waste name: DISULFOTON (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] ESTER

. Waste code: P040
. Waste name: O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER

. Waste code: P041
. Waste name: DIETHYL-P-NITROPHENYL PHOSPHATE (OR) PHOSPHORIC ACID, DIETHYL 4-NITROPHENYL ESTER

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P043
. Waste name: DIISOPROPYLFLUOROPHOSPHATE (DFP) (OR) PHOSPHOROFLUORIDIC ACID, BIS(1-METHYLETHYL) ESTER

. Waste code: P044
. Waste name: DIMETHOATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-[2-(METHYLAMINO)-2-OXOETHYL] ESTER

. Waste code: P045
. Waste name: 2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-[METHYLAMINO)CARBONYL] OXIME (OR) THIOFANOX

. Waste code: P046
. Waste name: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

. Waste code: P047
. Waste name: 4,6-DINITRO-O-CRESOL, & SALTS (OR) PHENOL, 2-METHYL-4,6-DINITRO-, & SALTS

. Waste code: P048

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2,4-DINITROPHENOL (OR) PHENOL, 2,4-DINITRO-

. Waste code: P049
. Waste name: DITHIOBIURET (OR) THIOIMIDODICARBONIC DIAMIDE [(H2N)C(S)]2NH

. Waste code: P050
. Waste name: 6,9-METHANO-2,4,3-BENZODIOXATHIEPIN,6,7,8,9,10,10-HEXACHLORO-1,5,5A,6, ,9A-HEXAHYDRO-,3-OXIDE (OR) ENDOSULFAN

. Waste code: P051
. Waste name: 2,7:3,6-DIMETHANONAPHTH[2,3-B]OXIRENE, 3,4,5,6,9,9-HEXACHLORO-1A,2,2A,3,6,6A,7,7A-OCTAHYDRO-, (1AALPHA, 2BETA, 2ABETA, 3ALPHA, 6ALPHA, 6ABETA, 7BETA, 7AALPHA)- & METABOLITES (OR) ENDRIN (OR) ENDRIN, & METABOLITES

. Waste code: P054
. Waste name: AZIRIDINE (OR) ETHYLENEIMINE

. Waste code: P056
. Waste name: FLUORINE

. Waste code: P057
. Waste name: ACETAMIDE, 2-FLUORO- (OR) FLUOROACETAMIDE

. Waste code: P058
. Waste name: ACETIC ACID, FLUORO-, SODIUM SALT (OR) FLUOROACETIC ACID, SODIUM SALT

. Waste code: P059
. Waste name: 4,7-METHANO-1H-INDENE, 1,4,5,6,7,8,8-HEPTACHLORO-3A,4,7,7A-TETRAHYDRO- (OR) HEPTACHLOR

. Waste code: P060
. Waste name: 1,4,5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXA-CHLORO-1,4,4A,5,8,8A,-HEXAHYDRO-, (1ALPHA, 4ALPHA, 4ABETA, 5BETA, 8BETA, 8ABETA)- (OR) ISODRIN

. Waste code: P062
. Waste name: HEXAETHYL TETRAPHOSPHATE (OR) TETRAPHOSPHORIC ACID, HEXAETHYL ESTER

. Waste code: P063
. Waste name: HYDROCYANIC ACID (OR) HYDROGEN CYANIDE

. Waste code: P064
. Waste name: METHANE, ISOCYANATO- (OR) METHYL ISOCYANATE

. Waste code: P065
. Waste name: FULMINIC ACID, MERCURY(2+) SALT (R,T) (OR) MERCURY FULMINATE (R,T)

. Waste code: P066
. Waste name: ETHANIMIDOTHIOIC ACID, N-[[(METHYLAMINO)CARBONYL]OXY]-, METHYL ESTER (OR) METHOMYL

. Waste code: P067
. Waste name: 1,2-PROPYLENIMINE (OR) AZIRIDINE, 2-METHYL-

. Waste code: P068
. Waste name: HYDRAZINE, METHYL- (OR) METHYL HYDRAZINE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P069
. Waste name: 2-METHYLLACTONITRILE (OR) PROPANENITRILE, 2-HYDROXY-2-METHYL-

. Waste code: P070
. Waste name: ALDICARB (OR) PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-[(METHYLAMINO)CARBONYL]OXIME

. Waste code: P071
. Waste name: METHYL PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O,-DIMETHYL O-(4-NITROPHENYL) ESTER

. Waste code: P072
. Waste name: ALPHA-NAPHTHYLTHIOUREA (OR) THIOUREA, 1-NAPHTHALENYL-

. Waste code: P073
. Waste name: NICKEL CARBONYL (OR) NICKEL CARBONYL NI(CO)4, (T-4)-

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P076
. Waste name: NITRIC OXIDE (OR) NITROGEN OXIDE NO

. Waste code: P077
. Waste name: BENZENAMINE, 4-NITRO- (OR) P-NITROANILINE

. Waste code: P078
. Waste name: NITROGEN DIOXIDE (OR) NITROGEN OXIDE NO2

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

. Waste code: P082
. Waste name: METHANIMINE, N-METHYL-N-NITROSO- (OR) N-NITROSODIMETHYLAMINE

. Waste code: P084
. Waste name: N-NITROSOMETHYLVINYLAMINE (OR) VINYLAMINE, N-METHYL-N-NITROSO-

. Waste code: P085
. Waste name: DIPHOSPHORAMIDE, OCTAMETHYL- (OR) OCTAMETHYLPYROPHOSPHORAMIDE

. Waste code: P087
. Waste name: OSMIUM OXIDE OSO4, (T-4)- (OR) OSMIUM TETROXIDE

. Waste code: P088
. Waste name: 7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC ACID (OR) ENDOTHALL

. Waste code: P089
. Waste name: PARATHION (OR) PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER

. Waste code: P092
. Waste name: MERCURY, (ACETATO-O)PHENYL- (OR) PHENYLMERCURY ACETATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P093
. Waste name: PHENYLTHIOUREA (OR) THIOUREA, PHENYL-

. Waste code: P094
. Waste name: PHORATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[(ETHYLTHIO)METHYL] ESTER

. Waste code: P095
. Waste name: CARBONIC DICHLORIDE (OR) PHOSGENE

. Waste code: P096
. Waste name: HYDROGEN PHOSPHIDE (OR) PHOSPHINE

. Waste code: P097
. Waste name: FAMPHUR (OR) PHOSPHOROTHIOIC ACID O-[4-[(DIMETHYLAMINO)SULFONYL]PHENYL] O,O-DIMETHYL ESTER

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P099
. Waste name: ARGENTATE (1-), BIS(CYANO-C)-, POTASSIUM (OR) POTASSIUM SILVER CYANIDE

. Waste code: P101
. Waste name: ETHYL CYANIDE (OR) PROPANENITRILE

. Waste code: P102
. Waste name: 2-PROPYN-1-OL (OR) PROPARGYL ALCOHOL

. Waste code: P103
. Waste name: SELENOUREA

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P105
. Waste name: SODIUM AZIDE

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P107
. Waste name: STRONTIUM SULFIDE SRS

. Waste code: P108
. Waste name: STRYCHNIDIN-10-ONE, & SALTS (OR) STRYCHNINE, & SALTS

. Waste code: P109
. Waste name: TETRAETHYLDITHIOPYROPHOSPHATE (OR) THIODIPHOSPHORIC ACID, TETRAETHYL ESTER

. Waste code: P110
. Waste name: PLUMBANE, TETRAETHYL- (OR) TETRAETHYL LEAD

. Waste code: P111
. Waste name: DIPHOSPHORIC ACID, TETRAETHYL ESTER (OR) TETRAETHYL PYROPHOSPHATE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P112
. Waste name: METHANE, TETRANITRO- (R) (OR) TETRANITROMETHANE (R)

. Waste code: P113
. Waste name: THALLIC OXIDE (OR) THALLIUM OXIDE TL2O3

. Waste code: P114
. Waste name: SELENIOUS ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SELENITE

. Waste code: P115
. Waste name: SULFURIC ACID, DITHALLIUM (1+) SALT (OR) THALLIUM(I) SULFATE

. Waste code: P116
. Waste name: HYDRAZINECARBOTHIOAMIDE (OR) THIOSEMICARBAZIDE

. Waste code: P118
. Waste name: METHANETHIOL, TRICHLORO- (OR) TRICHLOROMETHANETHIOL

. Waste code: P119
. Waste name: AMMONIUM VANADATE (OR) VANADIC ACID, AMMONIUM SALT

. Waste code: P120
. Waste name: VANADIUM OXIDE V2O5 (OR) VANADIUM PENTOXIDE

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P122
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 10% (R,T)

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: P127
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN

. Waste code: P128
. Waste name: PHENOL, 4-(DIMETHYLAMINO)-3,5-DIMETHYL-, METHYLCARBAMATE (ESTER)

. Waste code: P185
. Waste name: 1,3-DITHIOLANE-2-CARBOXALDEHYDE, 2,4-DIMETHYL-, O-[(METHYLAMINO)-CARBONYL]OXIME (OR) TIRPATE

. Waste code: P188
. Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL--YL METHYLCARBAMATE ESTER (1:1) (OR) PHYSOSTIGMINE SALICYLATE

. Waste code: P189
. Waste name: CARBAMIC ACID, [(DIBUTYLAMINO)-THIO]METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL-7-BENZOFURANYL ESTER (OR) CARBOSULFAN

. Waste code: P190
. Waste name: CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER (OR) METOLCARB

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: P191
. Waste name: CARBAMIC ACID, DIMETHYL-, 1-[(DIMETHYL-AMINO)CARBONYL]- 5-METHYL-1H-PYRAZOL-3-YL ESTER (OR) DIMETILAN

. Waste code: P192
. Waste name: ISOLAN (OR) CARBAMIC ACID, DIMETHYL-, 3-METHY-L-(1-METHYLETHYL)-1H-PYRAZOL-5-YL ESTER

. Waste code: P194
. Waste name: ETHANIMIDOTHIOC ACID, 2-(DIMETHYLAMINO)-N-[[(METHYLAMINO) CARBONYL]OXY]-2-OXO-, METHYL ESTER (OR) OXAMYL

. Waste code: P196
. Waste name: MANGANESE DIMETHYLDITHIOCARBAMATE (OR) MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-,

. Waste code: P197
. Waste name: FORMPARANATE (OR) METHANIMIDAMIDE, N,N-DIMETHYL-N'-[2-METHYL-4-[[(METHYLAMINO)CARBONYL]OXY]PHENYL]

. Waste code: P198
. Waste name: METHANIMIDAMIDE, N,N-DIMETHYL-N'-[3-[[(METHYLAMINO)-CARBONYL]OXY]PHENYL]-, MONOHYDROCHLORIDE (OR) FORMETANATE HYDROCHLORIDE

. Waste code: P199
. Waste name: METHIOCARB (OR) MEXACARBATE (OR) PHENOL, (3,5-DIMETHYL-4-(METHYLTHIO)-, METHYLCARBAMATE

. Waste code: P201
. Waste name: PHENOL, 3-METHYL-5-(1-METHYLETHYL)-, METHYL CARBAMATE (OR) PROMECARB

. Waste code: P202
. Waste name: M-CUMENYL METHYLCARBAMATE (OR) 3-ISOPROPYLPHENYL N-METHYLCARBAMATE (OR) PHENOL, 3-(1-METHYLETHYL)-, METHYL CARBAMATE

. Waste code: P203
. Waste name: ALDICARB SULFONE (OR) PROPANAL, 2-METHYL-2-(METHYL-SULFONYL)-, O-[(METHYLAMINO)CARBONYL] OXIME

. Waste code: P204
. Waste name: PHYSOSTIGMINE (OR) PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-METHYLCARBAMATE (ESTER), (3AS-CIS)-

. Waste code: P205
. Waste name: ZINC, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (OR) ZIRAM

. Waste code: U001
. Waste name: ACETALDEHYDE (I) (OR) ETHANAL (I)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U003
. Waste name: ACETONITRILE (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U004
. Waste name: ACETOPHENONE (OR) ETHANONE, 1-PHENYL-

. Waste code: U006
. Waste name: ACETYL CHLORIDE (C,R,T)

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U008
. Waste name: 2-PROPENOIC ACID (I) (OR) ACRYLIC ACID (I)

. Waste code: U009
. Waste name: 2-PROPENENITRILE (OR) ACRYLONITRILE

. Waste code: U010
. Waste name: AZIRINO [2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA, 8AALPHA, 8BALPHA)]- (OR) MITOMYCIN C

. Waste code: U011
. Waste name: 1H-1,2,4-TRIAZOL-3-AMINE (OR) AMITROLE

. Waste code: U012
. Waste name: ANILINE (I,T) (OR) BENZENAMINE (I,T)

. Waste code: U014
. Waste name: AURAMINE (OR) BENZENAMINE, 4,4'-CARBONIMIDOYLBIS[N,N-DIMETHYL-

. Waste code: U015
. Waste name: AZASERINE (OR) L-SERINE, DIAZOACETATE (ESTER)

. Waste code: U016
. Waste name: BENZ[C]ACRIDINE

. Waste code: U017
. Waste name: BENZAL CHLORIDE (OR) BENZENE, (DICHLOROMETHYL)-

. Waste code: U018
. Waste name: BENZ[A]ANTHRACENE

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U020
. Waste name: BENZENESULFONIC ACID CHLORIDE (C,R) (OR) BENZENESULFONYL CHLORIDE (C,R)

. Waste code: U021
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE (OR) BENZIDINE

. Waste code: U022
. Waste name: BENZO[A]PYRENE

. Waste code: U023
. Waste name: BENZENE, (TRICHLOROMETHYL)- (OR) BENZOTRICHLORIDE (C,R,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U024
. Waste name: DICHLOROMETHOXY ETHANE (OR) ETHANE, 1,1'-[METHYLENEBIS(OXY)]BIS[2-CHLORO-

. Waste code: U025
. Waste name: DICHLOROETHYL ETHER (OR) ETHANE, 1,1'-OXYBIS[2-CHLORO-

. Waste code: U026
. Waste name: CHLORNAPHAZIN (OR) NAPHTHALENAMINE, N,N'-BIS(2-CHLOROETHYL)-

. Waste code: U027
. Waste name: DICHLOROISOPROPYL ETHER (OR) PROPANE, 2,2'-OXYBIS[2-CHLORO-

. Waste code: U028
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-ETHYLHEXYL) ESTER (OR) DIETHYLHEXYL PHTHALATE

. Waste code: U029
. Waste name: METHANE, BROMO- (OR) METHYL BROMIDE

. Waste code: U030
. Waste name: 4-BROMOPHENYL PHENYL ETHER (OR) BENZENE, 1-BROMO-4-PHENOXY-

. Waste code: U031
. Waste name: 1-BUTANOL (I) (OR) N-BUTYL ALCOHOL (I)

. Waste code: U032
. Waste name: CALCIUM CHROMATE (OR) CHROMIC ACID H2CRO4, CALCIUM SALT

. Waste code: U033
. Waste name: CARBON OXYFLUORIDE (R,T) (OR) CARBONIC DIFLUORIDE

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U035
. Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

. Waste code: U036
. Waste name: 4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO- (OR) CHLORDANE, ALPHA & GAMMA ISOMERS

. Waste code: U037
. Waste name: BENZENE, CHLORO- (OR) CHLOROBENZENE

. Waste code: U038
. Waste name: BENZENEACETIC ACID, 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXY-, ETHYL ESTER (OR) CHLOROBENZILATE

. Waste code: U039
. Waste name: P-CHLORO-M-CRESOL (OR) PHENOL, 4-CHLORO-3-METHYL-

. Waste code: U041
. Waste name: EPICHLOROHYDRIN (OR) OXIRANE, (CHLOROMETHYL)-

. Waste code: U042

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2-CHLOROETHYL VINYL ETHER (OR) ETHENE, (2-CHLOROETHOXY)-

. Waste code: U043
. Waste name: ETHENE, CHLORO- (OR) VINYL CHLORIDE

. Waste code: U044
. Waste name: CHLOROFORM (OR) METHANE, TRICHLORO-

. Waste code: U045
. Waste name: METHANE, CHLORO- (I,T) (OR) METHYL CHLORIDE (I,T)

. Waste code: U046
. Waste name: CHLOROMETHYL METHYL ETHER (OR) METHANE, CHLOROMETHOXY-

. Waste code: U047
. Waste name: BETA-CHLORONAPHTHALENE (OR) NAPHTHALENE, 2-CHLORO-

. Waste code: U048
. Waste name: O-CHLOROPHENOL (OR) PHENOL, 2-CHLORO-

. Waste code: U049
. Waste name: 4-CHLORO-O-TOLUIDINE, HYDROCHLORIDE (OR) BENZENAMINE, 4-CHLORO-2-METHYL-, HYDROCHLORIDE

. Waste code: U050
. Waste name: CHRYSENE

. Waste code: U051
. Waste name: CREOSOTE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

. Waste code: U053
. Waste name: 2-BUTENAL (OR) CROTONALDEHYDE

. Waste code: U055
. Waste name: BENZENE, (1-METHYLETHYL)- (I) (OR) CUMENE (I)

. Waste code: U056
. Waste name: BENZENE, HEXAHYDRO- (I) (OR) CYCLOHEXANE (I)

. Waste code: U057
. Waste name: CYCLOHEXANONE (I)

. Waste code: U058
. Waste name: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

. Waste code: U059
. Waste name: 5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY)-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, (8S-CIS)- (OR) DAUNOMYCIN

. Waste code: U060
. Waste name: BENZENE, 1,1'-(2,2-DICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDD

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U061
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO- (OR) DDT

. Waste code: U062
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3-DICHLORO-2-PROPENYL) ESTER (OR) DIALLATE

. Waste code: U063
. Waste name: DIBENZ[A,H]ANTHRACENE

. Waste code: U064
. Waste name: BENZO[RST]PENTAPHENE (OR) DIBENZO[A,I]PYRENE

. Waste code: U066
. Waste name: 1,2-DIBROMO-3-CHLOROPROPANE (OR) PROPANE, 1,2-DIBROMO-3-CHLORO-

. Waste code: U067
. Waste name: ETHANE, 1,2-DIBROMO- (OR) ETHYLENE DIBROMIDE

. Waste code: U068
. Waste name: METHANE, DIBROMO- (OR) METHYLENE BROMIDE

. Waste code: U069
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER (OR) DIBUTYL PHTHALATE

. Waste code: U070
. Waste name: BENZENE, 1,2-DICHLORO- (OR) O-DICHLOROBENZENE

. Waste code: U071
. Waste name: BENZENE, 1,3-DICHLORO- (OR) M-DICHLOROBENZENE

. Waste code: U072
. Waste name: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

. Waste code: U073
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DICHLORO- (OR) 3,3'-DICHLOROBENZIDINE

. Waste code: U074
. Waste name: 1,4-DICHLORO-2-BUTENE (I,T) (OR) 2-BUTENE, 1,4-DICHLORO- (I,T)

. Waste code: U075
. Waste name: DICHLORODIFLUOROMETHANE (OR) METHANE, DICHLORODIFLUORO-

. Waste code: U076
. Waste name: ETHANE, 1,1-DICHLORO- (OR) ETHYLIDENE DICHLORIDE

. Waste code: U077
. Waste name: ETHANE, 1,2-DICHLORO- (OR) ETHYLENE DICHLORIDE

. Waste code: U078
. Waste name: 1,1-DICHLOROETHYLENE (OR) ETHENE, 1,1-DICHLORO-

. Waste code: U079
. Waste name: 1,2-DICHLOROETHYLENE (OR) ETHENE, 1,2-DICHLORO-,(E)-

. Waste code: U080

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U081
. Waste name: 2,4-DICHLOROPHENOL (OR) PHENOL, 2,4-DICHLORO-

. Waste code: U082
. Waste name: 2,6-DICHLOROPHENOL (OR) PHENOL, 2,6-DICHLORO-

. Waste code: U083
. Waste name: PROPANE, 1,2-DICHLORO- (OR) PROPYLENE DICHLORIDE

. Waste code: U084
. Waste name: 1,3-DICHLOROPROPENE (OR) 1-PROPENE, 1,3-DICHLORO-

. Waste code: U085
. Waste name: 1,2:3,4-DIEPOXYBUTANE (I,T) (OR) 2,2'-BIOXIRANE

. Waste code: U086
. Waste name: HYDRAZINE, 1,2-DIETHYL- (OR) N,N'-DIETHYLHYDRAZINE

. Waste code: U087
. Waste name: O,O-DIETHYL S-METHYL DITHIOPHOSPHATE (OR) PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-METHYL ESTER

. Waste code: U088
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER (OR) DIETHYL PHTHALATE

. Waste code: U089
. Waste name: DIETHYLSTILBESTEROL (OR) PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS, (E)-

. Waste code: U090
. Waste name: 1,3-BENZODIOXOLE, 5-PROPYL- (OR) DIHYDROSAFROLE

. Waste code: U091
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHOXY- (OR) 3,3'-DIMETHOXYBENZIDINE

. Waste code: U092
. Waste name: DIMETHYLAMINE (I) (OR) METHANAMINE, N-METHYL- (I)

. Waste code: U093
. Waste name: BENZENAMINE, N,N-DIMETHYL-4-(PHENYLAZO)- (OR) P-DIMETHYLAMINOAZOBENZENE

. Waste code: U094
. Waste name: 7,12-DIMETHYLBENZ[A]ANTHRACENE (OR) BENZ[A]ANTHRACENE, 7,12-DIMETHYL-

. Waste code: U095
. Waste name: [1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIMETHYL- (OR) 3,3'-DIMETHYLBENZIDINE

. Waste code: U096
. Waste name: ALPHA,ALPHA-DIMETHYLBENZYLHYDROPEROXIDE (R) (OR) HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL- (R)

. Waste code: U097

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: CARBAMIC CHLORIDE, DIMETHYL- (OR) DIMETHYLCARBAMOYL CHLORIDE

. Waste code: U098
. Waste name: 1,1-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,1-DIMETHYL-

. Waste code: U099
. Waste name: 1,2-DIMETHYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U101
. Waste name: 2,4-DIMETHYLPHENOL (OR) PHENOL, 2,4-DIMETHYL-

. Waste code: U102
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER (OR) DIMETHYL PHTHALATE

. Waste code: U103
. Waste name: DIMETHYL SULFATE (OR) SULFURIC ACID, DIMETHYL ESTER

. Waste code: U105
. Waste name: 2,4-DINITROTOLUENE (OR) BENZENE, 1-METHYL-2,4-DINITRO-

. Waste code: U106
. Waste name: 2,6-DINITROTOLUENE (OR) BENZENE, 2-METHYL-1,3-DINITRO-

. Waste code: U107
. Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER (OR) DI-N-OCTYL PHTHALATE

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U109
. Waste name: 1,2-DIPHENYLHYDRAZINE (OR) HYDRAZINE, 1,2-DIPHENYL-

. Waste code: U110
. Waste name: 1-PROPANIMINE, N-PROPYL-(I) (OR) DIPROPYLAMINE (I)

. Waste code: U111
. Waste name: 1-PROPANAMINE, N-NITROSO-N-PROPYL- (OR) DI-N-PROPYLNITROSAMINE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U114
. Waste name: CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, SALTS & ESTERS (OR) ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS

. Waste code: U115
. Waste name: ETHYLENE OXIDE (I,T) (OR) OXIRANE (I,T)

. Waste code: U116
. Waste name: 2-IMIDAZOLIDINETHIONE (OR) ETHYLENETHIOUREA

. Waste code: U117
. Waste name: ETHANE, 1,1'-OXYBIS-(I) (OR) ETHYL ETHER (I)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U118
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, ETHYL ESTER (OR) ETHYL METHACRYLATE

. Waste code: U119
. Waste name: ETHYL METHANESULFONATE (OR) METHANESULFONIC ACID, ETHYL ESTER

. Waste code: U120
. Waste name: FLUORANTHENE

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U124
. Waste name: FURAN (I) (OR) FURFURAN (I)

. Waste code: U125
. Waste name: 2-FURANCARBOXALDEHYDE (I) (OR) FURFURAL (I)

. Waste code: U126
. Waste name: GLYCIDYLALDEHYDE (OR) OXIRANECARBOXYALDEHYDE

. Waste code: U127
. Waste name: BENZENE, HEXACHLORO- (OR) HEXACHLOROBENZENE

. Waste code: U128
. Waste name: 1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO- (OR) HEXACHLOROBUTADIENE

. Waste code: U129
. Waste name: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

. Waste code: U130
. Waste name: 1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO- (OR) HEXACHLOROCYCLOPENTADIENE

. Waste code: U131
. Waste name: ETHANE, HEXACHLORO- (OR) HEXACHLOROETHANE

. Waste code: U132
. Waste name: HEXACHLOROPHENE (OR) PHENOL, 2,2'-METHYLENEBIS[3,4,6-TRICHLORO-

. Waste code: U133
. Waste name: HYDRAZINE (R,T)

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

. Waste code: U135
. Waste name: HYDROGEN SULFIDE (OR) HYDROGEN SULFIDE H2S

. Waste code: U136

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: ARSINIC ACID, DIMETHYL- (OR) CACODYLIC ACID

. Waste code: U137
. Waste name: INDENO[1,2,3-CD]PYRENE

. Waste code: U138
. Waste name: METHANE, IODO- (OR) METHYL IODIDE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U141
. Waste name: 1,3-BENZODIOXOLE, 5-(1-PROPENYL)- (OR) ISOSAFROLE

. Waste code: U142
. Waste name: 1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALEN-2-ONE,
1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTAHYDRO- (OR) KEPONE

. Waste code: U143
. Waste name: 2-BUTENOIC ACID, 2-METHYL-,
7-[[2,3-DIHYDROXY-2-(1-METHOXYETHYL)-3-METHYL-1-OXOBUTOXY]METHYL]-2,3,
,7A-TETRAHYDRO-1H-PYRROLIZIN-1-YL ESTER, [1S-[1ALPHA(Z), 7(2S*,3R*),
7AALPHA]]- (OR) LASIOCARPINE

. Waste code: U144
. Waste name: ACETIC ACID, LEAD(2+) SALT (OR) LEAD ACETATE

. Waste code: U145
. Waste name: LEAD PHOSPHATE (OR) PHOSPHORIC ACID, LEAD(2+) SALT (2:3)

. Waste code: U146
. Waste name: LEAD SUBACETATE (OR) LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-

. Waste code: U147
. Waste name: 2,5-FURANDIONE (OR) MALEIC ANHYDRIDE

. Waste code: U148
. Waste name: 3,6-PYRIDAZINEDIONE, 1,2-DIHYDRO- (OR) MALEIC HYDRAZIDE

. Waste code: U149
. Waste name: MALONONITRILE (OR) PROPANEDINITRILE

. Waste code: U150
. Waste name: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

. Waste code: U151
. Waste name: MERCURY

. Waste code: U152
. Waste name: 2-PROPENENITRILE, 2-METHYL- (I,T) (OR) METHACRYLONITRILE (I,T)

. Waste code: U153
. Waste name: METHANETHIOL (I,T) (OR) THIOMETHANOL (I,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U155
. Waste name: 1,2-ETHANEDIAMINE, N,N-DIMETHYL-N'-2-PYRIDINYL-N'-(2-THIENYLMETHYL)- (OR) METHAPYRILENE

. Waste code: U156
. Waste name: CARBONOCHLORIDIC ACID, METHYL ESTER, (I,T) (OR) METHYL CHLOROCARBONATE (I,T)

. Waste code: U157
. Waste name: 3-METHYLCHOLANTHRENE (OR) BENZ[J]ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-

. Waste code: U158
. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE, 4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U160
. Waste name: 2-BUTANONE, PEROXIDE (R,T) (OR) METHYL ETHYL KETONE PEROXIDE (R,T)

. Waste code: U161
. Waste name: 4-METHYL-2-PENTANONE (I) (OR) METHYL ISOBUTYL KETONE (I) (OR) PENTANOL, 4-METHYL-

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U163
. Waste name: GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO- (OR) MNNG

. Waste code: U164
. Waste name: 4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-6-METHYL-2-THIOXO- (OR) METHYLTHIOURACIL

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U166
. Waste name: 1,4-NAPHTHALENEDIONE (OR) 1,4-NAPHTHOQUINONE

. Waste code: U167
. Waste name: 1-NAPTHALENAMINE (OR) ALPHA-NAPHTHYLAMINE

. Waste code: U168
. Waste name: 2-NAPTHALENAMINE (OR) BETA-NAPHTHYLAMINE

. Waste code: U169
. Waste name: BENZENE, NITRO- (OR) NITROBENZENE (I,T)

. Waste code: U170
. Waste name: P-NITROPHENOL (I,T) (OR) PHENOL, 4-NITRO-

. Waste code: U171
. Waste name: 2-NITROPROPANE (I,T) (OR) PROPANE, 2-NITRO- (I,T)

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U172
. Waste name: 1-BUTANAMINE, N-BUTYL-N-NITROSO- (OR) N-NITROSODI-N-BUTYLAMINE

. Waste code: U173
. Waste name: ETHANOL, 2,2'-(NITROSOIMINO)BIS- (OR) N-NITROSODIETHANOLAMINE

. Waste code: U174
. Waste name: ETHANAMINE, N-ETHYL-N-NITROSO- (OR) N-NITROSODIETHYLAMINE

. Waste code: U176
. Waste name: N-NITROSO-N-ETHYLUREA (OR) UREA, N-ETHYL-N-NITROSO-

. Waste code: U177
. Waste name: N-NITROSO-N-METHYLUREA (OR) UREA, N-METHYL-N-NITROSO-

. Waste code: U178
. Waste name: CARBAMIC ACID, METHYLNITROSO-, ETHYL ESTER (OR) N-NITROSO-N-METHYLURETHANE

. Waste code: U179
. Waste name: N-NITROSOPIPERIDINE (OR) PIPERIDINE, 1-NITROSO-

. Waste code: U180
. Waste name: N-NITROSOPYRROLIDINE (OR) PYRROLIDINE, 1-NITROSO-

. Waste code: U181
. Waste name: 5-NITRO-O-TOLUIDINE (OR) BENZENAMINE, 2-METHYL-5-NITRO

. Waste code: U182
. Waste name: 1,3,5-TRIOXANE, 2,4,6-TRIMETHYL- (OR) PARALDEHYDE

. Waste code: U183
. Waste name: BENZENE, PENTACHLORO- (OR) PENTACHLOROBENZENE

. Waste code: U184
. Waste name: ETHANE, PENTACHLORO- (OR) PENTACHLOROETHANE

. Waste code: U185
. Waste name: BENZENE, PENTACHLORONITRO- (OR) PENTACHLORONITROBENZENE (PCNB)

. Waste code: U186
. Waste name: 1,3-PENTADIENE (I) (OR) 1-METHYLBUTADIENE (I)

. Waste code: U187
. Waste name: ACETAMIDE, N-(4-ETHOXYPHENYL)- (OR) PHENACETIN

. Waste code: U188
. Waste name: PHENOL

. Waste code: U189
. Waste name: PHOSPHORUS SULFIDE (R) (OR) SULFUR PHOSPHIDE (R)

. Waste code: U190
. Waste name: 1,3-ISOBENZOFURANDIONE (OR) PHTHALIC ANHYDRIDE

. Waste code: U191
. Waste name: 2-PICOLINE (OR) PYRIDINE, 2-METHYL-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U192
. Waste name: BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)- (OR) PRONAMIDE

. Waste code: U193
. Waste name: 1,2-OXATHIOLANE, 2,2-DIOXIDE (OR) 1,3-PROPANE SULTONE

. Waste code: U194
. Waste name: 1-PROPANAMINE (I,T) (OR) N-PROPYLAMINE (I,T)

. Waste code: U196
. Waste name: PYRIDINE

. Waste code: U197
. Waste name: 2,5-CYCLOHEXADIENE-1,4-DIONE (OR) P-BENZOQUINONE

. Waste code: U200
. Waste name: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

. Waste code: U201
. Waste name: 1,3-BENZENEDIOL (OR) RESORCINOL

. Waste code: U202
. Waste name: 1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE, & SALTS (OR) SACCHARIN, & SALTS

. Waste code: U203
. Waste name: 1,3-BENZODIOXOLE, 5-(2-PROPENYL)- (OR) SAFROLE

. Waste code: U204
. Waste name: SELENIOUS ACID (OR) SELENIUM DIOXIDE

. Waste code: U205
. Waste name: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

. Waste code: U206
. Waste name: D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]- (OR) GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-,D- (OR) STREPTOZOTOCIN

. Waste code: U207
. Waste name: 1,2,4,5-TETRACHLOROBENZENE (OR) BENZENE, 1,2,4,5-TETRACHLORO-

. Waste code: U208
. Waste name: 1,1,1,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,1,2-TETRACHLORO-

. Waste code: U209
. Waste name: 1,1,2,2-TETRACHLOROETHANE (OR) ETHANE, 1,1,2,2-TETRACHLORO-

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U213

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U214
. Waste name: ACETIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) ACETATE

. Waste code: U215
. Waste name: CARBONIC ACID, DITHALLIUM(1+) SALT (OR) THALLIUM(I) CARBONATE

. Waste code: U216
. Waste name: THALLIUM CHLORIDE TLCL (OR) THALLIUM(I) CHLORIDE

. Waste code: U217
. Waste name: NITRIC ACID, THALLIUM(1+) SALT (OR) THALLIUM(I) NITRATE

. Waste code: U218
. Waste name: ETHANETHIOAMIDE (OR) THIOACETAMIDE

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U221
. Waste name: BENZENEDIAMINE, AR-METHYL- (OR) TOLUENEDIAMINE

. Waste code: U222
. Waste name: BENZENAMINE, 2-METHYL-, HYDROCHLORIDE (OR) O-TOLUIDINE HYDROCHLORIDE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U225
. Waste name: BROMOFORM (OR) METHANE, TRIBROMO-

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U227
. Waste name: 1,1,2-TRICHLOROETHANE (OR) ETHANE, 1,1,2-TRICHLORO-

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U234
. Waste name: 1,3,5-TRINITROBENZENE (R,T) (OR) BENZENE, 1,3,5-TRINITRO-

. Waste code: U235
. Waste name: 1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1) (OR) TRIS(2,3,-DIBROMOPROPYL) PHOSPHATE

. Waste code: U236
. Waste name: 2,7-NAPHTHALENEDISULFONIC ACID,3,3'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)BIS[5-AMINO 4-HYDROXY]-, TETRASODIUM SALT (OR) TRYPAN BLUE

. Waste code: U237

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: 2,4-(1H,3H)-PYRIMIDINEDIONE, 5-[BIS(2-CHLOROETHYL)AMINO]- (OR) URACIL MUSTARD

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

. Waste code: U240
. Waste name: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

. Waste code: U243
. Waste name: 1-PROPENE, 1,1,2,3,3,3-HEXACHLORO- (OR) HEXACHLOROPROPENE

. Waste code: U244
. Waste name: THIOPEROXYDICARBONIC DIAMIDE [(H2N)C(S)]2S2, TETRAMETHYL- (OR) THIRAM

. Waste code: U246
. Waste name: CYANOGEN BROMIDE (CN)BR

. Waste code: U247
. Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-METHOXY- (OR) METHOXYCHLOR

. Waste code: U248
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYL-BUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS OF 0.3% OR LESS

. Waste code: U249
. Waste name: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

. Waste code: U271
. Waste name: BENOMYL (OR) CARBAMIC ACID, [1-[(BUTYLAMINO)CARBONYL]-1H-BENZIMIDAZOL-2-YL]-, METHYL ESTER

. Waste code: U277
. Waste name: SULFALLATE (OR) CARBAMODITHIOIC ACID, DIETHYL-, 2-CHLORO-2-PROPENYL ESTER

. Waste code: U278
. Waste name: BENDIOCARB (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-, METHYL CARBAMATE

. Waste code: U279
. Waste name: CARBARYL (OR) 1-NAPHTHALENOL, METHYLCARBAMATE

. Waste code: U280
. Waste name: BARBAN (OR) CARBAMIC ACID, (3-CHLOROPHENYL)-, 4-CHLORO-2-BUTYNYL ESTER

. Waste code: U328
. Waste name: BENZENAMINE, 2-METHYL- (OR) O-TOLUIDINE

. Waste code: U353
. Waste name: BENZENAMINE, 4-METHYL- (OR) P-TOLUIDINE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U359
. Waste name: ETHANOL, 2-ETHOXY- (OR) ETHYLENE GLYCOL MONOETHYL ETHER

. Waste code: U364
. Waste name: BENDIOCARB PHENOL (OR) 1,3-BENZODIOXOL-4-OL, 2,2-DIMETHYL-

. Waste code: U365
. Waste name: H-AZEPINE-1-CARBOTHIOIC ACID, HEXAHYDRO-, S-ETHYL ESTER (OR) MOLINATE

. Waste code: U366
. Waste name: DAZOMET (OR) 2H-1,3,5-THIADIAZINE- 2-THIONE, TETRAHYDRO-3,5-DIMETHYL-

. Waste code: U367
. Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL- (OR) CARBOFURAN PHENOL

. Waste code: U372
. Waste name: CARBAMIC ACID, 1H-BENZIMIDAZOL-2-YL, METHYL ESTER (OR) CARBENDAZIM

. Waste code: U373
. Waste name: CARBAMIC ACID, PHENYL-, 1-METHYLETHYL ESTER (OR) PROPHAM

. Waste code: U375
. Waste name: CARBAMIC ACID, BUTYL-, 3-IODO-2-PROPYNYL ESTER (OR) 3-IODO-2-PROPYNYL N-BUTYLCARBAMATE

. Waste code: U376
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, TETRAANHYDROSULFIDE WITH ORTHOTHIOSETENIOUS ACID (OR) SELENIUM, TETRAKIS (DIMETHYLDITHIOCARBAMATE)

. Waste code: U378
. Waste name: CARBAMODITHIOIC ACID, (HYDROXYMETHYL) METHYL-, MONOPOTASSIUM SALT (OR) POTASSIUM N-HYDROXYMETHYL- N-METHYLDI-THIOCARBAMATE

. Waste code: U379
. Waste name: SODIUM DIBUTYLDITHIOCARBAMATE (OR) CARBAMODITHIOIC ACID, DIBUTYL, SODIUM SALT

. Waste code: U381
. Waste name: CARBAMODITHIOIC ACID, DIETHYL-, SODIUM SALT (OR) SODIUM DIETHYLDITHIOCARBAMATE

. Waste code: U382
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL-, SODIUM SALT (OR) SODIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U383
. Waste name: CARBAMODITHIOIC ACID, DIMETHYL, POTASSIUM SALT (OR) POTASSIUM DIMETHYLDITHIOCARBAMATE

. Waste code: U384
. Waste name: CARBAMODITHIOIC ACID, METHYL-, MONOSODIUM SALT (OR) METAM SODIUM

. Waste code: U385
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-PROPYL ESTER

. Waste code: U386

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: CARBAMOTHIOIC ACID, CYCLOHEXYLETHYL-, S-ETHYL ESTER (OR) CYCLOATE

. Waste code: U387
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER (OR) PROSULFOCARB

. Waste code: U389
. Waste name: CARBAMOTHIOIC ACID, BIS(1-METHYLETHYL)-, S-(2,3,3-TRICHLORO-2-PROPENYL) ESTER (OR) TRIALLATE

. Waste code: U390
. Waste name: CARBAMOTHIOIC ACID, DIPROPYL-, S-ETHYL ESTER (OR) EPTC

. Waste code: U391
. Waste name: CARBAMOTHIOIC ACID, BUTYLETHYL-, S-PROPYL ESTER (OR) PEBULATE

. Waste code: U392
. Waste name: BUTYLATE (OR) CARBAMOTHIOIC ACID, BIS(2-METHYLPROPYL)-, S-ETHYL ESTER

. Waste code: U393
. Waste name: COPPER, BIS(DIMETHYLCARBAMODITHIOATO-S,S')- (OR) COPPER DIMETHYLDITHIOCARBAMATE

. Waste code: U394
. Waste name: A2213 (OR) ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-2-OXO-, METHYL ESTER

. Waste code: U395
. Waste name: DIETHYLENE GLYCOL, DICARBAMATE (OR) ETHANOL, 2,2'-OXYBIS-, DICARBAMATE

. Waste code: U396
. Waste name: FERBAM (OR) IRON, TRIS(DIMETHYLCARBAMODITHIOATO-S,S')-,

. Waste code: U400
. Waste name: BIS(PENTAMETHYLENE)THIURAM TETRASULFIDE (OR) PIPERIDINE, 1,1'-(TETRATHIODICARBONOTHIOYL)-BIS-

. Waste code: U401
. Waste name: BIS(DIMETHYLTHIOCARBAMOYL) SULFIDE (OR) TETRAMETHYLTHIURAM MONOSULFIDE

. Waste code: U402
. Waste name: TETRABUTYLTHIURAM DISULFIDE (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRABUTYL

. Waste code: U403
. Waste name: DISULFIRAM (OR) THIOPEROXYDICARBONIC DIAMIDE, TETRAETHYL

. Waste code: U404
. Waste name: ETHANAMINE, N,N-DIETHYL- (OR) TRIETHYLAMINE

. Waste code: U409
. Waste name: CARBAMIC ACID, [1,2-PHENYLENEBIS (IMINOCARBONOTHIOYL)]BIS-, DIMETHYL ESTER (OR) THIOPHANATE-METHYL

. Waste code: U410
. Waste name: ETHANIMIDOTHIOIC ACID, N,N'-[THIOBIS[(METHYLIMINO)CARBONYLOXY]]BIS-, DIMETHYL ESTER (OR) THIODICARB

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U411
. Waste name: PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE (OR) PROPOXUR

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 01/23/2008
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: MA01
. Waste name: WASTE OIL

. Waste code: MA04
. Waste name: WASTE PAINT RELATED MATERIAL

. Waste code: MA95
. Waste name: UNIVERSAL WASTE

. Waste code: MA97
. Waste name: CLASS A REGULATED RECYCLABLE MATERIAL (INCLUDING BUT NOT LIMITED TO SPECIFICATION USED OIL FUEL) THAT IS SHIPPED USING A HAZARDOUS WASTE MANIFEST

. Waste code: MA98
. Waste name: OFF SPECIFICATION USED OIL FUEL THAT IS SHIPPED USING A HW MANIFEST

. Waste code: MA99
. Waste name: NON-HAZARDOUS WASTE TO BE USED ONLY FOR NON-HW SHIPPED USING HW MANIFEST

Date form received by agency: 03/15/2006
Site name: JONES ENVIRONMENTAL SERVICES (NE), INC
Classification: Large Quantity Generator

. Waste code: D001

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D036

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: NITROBENZENE

. Waste code: D037
. Waste name: PENTACHLOROPHENOL

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: K062
. Waste name: SPENT PICKLE LIQUOR FROM STEEL FINISHING OPERATIONS OF PLANTS THAT PRODUCE IRON OR STEEL.

. Waste code: LABP
. Waste name: LAB PACK

. Waste code: P098
. Waste name: POTASSIUM CYANIDE (OR) POTASSIUM CYANIDE K(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U052
. Waste name: CRESOL (CRESYLIC ACID) (OR) PHENOL, METHYL-

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U080
. Waste name: METHANE, DICHLORO- (OR) METHYLENE CHLORIDE

. Waste code: U122
. Waste name: FORMALDEHYDE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U158
. Waste name: 4,4'-METHYLENEBIS(2-CHLOROANILINE) (OR) BENZENAMINE, 4,4'-METHYLENEBIS[2-CHLORO-

. Waste code: U165
. Waste name: NAPHTHALENE

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U211
. Waste name: CARBON TETRACHLORIDE (OR) METHANE, TETRACHLORO-

. Waste code: U219
. Waste name: THIOUREA

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

Date form received by agency: 04/28/2004
Site name: JONES ENVIRONMENTAL SERVICES (NORTH EAST
Classification: Large Quantity Generator

Date form received by agency: 02/11/2003
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Large Quantity Generator

Date form received by agency: 04/18/2002
Site name: JONES ENVIRONMENTAL SERVICES NE
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006
. Waste name: CADMIUM

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D011
. Waste name: SILVER

. Waste code: D018
. Waste name: BENZENE

. Waste code: D019
. Waste name: CARBON TETRACHLORIDE

. Waste code: D021
. Waste name: CHLOROBENZENE

. Waste code: D022
. Waste name: CHLOROFORM

. Waste code: D023
. Waste name: O-CRESOL

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: D025
. Waste name: P-CRESOL

. Waste code: D026
. Waste name: CRESOL

. Waste code: D027
. Waste name: 1,4-DICHLOROBENZENE

. Waste code: D028
. Waste name: 1,2-DICHLOROETHANE

. Waste code: D029
. Waste name: 1,1-DICHLOROETHYLENE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: D038
. Waste name: PYRIDINE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: D040
. Waste name: TRICHLORETHYLENE

. Waste code: D043
. Waste name: VINYL CHLORIDE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F019
. Waste name: WASTEWATER TREATMENT SLUDGES FROM THE CHEMICAL CONVERSION COATING OF ALUMINUM, EXCEPT FROM ZIRCONIUM PHOSPHATING IN ALUMINUM CAN WASHING WHEN SUCH PHOSPHATING IS AN EXCLUSIVE CONVERSION COATING PROCESS.

. Waste code: LABP
. Waste name: LAB PACK

. Waste code: U007
. Waste name: 2-PROPENAMIDE (OR) ACRYLAMIDE

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

Date form received by agency: 04/14/2000
Site name: JONES ENVIRONMENTAL SERVICES (N.E.) INC.
Classification: Large Quantity Generator

Date form received by agency: 11/16/1998
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Not a generator, verified

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: F002
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F011
. Waste name: SPENT CYANIDE SOLUTIONS FROM SLAT BATH POT CLEANING FROM METAL HEAT TREATING OPERATIONS.

. Waste code: P029

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: COPPER CYANIDE (OR) COPPER CYANIDE CU(CN)

. Waste code: P030
. Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED

. Waste code: P074
. Waste name: NICKEL CYANIDE (OR) NICKEL CYANIDE NI(CN)2

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P106
. Waste name: SODIUM CYANIDE (OR) SODIUM CYANIDE NA(CN)

. Waste code: P121
. Waste name: ZINC CYANIDE (OR) ZINC CYANIDE ZN(CN)2

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: U002
. Waste name: 2-PROPANONE (I) (OR) ACETONE (I)

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U121
. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U123
. Waste name: FORMIC ACID (C,T)

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U154
. Waste name: METHANOL (I) (OR) METHYL ALCOHOL (I)

. Waste code: U159
. Waste name: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U210
. Waste name: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U226
. Waste name: ETHANE, 1,1,1-TRICHLORO- (OR) METHYL CHLOROFORM

. Waste code: U228
. Waste name: ETHENE, TRICHLORO- (OR) TRICHLOROETHYLENE

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Date form received by agency: 03/05/1998
Site name: GEOCHEM
Classification: Large Quantity Generator

Date form received by agency: 02/27/1996
Site name: GEOCHEM, INC., D/B/A JET-LINE ENV. SRVCS
Classification: Large Quantity Generator

Date form received by agency: 02/28/1994
Site name: GEOCHEM, INC.
Classification: Large Quantity Generator

Date form received by agency: 03/31/1992
Site name: GEOCHEM, INC. DBA JET-LINE SERVICES, INC
Classification: Large Quantity Generator

Date form received by agency: 11/19/1980
Site name: TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC
Classification: Not a generator, verified

. Waste code: P104
. Waste name: SILVER CYANIDE (OR) SILVER CYANIDE AG(CN)

. Waste code: P123
. Waste name: TOXAPHENE

. Waste code: U019
. Waste name: BENZENE (I,T)

. Waste code: U108
. Waste name: 1,4-DIETHYLENEOXIDE (OR) 1,4-DIOXANE

. Waste code: U113
. Waste name: 2-PROPENOIC ACID, ETHYL ESTER (I) (OR) ETHYL ACRYLATE (I)

. Waste code: U121

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

. Waste name: METHANE, TRICHLOROFLUORO- (OR) TRICHLOROMONOFLUOROMETHANE

. Waste code: U140
. Waste name: 1-PROPANOL, 2-METHYL- (I,T) (OR) ISOBUTYL ALCOHOL (I,T)

. Waste code: U162
. Waste name: 2-PROPENOIC ACID, 2-METHYL-, METHYL ESTER (I,T) (OR) METHYL METHACRYLATE (I,T)

. Waste code: U213
. Waste name: FURAN, TETRAHYDRO-(I) (OR) TETRAHYDROFURAN (I)

. Waste code: U220
. Waste name: BENZENE, METHYL- (OR) TOLUENE

. Waste code: U223
. Waste name: BENZENE, 1,3-DIISOCYANATOMETHYL- (R,T) (OR) TOLUENE DIISOCYANATE (R,T)

. Waste code: U238
. Waste name: CARBAMIC ACID, ETHYL ESTER (OR) ETHYL CARBAMATE (URETHANE)

. Waste code: U239
. Waste name: BENZENE, DIMETHYL- (I,T) (OR) XYLENE (I)

Biennial Reports:

Last Biennial Reporting Year: 2013

Annual Waste Handled:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 0

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 0

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
Amount (Lbs): 0

Waste code: D004

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Waste name: ARSENIC
Amount (Lbs): 0

Waste code: D005
Waste name: BARIUM
Amount (Lbs): 0

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 0

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 0

Waste code: D008
Waste name: LEAD
Amount (Lbs): 0

Waste code: D009
Waste name: MERCURY
Amount (Lbs): 0

Waste code: D010
Waste name: SELENIUM
Amount (Lbs): 0

Waste code: D011
Waste name: SILVER
Amount (Lbs): 0

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 0

Waste code: D019
Waste name: CARBON TETRACHLORIDE
Amount (Lbs): 0

Waste code: D020
Waste name: CHLORDANE
Amount (Lbs): 0

Waste code: D022
Waste name: CHLOROFORM
Amount (Lbs): 0

Waste code: D024
Waste name: M-CRESOL
Amount (Lbs): 0

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 0

Waste code: D038
Waste name: PYRIDINE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Amount (Lbs): 0

Waste code: D039
Waste name: TETRACHLOROETHYLENE
Amount (Lbs): 0

Waste code: D040
Waste name: TRICHLOROETHYLENE
Amount (Lbs): 0

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 0

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 0

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 0

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 0

Waste code: F006

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.
Amount (Lbs): 0

Waste code: LABP
Waste name: LAB PACK
Amount (Lbs): 0

Waste code: P001
Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Amount (Lbs): 0

Waste code: P010
Waste name: ARSENIC ACID H3ASO4
Amount (Lbs): 0

Waste code: P011
Waste name: ARSENIC OXIDE AS2O3
Amount (Lbs): 0

Waste code: P012
Waste name: ARSENIC OXIDE AS2O3
Amount (Lbs): 0

Waste code: P022
Waste name: CARBON DISULFIDE
Amount (Lbs): 0

Waste code: P030
Waste name: CYANIDES (SOLUBLE CYANIDE SALTS), NOT OTHERWISE SPECIFIED
Amount (Lbs): 0

Waste code: P048
Waste name: 2,4-DINITROPHENOL
Amount (Lbs): 0

Waste code: P068
Waste name: HYDRAZINE, METHYL-
Amount (Lbs): 0

Waste code: P075
Waste name: NICOTINE, & SALTS
Amount (Lbs): 0

Waste code: P076
Waste name: NITRIC OXIDE
Amount (Lbs): 0

Waste code: P077
Waste name: BENZENAMINE, 4-NITRO-
Amount (Lbs): 0

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Waste code: P078
Waste name: NITROGEN DIOXIDE
Amount (Lbs): 0

Waste code: P095
Waste name: CARBONIC DICHLORIDE
Amount (Lbs): 0

Waste code: P098
Waste name: POTASSIUM CYANIDE
Amount (Lbs): 0

Waste code: P105
Waste name: SODIUM AZIDE
Amount (Lbs): 0

Waste code: P112
Waste name: METHANE, TETRANITRO- (R)
Amount (Lbs): 0

Waste code: P120
Waste name: VANADIUM OXIDE V2O5
Amount (Lbs): 0

Waste code: P127
Waste name: 7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE (OR) CARBOFURAN
Amount (Lbs): 0

Waste code: P188
Waste name: BENZOIC ACID, 2-HYDROXY-, COMPD. WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-
Amount (Lbs): 0

Waste code: P204
Waste name: PHYSOSTIGMINE (OR) PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-METHYLCARBAMAT
Amount (Lbs): 0

Waste code: U001
Waste name: ACETALDEHYDE (I)
Amount (Lbs): 0

Waste code: U002
Waste name: ACETONE (I)
Amount (Lbs): 0

Waste code: U003
Waste name: ACETONITRILE (I,T)
Amount (Lbs): 0

Waste code: U007
Waste name: ACRYLAMIDE
Amount (Lbs): 0

Waste code: U009
Waste name: ACRYLONITRILE

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Amount (Lbs): 0

Waste code: U010
Waste name: AZIRINO[2',3':3,4]PYRROLO[1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]METHYL]-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METHOXY-5-METHYL-, [1AS-(1AALPHA, 8BETA,8AALPHA,8BALPHA)]-
Amount (Lbs): 0

Waste code: U035
Waste name: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]-
Amount (Lbs): 0

Waste code: U036
Waste name: CHLORDANE, ALPHA & GAMMA ISOMERS
Amount (Lbs): 0

Waste code: U037
Waste name: BENZENE, CHLORO-
Amount (Lbs): 0

Waste code: U044
Waste name: CHLOROFORM
Amount (Lbs): 0

Waste code: U045
Waste name: METHANE, CHLORO- (I, T)
Amount (Lbs): 0

Waste code: U052
Waste name: CRESOL (CRESYLIC ACID)
Amount (Lbs): 0

Waste code: U058
Waste name: CYCLOPHOSPHAMIDE
Amount (Lbs): 0

Waste code: U059
Waste name: DAUNOMYCIN
Amount (Lbs): 0

Waste code: U061
Waste name: BENZENE, 1,1'-(2,2,2-TRICHLOROETHYLIDENE)BIS[4-CHLORO-
Amount (Lbs): 0

Waste code: U075
Waste name: DICHLORODIFLUOROMETHANE
Amount (Lbs): 0

Waste code: U080
Waste name: METHANE, DICHLORO-
Amount (Lbs): 0

Waste code: U088
Waste name: 1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER
Amount (Lbs): 0

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Waste code: U092
Waste name: DIMETHYLAMINE (I)
Amount (Lbs): 0

Waste code: U112
Waste name: ACETIC ACID ETHYL ESTER (I)
Amount (Lbs): 0

Waste code: U115
Waste name: ETHYLENE OXIDE (I,T)
Amount (Lbs): 0

Waste code: U117
Waste name: ETHANE, 1,1'-OXYBIS-(I)
Amount (Lbs): 0

Waste code: U121
Waste name: METHANE, TRICHLOROFLUORO-
Amount (Lbs): 0

Waste code: U122
Waste name: FORMALDEHYDE
Amount (Lbs): 0

Waste code: U123
Waste name: FORMIC ACID (C,T)
Amount (Lbs): 0

Waste code: U132
Waste name: HEXACHLOROPHENE
Amount (Lbs): 0

Waste code: U135
Waste name: HYDROGEN SULFIDE
Amount (Lbs): 0

Waste code: U138
Waste name: METHANE, IODO-
Amount (Lbs): 0

Waste code: U150
Waste name: MELPHALAN
Amount (Lbs): 0

Waste code: U151
Waste name: MERCURY
Amount (Lbs): 0

Waste code: U169
Waste name: BENZENE, NITRO-
Amount (Lbs): 0

Waste code: U188
Waste name: PHENOL
Amount (Lbs): 0

Waste code: U190

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Waste name: 1,3-ISOBENZOFURANDIONE
Amount (Lbs): 0

Waste code: U200
Waste name: RESERPINE
Amount (Lbs): 0

Waste code: U205
Waste name: SELENIUM SULFIDE
Amount (Lbs): 0

Waste code: U219
Waste name: THIOUREA
Amount (Lbs): 0

Corrective Action Summary:

Event date: 06/22/1992
Event: RFA Completed, Assessment was a PA-Plus.

Event date: 07/08/1992
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 02/25/1995
Event: RFI Report Received

Event date: 08/27/1996
Event: Igration of Contaminated Groundwater under Control, Unacceptable migration of contaminated groundwater is observed or expected.

Event date: 08/27/1996
Event: Current Human Exposures under Control, Current human exposures are NOT under control.

Event date: 10/21/1998
Event: RFI Imposition

Event date: 09/04/2000
Event: RFI Workplan Received

Event date: 08/26/2003
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 08/26/2003
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 08/08/2006
Event: CA550RC

Event date: 08/08/2006
Event: Date For Remedy Selection (CM Imposed)

Event date: 09/30/2008
Event: CA800YE

Event date: Not reported
Event: CMS Workplan Approved

Event date: Not reported
Event: RFI Approved

Event date: Not reported
Event: RFI Report Received

Event date: Not reported
Event: RFI Workplan Approved

Event date: Not reported
Event: RFI Workplan Received

Event date: Not reported
Event: CMS Imposition

Event date: Not reported
Event: Stabilization Measures Evaluation

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Permits - Conditions
Date violation determined: 09/21/2011
Date achieved compliance: 12/05/2012
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 01/24/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 17250
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 09/21/2011
Date achieved compliance: 12/05/2012
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 01/24/2013

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 17250
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: State Statute or Regulation
Date violation determined: 09/21/2011
Date achieved compliance: 12/05/2012
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 01/24/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 17250
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Permits - Conditions
Date violation determined: 05/23/2011
Date achieved compliance: Not reported
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/30/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General Facility Standards
Date violation determined: 05/23/2011
Date achieved compliance: Not reported
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/30/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 05/23/2011
Date achieved compliance: Not reported
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/30/2013
Enf. disposition status: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 05/23/2011
Date achieved compliance: Not reported
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/30/2013
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 08/18/2010
Date achieved compliance: 12/14/2010
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/28/2010
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 08/18/2010
Date achieved compliance: 12/14/2010
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/28/2010
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: State Statute or Regulation
Date violation determined: 08/18/2010
Date achieved compliance: 12/14/2010
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/28/2010
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: PC - 22a-454
Area of violation: Transporters - General
Date violation determined: 01/09/2001
Date achieved compliance: 07/18/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/11/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 685
Area of violation: TSD - Container Use and Management
Date violation determined: 12/23/1996
Date achieved compliance: 04/07/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 099
Area of violation: TSD - General
Date violation determined: 12/23/1996
Date achieved compliance: 04/07/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 688(4)
Area of violation: TSD IS-Container Use and Management
Date violation determined: 12/05/1995
Date achieved compliance: 01/18/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 822(9)(a)
Area of violation: Permits - Application
Date violation determined: 07/17/1995
Date achieved compliance: 07/25/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/18/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 822(9)(b)
Area of violation: Permits - Application
Date violation determined: 07/17/1995
Date achieved compliance: 07/25/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/18/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 822(1)
Area of violation: Permits - Application
Date violation determined: 07/17/1995
Date achieved compliance: 07/25/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/18/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 822(5)
Area of violation: Permits - Application
Date violation determined: 07/17/1995
Date achieved compliance: 07/25/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/18/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SS - 21C,5
Area of violation: Transporters - General
Date violation determined: 03/08/1995
Date achieved compliance: 05/19/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/19/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 31000
Paid penalty amount: Not reported

Regulation violated: SR - 801
Area of violation: Transporters - General
Date violation determined: 03/08/1995
Date achieved compliance: 05/19/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/19/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 31000
Paid penalty amount: Not reported

Regulation violated: SR - 822(1)
Area of violation: Transporters - General
Date violation determined: 03/08/1995
Date achieved compliance: 05/19/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/19/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 31000
Paid penalty amount: Not reported

Regulation violated: SR - 416(1)
Area of violation: Transporters - General
Date violation determined: 03/24/1994
Date achieved compliance: 05/19/1995
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/19/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: 31000

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Paid penalty amount: Not reported

Regulation violated: FR - EXPORT
Area of violation: Generators - General
Date violation determined: 03/20/1991
Date achieved compliance: 06/10/1991
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/04/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 03/20/1991
Date achieved compliance: 06/10/1991
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/04/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 03/20/1991
Date achieved compliance: 04/29/1991
Violation lead agency: EPA
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 04/26/1990
Date achieved compliance: 07/10/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/05/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 02/17/1989
Date achieved compliance: 03/31/1989
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Formal Enforcement Agreement or Order
Date violation determined: 05/11/1988
Date achieved compliance: 03/31/1989
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 06/22/1987
Date achieved compliance: 10/16/1987
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 06/22/1987
Date achieved compliance: 10/16/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/14/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Area of violation: TSD - General
Date violation determined: 06/17/1986
Date achieved compliance: 09/08/1986
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 03/26/1986
Date achieved compliance: 04/30/1986
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 04/01/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 12/10/1985
Date achieved compliance: 01/30/1986
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 01/02/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 07/25/1984
Date achieved compliance: 09/05/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/10/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Date violation determined: 10/31/1983
Date achieved compliance: 05/01/1984
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/01/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 10/31/1983
Date achieved compliance: 05/01/1984
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/01/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - General
Date violation determined: 10/31/1983
Date achieved compliance: 05/01/1984
Violation lead agency: State
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/01/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 06/19/2015
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/12/2014
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/11/2014
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation lead agency: State

Evaluation date: 09/24/2013
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/24/2013
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/05/2012
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/21/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 12/05/2012
Evaluation lead agency: State

Evaluation date: 09/21/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Permits - Conditions
Date achieved compliance: 12/05/2012
Evaluation lead agency: State

Evaluation date: 09/21/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: State Statute or Regulation
Date achieved compliance: 12/05/2012
Evaluation lead agency: State

Evaluation date: 08/23/2011
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 05/25/2011
Evaluation: CASE DEVELOPMENT INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 05/23/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Permits - Conditions
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 05/23/2011

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 05/23/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 05/23/2011
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 12/14/2010
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/18/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Preparedness and Prevention
Date achieved compliance: 12/14/2010
Evaluation lead agency: State

Evaluation date: 08/18/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 12/14/2010
Evaluation lead agency: State

Evaluation date: 08/18/2010
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: State Statute or Regulation
Date achieved compliance: 12/14/2010
Evaluation lead agency: State

Evaluation date: 06/17/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/21/2008
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/06/2008
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation lead agency: State

Evaluation date: 09/24/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/14/2007
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/05/2006
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/01/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/24/2005
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/30/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/27/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/11/2003
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/09/2001
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Transporters - General
Date achieved compliance: 07/18/2002
Evaluation lead agency: State

Evaluation date: 04/07/1999

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/23/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 04/07/1999
Evaluation lead agency: State

Evaluation date: 12/23/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 04/07/1999
Evaluation lead agency: State

Evaluation date: 01/18/1996
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/05/1995
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: TSD IS-Container Use and Management
Date achieved compliance: 01/18/1996
Evaluation lead agency: State

Evaluation date: 07/17/1995
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Permits - Application
Date achieved compliance: 07/25/1995
Evaluation lead agency: State

Evaluation date: 05/19/1995
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/08/1995
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/08/1995
Evaluation: NON-FINANCIAL RECORD REVIEW
Area of violation: Transporters - General
Date achieved compliance: 05/19/1995
Evaluation lead agency: State

Evaluation date: 05/25/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation lead agency: State

Evaluation date: 04/07/1993
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/02/1992
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/1992
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/05/1992
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/09/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/08/1991
Evaluation: FOLLOW-UP INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/20/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 04/29/1991
Evaluation lead agency: EPA

Evaluation date: 03/20/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/20/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/10/1991
Evaluation lead agency: EPA

Evaluation date: 03/20/1991

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 06/10/1991
Evaluation lead agency: EPA

Evaluation date: 06/12/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/26/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 07/10/1990
Evaluation lead agency: State

Evaluation date: 02/26/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/02/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/31/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/17/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: TSD - General
Date achieved compliance: 03/31/1989
Evaluation lead agency: State

Evaluation date: 05/11/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/11/1988
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Formal Enforcement Agreement or Order
Date achieved compliance: 03/31/1989
Evaluation lead agency: State

Evaluation date: 06/22/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 10/16/1987

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation lead agency: State

Evaluation date: 09/08/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/17/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 09/08/1986
Evaluation lead agency: State

Evaluation date: 03/26/1986
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 04/30/1986
Evaluation lead agency: State

Evaluation date: 12/10/1985
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 01/30/1986
Evaluation lead agency: State

Evaluation date: 10/09/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/25/1984
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 09/05/1984
Evaluation lead agency: State

Evaluation date: 02/09/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/31/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Financial Requirements
Date achieved compliance: 05/01/1984
Evaluation lead agency: State

Evaluation date: 10/31/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General
Date achieved compliance: 05/01/1984
Evaluation lead agency: State

Evaluation date: 10/31/1983

TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC (Continued) **1000170150**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 05/01/1984
Evaluation lead agency: State

US FIN ASSUR:
EPA ID: MAD047075734
Provider: CHARTIS SPECIALTY INSURANCE COMPANY
EPA region: 1
County: MIDDLESEX
Mechanism type: INSURANCE
Mechanism ID: PLS1672257
Cost estimate: 3000000
Face value: 6000000
Effective date: 12/31/2010

EPA ID: MAD047075734
Provider: BANKNORTH, N.A.
EPA region: 1
County: MIDDLESEX
Mechanism type: TRUST FUND (FULLY FUNDED)
Mechanism ID: JONES ENVIRONMENTAL SERVICES TRUST
Cost estimate: 90000
Face value: 112188.89
Effective date: 1/10/2005

2020 COR ACTION:
EPA ID: MAD047075734
Region: 1
Action: Remedy Constructed

PADS:
EPAID: MAD047075734
Facility name: GEOCHEM/JET-LINE OF LOWELL
Facility Address: 263 HOWARD ST
LOWELL, MA 1852
Facility country: US
Generator: No
Storer: No
Transporter: Yes
Disposer: No
Research facility: No
Smelter: No
Facility owner name: WILLIAM F. CONNOR
Contact title: Not reported
Contact name: FICHERA, MARY J.
Contact tel: (508)937-7294
Contact extension: Not reported
Mailing address: 263 HOWARD ST
LOWELL, MA 1852
Mailing country: US
Cert. title: Not reported
Cert. name: Not reported
Cert. date: 08/29/1994
Date received: 09/16/1994

242
WSW
1/2-1
0.973 mi.
5137 ft.

Relative:
Higher

Actual:
112 ft.

ELECTRO CIRCUITS INC
176 WALKER STREET
LOWELL, MA 01854

SEMS-ARCHIVE
SHWS
RELEASE
RCRA NonGen / NLR
FINDS
ECHO

1000181345
MAD001008770

SEMS-ARCHIVE:
Site ID: 102770
EPA ID: MAD001008770
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0102770
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: Removal Only Site (No Site Assessment Work Needed)

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 1000761.00000
Person ID: 1000155.00000

Contact Sequence ID: 1335147.00000
Person ID: 1270187.00000

Program Priority:
Description: Environmental Justice Indicator

CERCLIS-NFRAP Assessment History:
Action: REMOVAL
Date Started: 09/23/94
Date Completed: 06/05/95
Priority Level: Cleaned up

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 08/13/98
Priority Level: Not reported

Action: Public Notice Published
Date Started: / /
Date Completed: 01/19/95
Priority Level: Not reported

SHWS:
Release Tracking Number/Current Status: 3-0011640 / RAO
Release Town: LOWELL
Notification Date: 09/26/1994
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 04/04/1997
Phase: Not reported
Response Action Outcome: A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

ELECTRO CIRCUITS INC (Continued) **1000181345**

Oil Or Haz Material: Hazardous Material
Location Type: INDUSTRIAL
Source: CHEM VATS

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: CYANIDE
Quantity: Not reported

Actions:
Action Type: RLFA
Action Status: FOLOFF
Action Date: 10/16/1996
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RAO - DEP Lead
Action Status: RAO Statement Received
Action Date: 4/4/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Immediate Response Action - DEP Lead
Action Status: Completion Statement Received
Action Date: 5/16/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 5/2/1995
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 9/26/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLOFF
Action Date: 9/27/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Action Type: RLFA
Action Status: FOLFLD
Action Date: 9/29/1994
Response Action Outcome: A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.

Release:
Release Tracking Number/Current Status: 3-0011640 / RAO

ELECTRO CIRCUITS INC (Continued) **1000181345**

Primary ID:	Not reported
Official City:	LOWELL
Notification:	09/26/1994
Category:	TWO HR
Status Date:	04/04/1997
Phase:	Not reported
Response Action Outcome:	A1 - A permanent solution has been achieved. Contamination has been reduced to background or a threat of release has been eliminated.
Oil / Haz Material Type:	Hazardous Material

Click here to access the MA DEP site for this facility:

RCRA NonGen / NLR:

Date form received by agency:	06/30/1997
Facility name:	ELECTRO CIRCUITS INC
Facility address:	176 WALKER ST LOWELL, MA 01854
EPA ID:	MAD001008770
Contact:	DAVID-G COLLINS
Contact address:	176 WALKER ST LOWELL, MA 01854
Contact country:	US
Contact telephone:	(508) 452-8981
Contact email:	Not reported
EPA Region:	01
Land type:	Private
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	ELECTRO-CIRCUITS INC
Owner/operator address:	176 WALKER ST LOWELL, MA 01854
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/1900
Owner/Op end date:	06/30/1997

Owner/operator name:	ELECTRO CIRCUITS INC
Owner/operator address:	176 WALKER ST LOWELL, MA 01854
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	03/01/1956
Owner/Op end date:	06/30/1997

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No

ELECTRO CIRCUITS INC (Continued) **1000181345**

Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

Historical Generators:
Date form received by agency: 02/15/1994
Site name: ELECTRO CIRCUITS, INC.
Classification: Large Quantity Generator

Date form received by agency: 02/12/1992

ELECTRO CIRCUITS INC (Continued) **1000181345**

Site name: ELECTRO CIRCUITS, INC
Classification: Large Quantity Generator

Date form received by agency: 03/01/1990
Site name: ELECTRO CIRCUITS INC.
Classification: Large Quantity Generator

Date form received by agency: 08/18/1980
Site name: ELECTRO CIRCUITS INC
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: F001
. Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F007
. Waste name: SPENT CYANIDE PLATING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS.

. Waste code: F008
. Waste name: PLATING BATH RESIDUES FROM THE BOTTOM OF PLATING BATHS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

. Waste code: F009
. Waste name: SPENT STRIPPING AND CLEANING BATH SOLUTIONS FROM ELECTROPLATING OPERATIONS IN WHICH CYANIDES ARE USED IN THE PROCESS.

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 02/15/1989
Date achieved compliance: 09/25/1989
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL

ELECTRO CIRCUITS INC (Continued) **1000181345**

Enforcement action date: 04/11/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:

Evaluation date: 03/23/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/27/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 09/25/1989
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/15/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 09/25/1989
Evaluation lead agency: EPA

FINDS:

Registry ID: 110001944503

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of

ELECTRO CIRCUITS INC (Continued) **1000181345**

events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

MA-EPICS - Massachussetts Environmental Protection Integrated Computer System

AIR MINOR

ECHO:
Envid: 1000181345
Registry ID: 110001944503
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110001944503

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243 South 1/2-1 0.975 mi. 5150 ft.

NO LOCATION AID **SHWS S102687322**
IRVING ST @ PINE HILL ST **RELEASE N/A**
LOWELL, MA 01853

Relative: Higher

Actual: 103 ft.

SHWS:
Release Tracking Number/Current Status: 3-0015277 / RAO
Release Town: LOWELL
Notification Date: 07/06/1997
Category: TWO HR
Associated ID: Not reported
Current Status: **Response Action Outcome**
Status Date: 08/22/1997
Phase: Not reported
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: ROADWAY
Source: SADDLE
Source: VEHICLE
Source: TANKS

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: DIESEL FUEL
Quantity: 125 gallons
Chemical: DIESEL FUEL
Quantity: 150 gallons

Actions:
Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 7/30/1997
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action

NO LOCATION AID (Continued) **S102687322**

Action Date:	7/6/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	7/6/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RLFA
Action Status:	FOLFLD
Action Date:	7/7/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	8/22/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.
Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	8/22/1997
Response Action Outcome:	A permanent solution has been achieved. Contamination has not been reduced to background.

Release:

Release Tracking Number/Current Status:	3-0015277 / RAO
Primary ID:	Not reported
Official City:	LOWELL
Notification:	07/06/1997
Category:	TWO HR
Status Date:	08/22/1997
Phase:	Not reported
Response Action Outcome:	A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type:	Oil

Click here to access the MA DEP site for this facility:

---

244 ESE 1/2-1 0.985 mi. 5202 ft. **NO LOCATION AID** **SHWS S104482558**
38 CARRIAGE DR **LAST N/A**
LOWELL, MA **RELEASE**

Relative: Higher

Actual: 163 ft.

SHWS:

Release Tracking Number/Current Status:	3-0019216 / RAO
Release Town:	LOWELL
Notification Date:	01/27/2000
Category:	TWO HR
Associated ID:	Not reported
Current Status:	**Response Action Outcome**

NO LOCATION AID (Continued) **S104482558**

Status Date: 08/14/2001
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil Or Haz Material: Oil
Location Type: RESIDNTIAL
Source: AST
Source: PIPE

Click here to access the MA DEP site for this facility:

Chemicals:
Chemical: FUEL OIL #2
Quantity: 11 gallons
Chemical: FUEL OIL #2
Quantity: 200 gallons

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/27/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/27/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Legal Notice Published

NO LOCATION AID (Continued) **S104482558**

Action Date: 3/13/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 3/16/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/3/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 3/9/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/9/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/14/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/25/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 8/25/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

LAST:
Release Tracking Number/Current Status: 3-0019216 / RAO
Source Type: AST
Release Town: LOWELL
Notification Date: 01/27/2000
Category: TWO HR
Associated ID: Not reported
Status Date: 08/14/2001
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not

NO LOCATION AID (Continued) **S104482558**

been reduced to background.
Oil Or Haz Material: Oil

Chemicals:
Chemical: FUEL OIL #2
Quantity: 11 gallons
Chemical: FUEL OIL #2
Quantity: 200 gallons
Location Type: RESIDNTIAL
Source: AST
Source: PIPE

Actions:
Action Type: Release Disposition
Action Status: Reportable Release under MGL 21E
Action Date: 1/27/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Oral Approval of Plan or Action
Action Date: 1/27/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 2
Action Status: Scope of Work Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 2/2/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 3/13/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Approval of Plan
Action Date: 3/16/2000

NO LOCATION AID (Continued) **S104482558**

Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: A Notice sent to a Potentially Responsible Party (PRP)
Action Status: A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date: 3/3/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Written Plan Received
Action Date: 3/9/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: RNF
Action Status: Reportable Release under MGL 21E
Action Date: 3/9/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Response Action Outcome - RAO
Action Status: RAO Statement Received
Action Date: 8/14/2001
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Status or Interim Report Received
Action Date: 8/25/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Action Type: Immediate Response Action
Action Status: Completion Statement Received
Action Date: 8/25/2000
Response Action Outcome: A permanent solution has been achieved. Contamination has not been reduced to background.

Release:
Release Tracking Number/Current Status: 3-0019216 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 01/27/2000
Category: TWO HR
Status Date: 08/14/2001
Phase: PHASE II
Response Action Outcome: A2 - A permanent solution has been achieved. Contamination has not been reduced to background.
Oil / Haz Material Type: Oil

Click here to access the MA DEP site for this facility:

245 WSW 1/2-1 0.988 mi. 5219 ft.

NO LOCATION AID
207 WALKER ST
LOWELL, MA 01852

SHWS RELEASE

S104847531
N/A

Relative: Higher

Actual: 105 ft.

SHWS:

Release Tracking Number/Current Status:	3-0020178 / RAO
Release Town:	LOWELL
Notification Date:	11/20/2000
Category:	120 DY
Associated ID:	Not reported
Current Status:	**Response Action Outcome**
Status Date:	11/15/2001
Phase:	PHASE II
Response Action Outcome:	B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil Or Haz Material:	Oil and Hazardous Material

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	BENZO[A]ANTHRACENE
Quantity:	2.5 micrograms per gallon
Chemical:	DIBENZO[A,H]ANTHRACENE
Quantity:	1.2 micrograms per gallon
Chemical:	INDENO(1,2,3-CD)PYRENE
Quantity:	2.4 micrograms per gallon
Chemical:	BENZO[B]FLUORANTHENE
Quantity:	2.5 micrograms per gallon
Chemical:	BENZO[A]PYRENE
Quantity:	2.7 micrograms per gallon
Chemical:	C11 THRU C22 AROMATIC HYDROCARBONS
Quantity:	460 micrograms per gallon

Actions:

Action Type:	Response Action Outcome - RAO
Action Status:	RAO Statement Received
Action Date:	11/15/2001
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	RNF
Action Status:	Reportable Release under MGL 21E
Action Date:	11/20/2000
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	Release Disposition
Action Status:	Reportable Release under MGL 21E
Action Date:	11/20/2000
Response Action Outcome:	Remedial actions have not been conducted because a level of No Significant Risk exists.
Action Type:	A Notice sent to a Potentially Responsible Party (PRP)
Action Status:	A MassDEP piece of correspondence was issued (approvals, NORs, etc.
Action Date:	2/1/2001
Response Action Outcome:	Remedial actions have not been conducted because a level of No

NO LOCATION AID (Continued) **S104847531**

Significant Risk exists.

Action Type: Tier Classification
Action Status: Legal Notice Published
Action Date: 3/20/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Tier Classification
Action Status: Tier 2 Classification
Action Date: 3/7/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Tier Classification
Action Status: Transmittal, Notice, or Notification Received
Action Date: 3/7/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Phase 1
Action Status: Completion Statement Received
Action Date: 3/7/2001
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: An activity type that is related to an Audit
Action Status: NOA
Action Date: 4/6/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: Response Action Outcome - RAO
Action Status: Level III - Comprehensive Audit
Action Date: 4/6/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Action Type: An activity type that is related to an Audit
Action Status: NAFNVD
Action Date: 5/30/2012
Response Action Outcome: Remedial actions have not been conducted because a level of No Significant Risk exists.

Release:
Release Tracking Number/Current Status: 3-0020178 / RAO
Primary ID: Not reported
Official City: LOWELL
Notification: 11/20/2000
Category: 120 DY
Status Date: 11/15/2001
Phase: PHASE II
Response Action Outcome: B1 - Remedial actions have not been conducted because a level of No Significant Risk exists.
Oil / Haz Material Type: Oil and Hazardous Material

NO LOCATION AID (Continued) **S104847531**

Click here to access the MA DEP site for this facility:

BC246
SSE
1/2-1
0.997 mi.
5266 ft.

DEWIRE FABRICATING
633 LAWRENCE ST
LOWELL, MA 01850

Site 2 of 2 in cluster BC

SHWS **S100362994**
RELEASE **N/A**

Relative:
Higher

Actual:
89 ft.

SHWS:

Release Tracking Number/Current Status:	3-0000139 / DEPNDS
Release Town:	LOWELL
Notification Date:	01/15/1987
Category:	NONE
Associated ID:	Not reported
Current Status:	**Not a Disposal Site (DEP)**
Status Date:	05/15/1996
Phase:	Not reported
Response Action Outcome:	-
Oil Or Haz Material:	Not reported

Click here to access the MA DEP site for this facility:

Chemicals:

Chemical:	UNKNOWN
Quantity:	Not reported

Actions:

Action Type:	Release Disposition
Action Status:	Valid Transition Site
Action Date:	1/15/1987
Response Action Outcome:	Not reported

Action Type:	TREGS
Action Status:	DEPNDS
Action Date:	5/15/1996
Response Action Outcome:	Not reported

Release:

Release Tracking Number/Current Status:	3-0000139 / DEPNDS
Primary ID:	Not reported
Official City:	LOWELL
Notification:	01/15/1987
Category:	NONE
Status Date:	05/15/1996
Phase:	Not reported
Response Action Outcome:	-
Oil / Haz Material Type:	Not reported

Click here to access the MA DEP site for this facility:

Count: 25 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DRACUT	1003862849	KEATING MATERIALS CORP	ROUTE 38 BRIDGE STREET	01826	SEMS-ARCHIVE
DRACUT	S103811917	UTILITY POLE NUMBER 38	BROADWAY RD	01826	SHWS, RELEASE
DRACUT	S108117547	POLE 98	HILDRETH ST	01826	SHWS, RELEASE
DRACUT	S102086010	1/4 EAST OF QUARRY GATE	METHUEN ST	01826	SHWS, RELEASE
DRACUT	S109489361	EAST SIDE UTILITY POLE 20	SAW MILL RD	01826	SHWS, RELEASE
LOWELL	S105810608	NO LOCATION AID	RTE 495 NORTH @ CONCORD RIV		SHWS, RELEASE
LOWELL	S118337328	MASSACHUSETTS MILL III	169.2 BRIDGE STREET		SHWS, RELEASE
LOWELL	S110479590	NO LOCATION AID	CABOT ST	01854	SHWS, RELEASE
LOWELL	1003862945	PEARSON-PALM	CHURCH/GEORGE/WARREN STREETS	01852	SEMS-ARCHIVE
LOWELL	S110303381	PROPRIETORS OF THE LOWELL CEMETERY	CONCORD RIV GREENWAY	01852	SHWS, RELEASE, ENF
LOWELL	S104774229	NO LOCATION AID	CORPORATE PARK		SHWS, RELEASE
LOWELL	S118562890	MASS MILLS III LIMITED PARTNERSHIP	COURTYARD BEHIND 169.2 BRIDGE	01852	SHWS, RELEASE
LOWELL	S110115127	NATIONAL GRID	DUTTON ST	01854	SHWS, RELEASE, ENF
LOWELL	S103383651	MASS ELECTRIC	FARNHAM ST	01854	SHWS, RELEASE
LOWELL	S109330280	GORHAM STREET LANDFILL	GORHAM ST	01852	SWF/LF
LOWELL	S105124965	UTILITY POLE NO 14	LAWRENCE ST	01852	SHWS, RELEASE
LOWELL	S106863349	POLE NO 61	PAWTUCKET BLVD	01850	SHWS, RELEASE
LOWELL	S105309395	ROGERS STREET	PERRY ST SUBSTATION RIGHT	01853	SHWS, RELEASE
LOWELL	1002930134	US POSTAL SERVICE	POST OFFICE SQUARE	01852	SEMS-ARCHIVE, RCRA-CESQG
LOWELL	S106030061	ROADWAY	ROGERS ST	01852	SHWS, RELEASE
LOWELL	S113882675	UNIVERSITY AVE BRIDGE	UNIVERSITY AVENUE	01854	SHWS, RELEASE, ENF
LOWELL	S106775829	UMASS LOWELL CAMPUS	UNIVERSITY AVE	01854	SHWS, RELEASE
LOWELL	S103811557	NO LOCATION AID	WALKER ST		SHWS, RELEASE
LOWELL	S110479607	RAILROAD TRACKS NEAR WESTERN AVENU	WESTERN AVENUE		SHWS, RELEASE
LOWELL	S110822265	G MILL	WESTERN AVE	01851	SHWS, RELEASE

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015
Date Data Arrived at EDR: 01/06/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 135

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/06/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/22/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/12/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/25/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 51

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Site Transition List

Contains information on releases of oil and hazardous materials that have been reported to DEP.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facility Database/Transfer Stations

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 01/31/2016
Date Data Arrived at EDR: 04/07/2016
Date Made Active in Reports: 04/21/2016
Number of Days to Update: 14

Source: Department of Environmental Protection
Telephone: 617-292-5989
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

LF PROFILES: Landfill Profiles Listing

This spreadsheet describes landfills that have actively accepted waste or have closed under MassDEP Solid Waste Regulations first adopted in 1971 (310 CMR 16.00 and 310 CMR 19.00). The list does not include landfills that closed before 1971 (and which never had a MassDEP permit or approval), or for which agency data is incomplete.

Date of Government Version: 07/01/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 12/14/2015
Number of Days to Update: 48

Source: Department of Environmental Protection
Telephone: 617-292-5868
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

State and tribal leaking storage tank lists

LAST: Leaking Aboveground Storage Tank Sites

Sites within the Releases Database that have a AST listed as its source.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 617-292-5500
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

LUST: Leaking Underground Storage Tank Listing
Sites within the Leaking Underground Storage Tank Listing that have a UST listed as its source.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 6
Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Semi-Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/18/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 56

Source: Department of Fire Services, Office of the Public Safety
Telephone: 617-556-1035
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Quarterly

AST: Aboveground Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 10/22/2009
Date Data Arrived at EDR: 10/28/2009
Date Made Active in Reports: 11/06/2009
Number of Days to Update: 9

Source: Department of Public Safety
Telephone: 617-556-1035
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 120

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 119

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Semi-Annually

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 07/27/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Quarterly

State and tribal institutional control / engineering control registries

INST CONTROL: Sites With Activity and Use Limitation

Activity and Use Limitations establish limits and conditions on the future use of contaminated property, and therefore allow cleanups to be tailored to these uses.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Completed Brownfields Covenants Listing

Under Massachusetts law, M.G.L. c. 21E is the statute that governs the cleanup of releases of oil and/or hazardous material to the environment. The Brownfields Act of 1998 amended M.G.L. c. 21E by establishing significant liability relief and financial incentives to spur the redevelopment of brownfields, while ensuring that the Commonwealth's environmental standards are met. Most brownfields are redeveloped with the benefit of liability protections that operate automatically under M.G.L. c. 21E.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 57

Source: Office of the Attorney General
Telephone: 617-963-2423
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Annually

BROWNFIELDS 2: Potential Brownfields Listing

A listing of potential brownfields site locations in the state.

Date of Government Version: 05/13/2016
Date Data Arrived at EDR: 05/24/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 56

Source: Department of Environmental Protection
Telephone: 617-556-1007
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/21/2016
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 08/05/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/20/2016
Next Scheduled EDR Contact: 10/07/2016
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/04/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 40

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/04/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 40

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Quarterly

Local Land Records

LIENS: Liens Information Listing

A listing of environmental liens.

Date of Government Version: 02/24/2014
Date Data Arrived at EDR: 02/27/2014
Date Made Active in Reports: 03/14/2014
Number of Days to Update: 15

Source: Department of Environmental Protection
Telephone: 617-292-5628
Last EDR Contact: 08/19/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

RELEASE: Reportable Releases

Contains information on all releases of oil and hazardous materials that have been reported to DEP

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 6

Source: Department of Environmental Protection
Telephone: 617-292-5990
Last EDR Contact: 07/13/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

MA SPILLS: Historical Spill List

The Spills Database was the release notification tracking system for spills that occurred prior to October 1, 1993. This information should be considered to be primarily of historical interest since all of the listed spills have either been cleaned up or assigned new tracking numbers and moved to the Reportable Releases or Sites Transition List databases.

Date of Government Version: 09/30/1993
Date Data Arrived at EDR: 12/03/2003
Date Made Active in Reports: 12/31/2003
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 617-292-5720
Last EDR Contact: 12/03/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/11/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/08/2013
Number of Days to Update: 36

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 03/10/1998
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/05/2013
Number of Days to Update: 61

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (888) 372-7341
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 06/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/15/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/08/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/24/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 06/07/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/25/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 08/12/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 28
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/05/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/09/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/10/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 07/29/2016
Next Scheduled EDR Contact: 11/07/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/07/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/27/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/11/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 80

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 07/26/2016
Next Scheduled EDR Contact: 11/21/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/08/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/03/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/03/2016
Next Scheduled EDR Contact: 09/12/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (617) 918-1111
Last EDR Contact: 06/08/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 03/01/2016
Date Data Arrived at EDR: 03/03/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 33
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67
Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 06/20/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Varies

AIRS: Permitted Facilities Listing
A listing of Air Quality permit applications.

Date of Government Version: 04/19/2016
Date Data Arrived at EDR: 04/22/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 28
Source: Department of Environmental Protection
Telephone: 617-292-5789
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Varies

DRYCLEANERS: Regulated Drycleaning Facilities
A listing of Department of Environmental Protection regulated drycleaning facilities that use perchloroethylene under the Environmental Results Program.

Date of Government Version: 07/07/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 7
Source: Department of Environmental Protection
Telephone: 617-292-5633
Last EDR Contact: 06/09/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

ENFORCEMENT: Enforcement Action Cases
A listing of enforcement action cases tracked by Department of Environmental Protection programs, including Solid Waste and Hazardous Waste.

Date of Government Version: 05/13/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 53
Source: Department of Environmental Quality
Telephone: 617-292-5979
Last EDR Contact: 08/12/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Information for hazardous waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 12/01/2010
Date Data Arrived at EDR: 12/23/2010
Date Made Active in Reports: 02/03/2011
Number of Days to Update: 42
Source: Department of Environmental Protection
Telephone: 617-292-5970
Last EDR Contact: 06/09/2016
Next Scheduled EDR Contact: 09/26/2016
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for underground storage tanks. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 10/21/2011
Date Data Arrived at EDR: 10/25/2011
Date Made Active in Reports: 11/18/2011
Number of Days to Update: 24

Source: Office of State Fire Marshal
Telephone: 978-567-3100
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Quarterly

Financial Assurance 3: Financial Assurance Information listing

Information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 10/01/2014
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 11/10/2014
Number of Days to Update: 11

Source: Department of Environmental Protection
Telephone: 617-292-5970
Last EDR Contact: 07/11/2016
Next Scheduled EDR Contact: 10/24/2016
Data Release Frequency: Varies

GWDP: Ground Water Discharge Permits

The Ground Water Discharge Permits datalayer (formerly known as Groundwater Discharge Points) is a statewide point dataset containing approximate locations of permitted discharges to groundwater.

Date of Government Version: 09/01/2011
Date Data Arrived at EDR: 11/08/2011
Date Made Active in Reports: 12/05/2011
Number of Days to Update: 27

Source: MassGIS
Telephone: 617-556-1150
Last EDR Contact: 08/02/2016
Next Scheduled EDR Contact: 11/14/2016
Data Release Frequency: Varies

HW GEN: List of Massachusetts Hazardous Waste Generators

Permanent generator identification numbers for all Massachusetts generators of hazardous waste and waste oil that have registered with or notified MassDEP of their hazardous waste activities.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/28/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 21

Source: Department of Environmental Protection
Telephone: 617-292-5500
Last EDR Contact: 06/28/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Semi-Annually

LEAD: Lead Inspection Database

The Massachusetts Childhood Lead Poisoning Prevention Program data of lead inspection for the state.

Date of Government Version: 07/09/2015
Date Data Arrived at EDR: 07/15/2015
Date Made Active in Reports: 08/04/2015
Number of Days to Update: 20

Source: Department of Health & Human Services, Childhood Lead Poisoning Prevention Progr
Telephone: 617-624-5757
Last EDR Contact: 06/30/2016
Next Scheduled EDR Contact: 10/17/2016
Data Release Frequency: Varies

MERCURY: Mercury Product Recyling Drop-Off Locations Listing

A listing of locations, collecting and recycling for mercury-added products. Mercury is toxic to the human nervous system, as well as fish and animals. Mercury can enter the body either through skin absorption or through inhalation of mercury vapors. At room temperature, small beads of mercury will vaporize.

Date of Government Version: 06/06/2016
Date Data Arrived at EDR: 06/09/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: 617-292-5632
Last EDR Contact: 08/22/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

NPDES: NPDES Permit Listing

Listing of treatment plants in Massachusetts that hold permits to discharge to groundwater.

Date of Government Version: 09/15/2015
Date Data Arrived at EDR: 09/18/2015
Date Made Active in Reports: 10/22/2015
Number of Days to Update: 34

Source: Department of Environmental Protection
Telephone: 508-767-2781
Last EDR Contact: 08/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

TIER 2: Tier 2 Information Listing
A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 07/19/2016
Number of Days to Update: 54

Source: Massachusetts Emergency Management Agency
Telephone: 508-820-2019
Last EDR Contact: 07/15/2016
Next Scheduled EDR Contact: 10/31/2016
Data Release Frequency: Annually

TSD: TSD Facility
List of Licensed Hazardous Waste Treatment, Storage Disposal Facilities (TSDFs) in Massachusetts.

Date of Government Version: 04/01/2015
Date Data Arrived at EDR: 06/30/2015
Date Made Active in Reports: 07/10/2015
Number of Days to Update: 10

Source: Department of Environmental Protection
Telephone: 617-292-5580
Last EDR Contact: 07/01/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/25/2016
Date Made Active in Reports: 07/13/2016
Number of Days to Update: 49

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/23/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 06/22/2016
Next Scheduled EDR Contact: 10/03/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Massachusetts.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Protection in Massachusetts.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/24/2013
Number of Days to Update: 176

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: MassDEP
Telephone: 617-292-5907

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

LOWELL HIGH SCHOOL
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

TARGET PROPERTY COORDINATES

Latitude (North):	42.647097 - 42° 38' 49.55''
Longitude (West):	71.31045 - 71° 18' 37.62''
Universal Tranverse Mercator:	Zone 19
UTM X (Meters):	310595.2
UTM Y (Meters):	4724000.0
Elevation:	89 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5644820 LOWELL, MA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

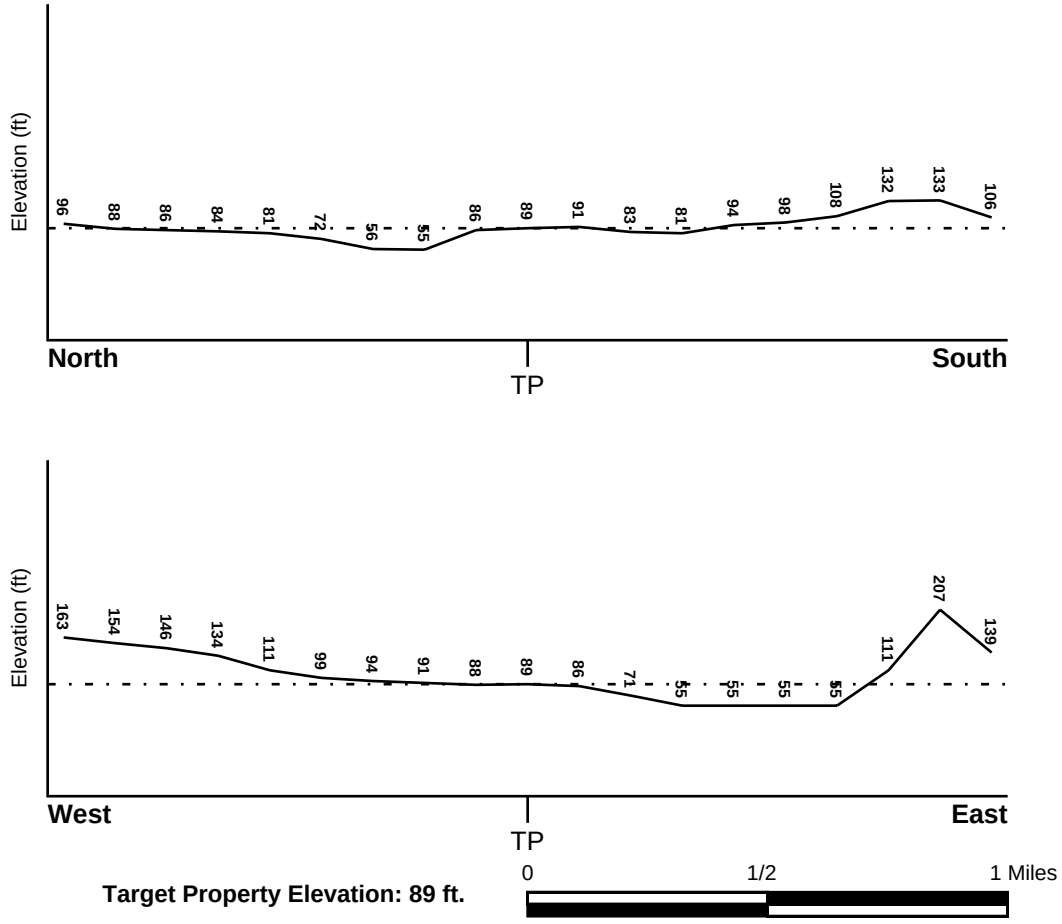
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General NE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 89 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MIDDLESEX, MA	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 25017C - FEMA DFIRM Flood data

Additional Panels in search area: Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
EAST HALF OF LOWELL	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
1	1/8 - 1/4 Mile SW	SE
A8	1/2 - 1 Mile SE	NNE
9	1/2 - 1 Mile NW	NE

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Paleozoic
System:	Ordovian
Series:	Lower Paleozoic granitic rocks
Code:	Pzg1 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Plutonic and Intrusive Rocks

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: fine sandy loam
silt loam
very fine sandy loam

Surficial Soil Types: fine sandy loam
silt loam
very fine sandy loam

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: fine sandy loam
channery - silt loam
gravelly - loamy sand
silt loam
loamy fine sand
stratified
gravelly - sandy loam

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
2	USGS40000479319	1/8 - 1/4 Mile ESE
3	USGS40000479405	1/4 - 1/2 Mile NE
4	USGS40000479435	1/4 - 1/2 Mile NNE
5	USGS40000479449	1/4 - 1/2 Mile North
6	USGS40000479267	1/4 - 1/2 Mile SW
10	USGS40000479362	1/2 - 1 Mile East
B13	USGS40000479202	1/2 - 1 Mile SSW
14	USGS40000479281	1/2 - 1 Mile WSW
B15	USGS40000479189	1/2 - 1 Mile SSW
17	USGS40000479273	1/2 - 1 Mile WSW
20	USGS40000479543	1/2 - 1 Mile NNW
22	USGS40000479126	1/2 - 1 Mile South
C23	USGS40000479547	1/2 - 1 Mile NNW
C24	USGS40000479548	1/2 - 1 Mile NNW
25	USGS40000479104	1/2 - 1 Mile South
26	USGS40000479135	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

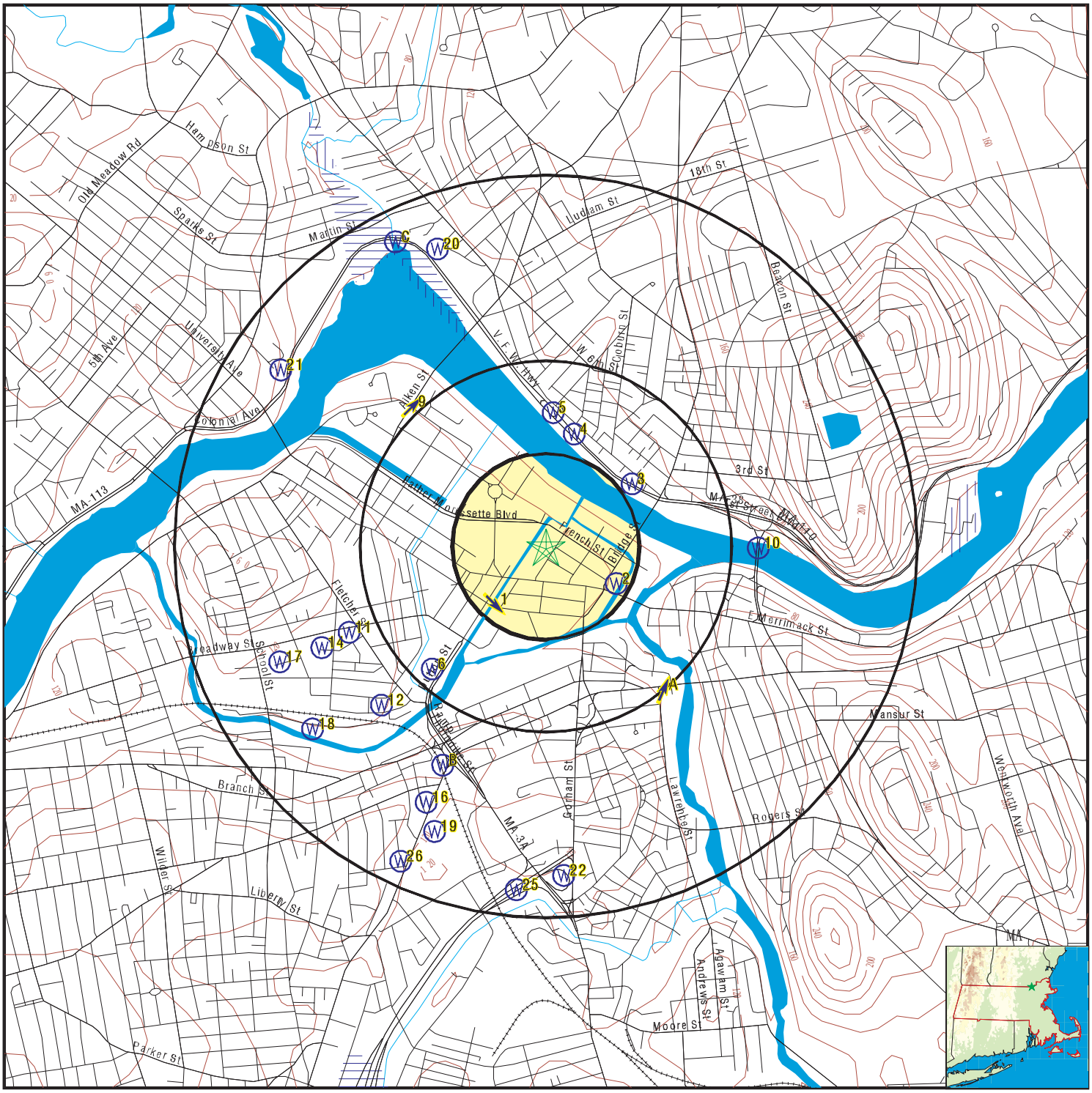
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A7	MA8000000001256	1/4 - 1/2 Mile SE
11	MA8000000000732	1/2 - 1 Mile WSW
12	MA8000000000052	1/2 - 1 Mile SW
16	MA8000000000870	1/2 - 1 Mile SSW
18	MA8000000000096	1/2 - 1 Mile SW
19	MA8000000001105	1/2 - 1 Mile SSW
21	MA8000000000512	1/2 - 1 Mile WNW

PHYSICAL SETTING SOURCE MAP - 4714118.2s



County Boundary
Major Roads
Contour Lines
Earthquake epicenter, Richter 5 or greater
Water Wells
Public Water Supply Wells
Cluster of Multiple Icons

Groundwater Flow Direction
Indeterminate Groundwater Flow at Location
Groundwater Flow Varies at Location

Potentially Productive Aquifers
Not Potentially Productive Aquifers
DEP Approved Zone IIs
EPA Designated Sole Src. Aq.

SITE NAME:	Lowell High School	CLIENT:	Nobis Engineering, Inc.
ADDRESS:	50 FATHER MORISSETTE BLVD LOWELL MA 01852	CONTACT:	Evan Rudomen
LAT/LONG:	42.647097 / 71.31045	INQUIRY #:	4714118.2s
		DATE:	August 30, 2016 3:06 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

			Database	EDR ID Number
1 **SW** **1/8 - 1/4 Mile** **Higher**	Site ID: Groundwater Flow: Water Table Depth: Date:	3-0004561 SE Avg. 16 ft. 07/1993	**AQUIFLOW**	**4713**

2
ESE
1/8 - 1/4 Mile
Lower

FED USGS **USGS40000479319**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423844071182601		
Monloc name:	MA-L2W 1		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6456468
Longitude:	-71.3067272	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	80.00
Vert measure units:	feet	Vertacc measure val:	05
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Bedrock		
Aquifer type:	Not Reported		
Construction date:	1933	Welldepth:	230
Welldepth units:	ft	Wellholedepth:	230
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

3
NE
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000479405**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423858071182301		
Monloc name:	MA-L2W 879		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6495357
Longitude:	-71.3058939	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	66.30
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

4
NNE **FED USGS** **USGS40000479435**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423905071183401		
Monloc name:	MA-L2W 881		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.65148
Longitude:	-71.3089496	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	63.10
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

5
North **FED USGS** **USGS40000479449**
1/4 - 1/2 Mile
Lower

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423908071183801		
Monloc name:	MA-L2W 882		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6523134
Longitude:	-71.3100607	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	71.00
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

6
SW
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000479267**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423832071190101		
Monloc name:	MA-L2W 20		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6423135
Longitude:	-71.3164496	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	95.00
Vert measure units:	feet	Vertacc measure val:	05
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1900	Welldepth:	220
Welldepth units:	ft	Wellholedepth:	220
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

A7
SE
1/4 - 1/2 Mile
Higher

MA WELLS **MA8000000001256**

Fid:	1255	Fac name:	AUTOZONE 3207
Address:	177 CHURCH ST	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	Not Reported	Sw id:	Not Reported
Sseis id:	0	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Y
Lqg rcra:	Not Reported	Lqtu:	Not Reported
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	400170	Source id:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000001256

A8
SE
1/2 - 1 Mile
Lower

Site ID:	3-0000356	**AQUIFLOW**	**4800**
Groundwater Flow:	NNE		
Water Table Depth:	Shallowest: 10.5 ft. Deepest: 16.6 ft.		
Date:	11/1985		

9
NW
1/2 - 1 Mile
Lower

Site ID:	3-0000535	**AQUIFLOW**	**4715**
Groundwater Flow:	NE		
Water Table Depth:	Shallowest: 8.77 ft. Deepest: 19.63 ft.		
Date:	11/21/1990		

10
East
1/2 - 1 Mile
Lower

FED USGS **USGS40000479362**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423849071175901		
Monloc name:	MA-L2B 59		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6470357
Longitude:	-71.299227	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	34.50
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	195001	Welldepth:	19
Welldepth units:	ft	Wellholedepth:	19
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

11
WSW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000000732**

Fid:	731	Fac name:	ANTONS CLEANERS
Address:	346 BROADWAY ST	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	Not Reported	Sw id:	Not Reported
Sseis id:	0	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Not Reported
Lqg rcra:	Not Reported	Lqtu:	Y
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	207275	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000000732

12
SW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000000052**

Fid:	51	Fac name:	KAZANJIANS USED AUTO PARTS
Address:	615 DUTTON ST	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	Not Reported	Sw id:	Not Reported
Sseis id:	0	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Y
Lqg rcra:	Not Reported	Lqtu:	Not Reported
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	406254	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000000052

B13
SSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000479202**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423820071185901		
Monloc name:	MA-L2B 62		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6389802
Longitude:	-71.315894	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	100.50
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	196701	Welldepth:	20
Welldepth units:	ft	Wellholedepth:	20
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

14
WSW **FED USGS** **USGS40000479281**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423835071192201		
Monloc name:	MA-L2W 12		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6431468
Longitude:	-71.3222831	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110.00
Vert measure units:	feet	Vertacc measure val:	05
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19000101	Welldepth:	146
Welldepth units:	ft	Wellholedepth:	146
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

B15
SSW **FED USGS** **USGS40000479189**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423817071185901		
Monloc name:	MA-L2B 9		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6381469
Longitude:	-71.315894	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	140.58
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19671103	Welldepth:	18
Welldepth units:	ft	Wellholedepth:	18
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

16
SSW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000000870**

Fid:	869	Fac name:	MONRO 438
Address:	77 CHELMSFORD ST	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	Not Reported	Sw id:	Not Reported
Sseis id:	0	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Y
Lqg rcra:	Not Reported	Lqtu:	Not Reported
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	414087	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000000870

17
WSW
1/2 - 1 Mile
Higher

FED USGS **USGS40000479273**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423833071193001		
Monloc name:	MA-L2W 16		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6425912
Longitude:	-71.3245054	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	105.00
Vert measure units:	feet	Vertacc measure val:	05
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	1914	Welldepth:	250
Welldepth units:	ft	Wellholedepth:	250
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

18
SW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000000096**

Fid:	95	Fac name:	LOWELL COGENERATION COMPANY LLP
Address:	282 WESTERN AVE	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	MAD985290022	Sw id:	Not Reported
Sseis id:	1210265	Npdes id:	MA0031071
Air:	Y	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Not Reported
Lqg rcra:	Not Reported	Lqtu:	Y
Tsdf:	Not Reported	Swd:	Y
Fac id:	53845	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000000096

19
SSW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000001105**

Fid:	1104	Fac name:	MA COM TECHNOLOGY SOLUTIONS INC
Address:	100 CHELMSFORD ST	Town:	LOWELL
Region:	Northeast	Rtn:	Not Reported
Hw id:	MAD980672398	Sw id:	Not Reported
Sseis id:	1210330	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Not Reported
Lqg rcra:	Y	Lqtu:	Y
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	131026	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000001105

20
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000479543**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423931071190001		
Monloc name:	MA-L2W 884		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6587021
Longitude:	-71.3161721	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	64.10
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	30
Welldepth units:	ft	Wellholedepth:	30
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

21
WNW
1/2 - 1 Mile
Higher

MA WELLS **MA8000000000512**

Fid:	511	Fac name:	UNIVERSITY OF MASSACHUSETTS LOWELL
Address:	1 UNIVERSITY AVE	Town:	LOWELL
Region:	Northeast	Rtn:	3-0002544
Hw id:	MAD079525358	Sw id:	Not Reported
Sseis id:	1210041	Npdes id:	Not Reported
Air:	Not Reported	Gwd:	Not Reported
Hwr:	Not Reported	Lqg ma:	Y
Lqg rcra:	Not Reported	Lqtu:	Not Reported
Tsdf:	Not Reported	Swd:	Not Reported
Fac id:	53623	Source id:	Not Reported
Site name:	Not Reported		
Latitude:	0		
Longitude:	0		
Type:	Not Reported	Zii num:	0
Pws id:	Not Reported	Site id:	MA8000000000512

22
South
1/2 - 1 Mile
Higher

FED USGS **USGS40000479126**

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423803071183601		
Monloc name:	MA-L2R 9		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070005	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6342581
Longitude:	-71.3095049	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	111.00
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19571206	Welldepth:	18
Welldepth units:	ft	Wellholedepth:	18
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C23
NNW **FED USGS** **USGS40000479547**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423932071190701		
Monloc name:	MA-L2W 885		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6589799
Longitude:	-71.3181166	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	66.70
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	25
Welldepth units:	ft	Wellholedepth:	25
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

C24
NNW **FED USGS** **USGS40000479548**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423932071190901		
Monloc name:	MA-L2B 58		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6589799
Longitude:	-71.3186722	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	72.30
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	195001	Welldepth:	51.7
Welldepth units:	ft	Wellholedepth:	51.7
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

25
South **FED USGS** **USGS40000479104**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423801071184501		
Monloc name:	MA-L2R 8		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070005	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6337026
Longitude:	-71.312005	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	105.30
Vert measure units:	feet	Vertacc measure val:	01
Vert accmeasure units:	feet		
Vertcollection method:	Level or other surveying method		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19571004	Welldepth:	20
Welldepth units:	ft	Wellholedepth:	20
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

26
SSW **FED USGS** **USGS40000479135**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-MA		
Formal name:	USGS Massachusetts Water Science Center		
Monloc Identifier:	USGS-423805071190701		
Monloc name:	MA-L2W 5		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	01070005	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	42.6348136
Longitude:	-71.3181163	Sourcemap scale:	24000

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Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	130.00
Vert measure units:	feet	Vertacc measure val:	05
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Bedrock		
Aquifer type:	Not Reported		
Construction date:	1915	Welldepth:	558
Welldepth units:	ft	Wellholedepth:	558
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: MA Radon

Radon Test Results

County	% of sites>4 pCi/L	Median
MIDDLESEX	26	2.2

Federal EPA Radon Zone for MIDDLESEX County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 01852

Number of sites tested: 10

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.300 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.910 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: MassDEP
Telephone: 617-292-5907

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Massachusetts Geographic Information System (MassGIS) Datalayers
Source: Executive Office of Environmental Affairs

Public Water Supply Database: The Public Water Supply datalayer contains the locations of public community surface and groundwater supply sources and public non-community supply sources as defined in 310 CMR 22.00.

OTHER STATE DATABASE INFORMATION

Areas of Critical Environmental Concern Datalayer: The Areas of Critical Environmental Concern (ACEC) datalayer shows the location of areas that have been designated ACECs by the Secretary of Environmental Affairs. ACEC designation requires greater environmental review of certain kinds of proposed development under state jurisdiction within the ACEC boundaries. The ACEC Program is administered by the Department of Environmental Management (DEM) on behalf of the Secretary of Environmental Affairs. The Massachusetts Coastal Zone Management (MCZM) Office managed the original Coastal ACEC Program from 1978 to 1993, and continues to play a key role in monitoring coastal ACECs. Procedures for ACEC designation and the general policies governing the effects of designation are contained in the ACEC regulations (301 CMR 12.00). The ACEC datalayer has been compiled by MCZM and DEM and includes both coastal and inland areas.

EPA Designated Sole Source Aquifers Datalayer: The Sole Source Aquifer datalayer was compiled by the Department of Environmental Protection (DEP) Division of Water Supply (DWS). Seven Sole Source Aquifers have been designated by the US Environmental Protection Agency (EPA) for Massachusetts. A Sole Source Aquifer (SSA) is an aquifer designated by US EPA as the sole or principal source of drinking water for a given aquifer service area; that is, an aquifer which is needed to supply 50% or more of the drinking water for that area and for which there are no reasonably available alternative sources should that aquifer become contaminated. The aquifers were defined by a EPA hydrogeologist.

Aquifers Datalayer: MassGIS produced an aquifer datalayer composed of 20 individual panels, generally based on the boundaries of the major drainage basins. Areas of high and medium yield were mapped. This datalayer includes polygon attribute coding to help in the identification of areas in which cleanup of hazardous waste sites must meet drinking water standards, as defined in the Massachusetts Contingency Plan (MCP) (310 CMR 40.00000).

Non-Potential Drinking Water Source Areas: Non-Potential Drinking Water Source Areas (NPDWSA) are regulatory in nature, representing one of many considerations used in determining the standards to which ground water must be cleaned in the event of a release of oil or hazardous material. NPDWSAs are not based on existing water quality and do not indicate poor ambient conditions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

DEP Approved Zone IIs Datalayer: The Department of Environmental Protection (DEP) approved Zone IIs datalayer was compiled by the DEP Division of Water Supply (DWS). The database contains 281 approved Zone IIs statewide. As stated in 310 CMR 22.02, a Zone II is "that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated (180 days of pumping at safe yield, with no recharge from precipitation.) It is bounded by the groundwater divides which result from pumping the well and by the contact of the aquifer with less permeable materials such as till or bedrock. In some cases, streams or lakes may act as recharge boundaries. In all cases, Zone IIs shall extend up gradient to its point of intersection with prevailing hydrogeologic boundaries (a groundwater flow divide, a contact with till or bedrock, or a recharge boundary)." These data are used in association with the Public Water Supplies datalayer. The following describes certain unique features of this association.

- Any proposed new well which will pump at least 100,000 gallons per day must have a Zone II delineation completed and approved by DEP prior to the well coming on line.
- Additionally, a new source may not be on-line yet, but other, older wells may fall within its Zone II boundary.
- Further, existing wells must have a Zone II delineated as a condition of receiving a water withdrawal permit under the Water Management Act.

RADON

State Database: MA Radon
Source: Department of Health
Telephone: 413-586-7525
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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APPENDIX E

APPENDIX E

Massachusetts School Building Authority

Next Steps to Finalize Submission of your FY 2014 Statement of Interest

Thank you for submitting your FY 2014 Statement of Interest (SOI) to the MSBA electronically. **Please note, the District's submission is not yet complete**. The District is required to print and mail a hard copy of the SOI to the MSBA along with the required supporting documentation, which is described below.

Each SOI has two Certification pages that must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer*. Please make sure that **both** certifications contained in the SOI have been signed and dated by each of the specified parties and that the hardcopy SOI is submitted to the MSBA with **original signatures**.

SIGNATURES: Each SOI has two (2) Certification pages that must be signed by the District.

In some Districts, two of the required signatures may be that of the same person. If this is the case, please have that person sign in both locations. Please do not leave any of the signature lines blank or submit photocopied signatures, as your SOI will be incomplete.

**Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated as the chief executive office under the provisions of a local charter.*

VOTES: Each SOI must be submitted with the proper vote documentation. This means that (1) the required governing bodies have voted to submit each SOI, (2) the specific vote language required by the MSBA has been used, and (3) the District has submitted a record of the vote in the format required by the MSBA.

- **School Committee Vote:** Submittal of all SOIs must be approved by a vote of the School Committee.
  - For documentation of the vote of the School Committee, Minutes of the School Committee meeting at which the vote was taken must be submitted with the original signature of the Committee Chairperson. The Minutes must contain the actual text of the vote taken which should be substantially the same as the MSBA's SOI vote language.
- **Municipal Body Vote:** SOIs that are submitted by cities and towns must be approved by a vote of the appropriate municipal body (e.g., City Council/ Aldermen/Board of Selectmen) in addition to a vote of the School Committee.
  - Regional School Districts do not need to submit a vote of the municipal body.
  - For the vote of the municipal governing body, a copy of the text of the vote, which shall be substantially the same as the MSBA's SOI vote language, must be submitted with a certification of the City/Town Clerk that the vote was taken and duly recorded, and the date of the vote must be provided.

CLOSED SCHOOLS: Districts must download the report from the "Closed School" tab, which can be found on the District Main page. Please print this report, which then must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer. A signed report, with original signatures must be included with the District's hard copy SOI submittal. **If a District submits multiple SOIs, only one copy of the Closed School information is required.**

ADDITIONAL DOCUMENTATION FOR SOI PRIORITIES #1 AND #3: If a District selects Priority #1 and/or Priority #3, the District is required to submit additional documentation with its SOI.

- If a District selects Priority #1, Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of the school children, where no alternative exists, the MSBA requires a hard copy of the engineering or other report detailing the nature and severity of the problem and a written professional opinion of how imminent the system failure is likely to manifest itself. The District also must submit photographs of the problematic building area or system to the MSBA.
- If a District selects Priority #3, Prevention of a loss of accreditation, the MSBA requires the full accreditation report(s) and any supporting correspondence between the District and the accrediting entity.

ADDITIONAL INFORMATION: In addition to the information required with the SOI hard copy submittal, the District may also provide any reports, pictures, or other information they feel will give the MSBA a better understanding of the issues identified at a facility.

If you have any questions about the SOI process please contact Brian McLaughlin at 617-720-4466 or Brian.McLaughlin@massschoolbuildings.org.

Massachusetts School Building Authority

School District Lowell

District Contact Jay Lang TEL: (978) 674-2020

Name of School Lowell High

Submission Date 4/10/2014

SOI CERTIFICATION

To be eligible to submit a Statement of Interest (SOI), a district must certify the following:

- ☑ The district hereby acknowledges and agrees that this SOI is NOT an application for funding and that submission of this SOI in no way commits the MSBA to accept an application, approve an application, provide a grant or any other type of funding, or places any other obligation on the MSBA.
- ☑ The district hereby acknowledges that no district shall have any entitlement to funds from the MSBA, pursuant to M.G.L. c. 70B or the provisions of 963 CMR 2.00.
- ☑ The district hereby acknowledges that the provisions of 963 CMR 2.00 shall apply to the district and all projects for which the district is seeking and/or receiving funds for any portion of a municipally-owned or regionally-owned school facility from the MSBA pursuant to M.G.L. c. 70B.
- ☑ The district hereby acknowledges that this SOI is for one existing municipally-owned or regionally-owned public school facility in the district that is currently used or will be used to educate public PreK-12 students and that the facility for which the SOI is being submitted does not serve a solely early childhood or Pre-K student population.
- ☑ After the district completes and submits this SOI electronically, the district must sign the required certifications and submit one signed original hard copy of the SOI to the MSBA, with all of the required documentation described under the "Vote" tab, on or before the deadline.
- ☑ The district will schedule and hold a meeting at which the School Committee will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is required for cities, towns, and regional school districts.
- ☑ Prior to the submission of the hard copy of the SOI, the district will schedule and hold a meeting at which the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is not required for regional school districts.
- ☑ On or before the SOI deadline, the district will submit the minutes of the meeting at which the School Committee votes to authorize the Superintendent to submit this SOI. The District will use the MSBA's vote template and the vote will specifically reference the school and the priorities for which the SOI is being submitted. The minutes will be signed by the School Committee Chair. This is required for cities, towns, and regional school districts.
- ☑ The district has arranged with the City/Town Clerk to certify the vote of the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body to authorize the Superintendent to submit this SOI. The district will use the MSBA's vote template and submit the full text of this vote, which will specifically reference the school and the priorities for which the SOI is being submitted, to the MSBA on or before the SOI deadline. This is not required for regional school districts.
- ☑ The district hereby acknowledges that this SOI submission will not be complete until the MSBA has received all of the required vote documentation and certification signatures in a format acceptable to the MSBA.

Chief Executive Officer *	**School Committee Chair**	**Superintendent of Schools**
Michael Q. Geary	Rodney M. Elliott	Jean M. Franco
Acting City Manager		
(signature)	(signature)	(signature)
Date	Date	Date

* Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated to the chief executive office under the provisions of a local charter. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.

Massachusetts School Building Authority

School District Lowell

District Contact Jay Lang TEL: (978) 674-2020

Name of School Lowell High

Submission Date 4/10/2014

Note

The following Priorities have been included in the Statement of Interest:

1. ☐ Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.
2. ☐ Elimination of existing severe overcrowding.
3. ☐ Prevention of the loss of accreditation.
4. ☑ Prevention of severe overcrowding expected to result from increased enrollments.
5. ☐ Replacement, renovation or modernization of school facility systems, such as roofs, windows, boilers, heating and ventilation systems, to increase energy conservation and decrease energy related costs in a school facility.
6. ☐ Short term enrollment growth.
7. ☑ Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.
8. ☐ Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

SOI Vote Requirement

☑ I acknowledge that I have reviewed the MSBA's vote requirements for submitting an SOI which are set forth in the Vote Tab of this SOI. I understand that the MSBA requires votes from specific parties/governing bodies, in a specific format using the language provided by the MSBA. Further, I understand that the MSBA requires certified and signed vote documentation to be submitted with the SOI. I acknowledge that my SOI will not be considered complete and, therefore, will not be reviewed by the MSBA unless the required accompanying vote documentation is submitted to the satisfaction of the MSBA.

Potential Project Scope: Potential New School

Is this SOI the District Priority SOI? YES

School name of the District Priority SOI: 2014 Lowell High

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 2/28/2014

Planning Firm: OMR Architects

Please provide an overview of the plan including as much detail as necessary to describe the plan, its goals and how the school facility that is the subject of this SOI fits into that plan:

In April 2013, OMR Architects was hired to prepare a Comprehensive Facilities Assessment and Master Plan which included 29 Lowell school facilities- elementary, middle, PK-8, high, alternative, day and the adult education center. The goals of the study were: 1) Perform a Physical and Programmatic Assessment of the Lowell Public School facilities, and 2) Develop a 10 Year Master Plan for critical maintenance, renovations and additions and/or building replacements. The facilities assessment and master plan included: reviewing the schools and their relationships within the City of Lowell and their defining neighborhoods; analyzing the existing conditions of all of the facilities (architecture, site, structure, MEP/FP) and providing baseline repair estimates; three educational visioning sessions with school and district administration and educational leaders to set the goals and values for the master plan study; analysis of NESDEC enrollment projections for ten years; educational programming space analysis comparing the existing and projected population and facilities to MSBA guidelines; understanding site availability in Lowell; developing multiple masterplan options and comparing these with cost and value; developing preferred options; and developing a 10 year capital plan for the design and construction work of this report. The Lowell High School fits into the Masterplan as the Preferred Solution Option 1D/E with a total project cost of $245.4M, not including escalation or land acquisition. This 650,000 GSF solution requires the possession of adjacent land and includes an addition/ demolition/ renovation/ repurposing response to the existing Lowell High School facilities. The same Masterplan includes the Elementary, Middle & K-8 School Preferred Solution of Option 1H with a total project cost of $270M, not including escalation or land acquisition. This solution includes: additions and renovations to Wang, Daley and Robinson Middle Schools to make eight-strand schools serving 792 students each; an addition/ renovation/ conversion of Rogers School to be a four-strand PK-8 facility serving 960 students; a new, four-strand PK-8 facility serving 960 students; and major and minor repairs of 23 other school facilities.

Please provide the current student to teacher ratios at the school facility that is the subject of this SOI: 28 students per teacher

Please provide the originally planned student to teacher ratios at the school facility that is the subject of this SOI: 24 students per teacher

Does the District have a Master Educational Plan that includes facility goals for this building and all school buildings in District? YES

If "YES", please provide the author and date of the District's Master Educational Plan.

OMR Architects February 28, 2014

Is there overcrowding at the school facility? YES

If "YES", please describe in detail, including specific examples of the overcrowding.

This is projected overcrowding. The school district's projected enrollment is significantly higher than the current 2013-2014 enrollment of 3,134 students in grades 9-12. NESDEC's 10-year average enrollment projection for the Lowell Public School District shows a need for the high school sized appropriately to house 3,424 in the 10 year projected average, but with a high in 2022-2023 of 3,900 students in grades 9-12 and no expectation for the PK-8 enrollment to go down in the subsequent years, the committee feels that 3,900 students is the appropriate size for the facility. Overall, there is a documented space need for approximately 2,500 additional seats in the entire Lowell Public School system in the upcoming years.

See NESDEC enrollment projections attachments.

Has the district had any recent teacher layoffs or reductions? NO

If "YES", how many teaching positions were affected? 0

At which schools in the district?

Please describe the types of teacher positions that were eliminated (e.g., art, math, science, physical education, etc.).

Has the district had any recent staff layoffs or reductions? NO

If "YES", how many staff positions were affected? 0
At which schools in the district?
Please describe the types of staff positions that were eliminated (e.g., guidance, administrative, maintenance, etc.).

Please provide a description of the program modifications as a consequence of these teacher and/or staff reductions, including the impact on district class sizes and curriculum.

Does not apply.

Please provide a detailed description of your most recent budget approval process including a description of any budget reductions and the impact of those reductions on the district's school facilities, class sizes, and educational program.

On June 5, 2013, the Lowell School Committee approved the FY2014 annual operating budget of $144,360,281, a 4.28% increase over FY2013. There were no budget reductions impacting the school district’s facilities, class sizes or educational programs.

General Description

BRIEF BUILDING HISTORY: Please provide a detailed description of when the original building was built, and the date(s) and project scopes(s) of any additions and renovations (maximum of 5000 characters).

The Lowell High School facilities are comprised of multiple buildings located on a few city blocks crossing a canal in the Downtown neighborhood. The original 1892 building was added to in 1922 and renovated in 1971 and 1997 (minor), and included a large interior light well at the intersection of the two brick buildings. The 1980 facility is made up of an educational wing and a field house wing connected by lobby spaces and circulation, and was renovated in 1997. These two buildings, the 1892/1922 and the 1980, are connected by two enclosed, glazed bridges which span across the canal and park below. The Freshman Academy, a completely separate structure, is one city block away. Built in 1900 and added on in 1939, it was renovated in 1986. Ninth grade students typically walk along a less dense urban street to access specialty classrooms and the physical education spaces in the main buildings. The Freshman structure also houses their own cafeteria and theater. The Steam Plant, original construction unknown but renovated in 1996, which serves the entire complex, is located between the Freshman Academy and the 1920 facility, and is connected to the Freshman Academy above ground by overhead pipes and to the 1920 Building with a utilities tunnel under Kirk Street.

Outdoor athletic facilities are located in multiple locations including Cawley Stadium and Shedd Park to the southeast of the school, the Lowell Boathouse to the west, and Mount Pleasant Golf Course to the southwest. All are accessible only by bus or car.

Lowell Freshman Academy- 3 stories (1 is below grade)
Lowell HS Steam Plant - 1 story
Lowell High School - 1922 Building (Kouloheras) - 3 stories (1 is below grade)
Lowell High School - 1980 Buildings (Lord & Fieldhouse) – 3 stories

Scope of Renovations include: New windows and storefront systems were retrofitted to the existing 1892 and 1922 Buildings in 1980 and in 1995, respectively. Extensive renovations of the interiors of the 1892 and 1922 Buildings were included in the scope of the 1995 addition. These renovations succeed in updating many of the interior finishes as well as creating uniformity of finish materials between the new and existing. The scope of these renovations was limited to the academic floors and many spaces particularly on the lower level were left untouched. The auditorium was fully renovated including a new mechanical system with air conditioning. A new mezzanine was constructed in the upper part of the 1892 Building which serves as a suite for faculty work, lounge and dining. The upper part of this space is not accessible.

The Freshman Academy was repurposed and fully renovated in 1986. These renovations at the lowest level included the creation of a small theatre and a cafeteria dedicated to the freshman student population. The 1986 project included targeted renovations on the upper levels for academics, science, library, computer labs and faculty spaces. Most spaces were renovated to varying degrees at this time.

The 1980 Building has been maintained over the years but has not been renovated. Most finishes and systems are original with some notable exceptions: 1) the roof top mechanical systems have been recently upgraded, unfortunately, these upgrades have not been very effective. 2) There has been a concerted effort to replace existing carpet in most academic areas with vinyl tile. 3) Toilet rooms benefit from ongoing maintenance with the exception of the Locker/Showers which require full and major renovation.

TOTAL BUILDING SQUARE FOOTAGE: Please provide the original building square footage PLUS the square footage of any additions.

628558

SITE DESCRIPTION: Please provide a detailed description of the current site and any known existing conditions that would impact a potential project at the site. Please note whether there are any other buildings, public or private, that share this current site with the school facility. What is the use(s) of this building(s)? (maximum of 5000 characters).

Lowell High School sits on two parcels on municipally owned land totaling 243,000 square feet. In addition to the 1922 and
1980 buildings, a third building located across (and not connected) the street houses the Lowell High School Freshman Academy. The LHS Freshman Academy sits on a 10,000 square foot parcel.

The site for the steam plant is shared with the National Park Service Building and the exact limits of the site are unknown. Zoning is Downtown Mixed Use District. See site plan and existing conditions analysis attachments.
Context:
- Generally a flat site(s) fully developed and bordered either by city streets or adjacent properties. The High School occupies three separate distinct parcels that form the campus. The campus is divided by a canal, or in the case of the Freshman Academy, a city street. Students and staff are required to cross a city street or traverse the second story bridges to travel between buildings.
- All drop-off / pick-up takes place on the adjacent city streets and sidewalks. This creates serious traffic and safety issues.
- There is a city owned parking garage across a main street that serves both staff and students. There is metered, on street parking for visitors. There is little or no onsite parking.
- There is a discrete loading dock for deliveries and trash/recycling located to the southeast end of the campus. Access is from Father Morissette Blvd.
- Fire lane and emergency access to all buildings is good.
Surfaces and Features:
- There are a number of paved courtyards and walks adjacent to the main entrance and the cafeteria. The condition of these courtyards varies greatly from good to poor. The existing canal between the two main buildings is landscaped on each side and provides for a pleasant urban park like atmosphere. Unfortunately, there is also a Trolley for tourist and visitors to Lowell that parallels one side of the canal and further divides and separates the main campus. There are two connecting enclosed bridges at the second floor that span the trolley tracks and the canal to accommodate pedestrian traffic between the two buildings.
- The constrained site does not provide for any outside athletic or physical education opportunities.
- No apparent site drainage issues were identified. Drainage is handled by the city storm system.

Lowell Freshman Academy- 92,758 SF (1900 & 1939 portions)
Lowell HS Steam Plant – 2,500 SF, no additions
Lowell High School - 1922 Building (Kouloheras) – 322,000 (whole facility)
Lowell High School - 1980 Buildings (Lord & Fieldhouse) – 211,300 GSF, no additions
TOTAL: 628,558 GSF

ADDRESS OF FACILITY: Please type address, including number, street name and city/town, if available, or describe the location of the site. (Maximum of 300 characters)

Lowell Freshman Academy, 40 Paige Street, Lowell, MA 01852
Lowell HS Steam Plant, Paige Street, Lowell, MA 01852
Lowell High School - 1922 Building (Kouloheras), 50 Father Morissette Blvd, Lowell MA 01852
Lowell High School - 1980 Buildings (Lord & Fieldhouse), 50 Father Morissette Blvd, Lowell M

BUILDING ENVELOPE: Please provide a detailed description of the building envelope, types of construction materials used, and any known problems or existing conditions (maximum of 5000 characters).

Exterior Envelope:
- Exterior windows appear to be in fair to poor condition with a few exceptions; plastic lexan glazing and insulated units

with broken seals should be replaced. In most cases the operable hardware needs to be replaced or maintained. Security screens should be replaced or refurbished. Perimeter sealants and glazing beads for the most part are in need of replacement. Buildings have brick veneers in all cases. Size and type of brick varies depending on the age of the building or addition. Some buildings/additions have traditional masonry back up while the newer buildings have metal studs. The condition of the exterior envelope is generally good with limited, but specific some areas requiring immediate attention. Interestingly, the older buildings in many cases are faring better than the newer construction.
- Painted/anodized aluminum door and frames generally appear to be in poor condition with a couple of exceptions. Painted steel door frames with transoms have failed. In general all storefront/curtain wall systems require maintenance and/or replacement. The fixed acrylic glazing for one of the two bridges is in good condition the other bridge will require re-glazing at some point in the future.
- All exterior door hardware is in fair to poor condition and should be replaced or repaired.
- Buildings have brick veneers in all cases. Size and type of brick varies depending on the age of the building or addition. Some buildings/additions have traditional masonry back up while the newer buildings have metal studs. The condition of the exterior envelope is generally good but with limited areas requiring immediate attention. Interestingly, the older buildings in many cases are faring better than the newer construction. The spit faced concrete block at the 1980's Building is in good condition. Existing cement asbestos cladding needs attention and/or replacement in some cases. The lintels over openings in the 1922 building appear to be compromised and should be investigated for potential repair and/or replacement. Existing skylights are original to the 1922 Building and need replacement. The Kalwall translucent glazing within the lightwell has far exceed it useful life and should be replaced.
Roof:
- The roofing membranes/flashings vary in age and condition. Most roofs are in fair condition with one notable exception; a large area of the 1922 Building has failed. In contrast, the pitched (and flat) roof of the 1892 building has been recently been replaced with artificial slate and new copper gutters/leaders. The workmanship is of the highest quality. The field house has a sloped corrugated metal roof with built in gutters and downspouts that appear to have reached or exceeded their life expectancy. Some sections of the built in gutter have failed and have damaged the façade. Ponding is occurring in many flat roof locations. Roof drains appear to be clogged in some locations and will require periodic maintenance.

Has there been a Major Repair or Replacement of the EXTERIOR WALLS ? NO
Year of Last Major Repair or Replacement: 1995
Description of Last Major Repair or Replacement:
Partial window and entrance retrofits and other miscellaneous projects.

Has there been a Major Repair or Replacement of the ROOF? YES
Year of Last Major Repair or Replacement: 2012
Type Of ROOF: EPDM/Slate(2012)/Metal - Partial replacement and repair.
Description of Last Major Repair or Replacement:
A full replacement of the slate roof on the 1892 Building. This is a small portion of the high school roof, the other sections have not been repair or replaced.

Has there been a Major Repair or Replacement of the WINDOWS? YES
Year of Last Major Repair or Replacement: 1995
Type Of WINDOWS: Aluminum, single hung
Description of Last Major Repair or Replacement:
New windows retrofit in 1980 and 1996 in the 1922 Bldg.

MECHANICAL and ELECTRICAL SYSTEMS: Please provide a detailed description of the current mechanical and electrical systems and any known problems or existing conditions (maximum of 5000 characters).

MEPFP: Freshman Academy
FIRE PROTECTION - There are areas of the building without coverage of a wet sprinkler system. The system should be supplemented to cover all areas of the building.
HVAC- Heating and ventilating units are in fair to poor condition. Heat exchangers show signs of having corrosion. Both will be required to be replaced in the near future. It is recommended that the present pneumatic automatic temperature controls be replaced with a DDC system. Exhaust systems should be replaced.

ELECTRICAL - The main service is in poor condition and should be replaced. Branch circuits are in fair condition except neutral conductors appear to be shared and many outlets that are near sinks are not GFCI protected. These items should be corrected. There is no emergency source of power. It is recommended that an emergency generator be provided. The fire alarm system is in poor condition and should be replaced. Lighting fixtures have recently been upgraded with more energy efficient lamps and ballasts, however there are a number of damaged fixtures which should be replaced.

MEPFP: 1922 and 1980 Buildings
FIRE PROTECTION- The building is mostly protected with an automatic dry sprinkler and wet stand pipe system. Sprinklers should be added at areas without coverage.
HVAC- Steam from the boiler plant is converted to hot water which serves fin tube radiators throughout the building. Gas fired roof top units provide ventilation for the building. Cooling for the auditorium is provided by rooftop units and a chiller. These systems are in fair condition. However the heat exchangers and circulation pumps are corroded and will need to be replaced soon. The automatic temperature controls system should be supplemented with DDC thermostats. All pneumatic control systems should be replaced with new DDC systems.
ELECTRICAL – The main service installed in 1990 is in fair condition but the secondary switch board which dates earlier should be replaced. Panel feeders are in fair condition but panel boards should be replaced. Branch circuits require updating to separate neutral conductors. Lighting fixtures are in fair condition. Lamping and ballasts have recently been updated. Emergency power is provided by a generator located in the Boiler Plant. An abandoned generator in the basement should be removed. It is recommended that the clock and paging systems be replaced.
The fire alarm system is outdated and should be replaced.

Has there been a Major Repair or Replacement of the BOILERS? NO
Year of Last Major Repair or Replacement: 1996
Description of Last Major Repair or Replacement:
Units were retubed in 2009

Has there been a Major Repair or Replacement of the HVAC SYSTEM ? NO
Year of Last Major Repair or Replacement: 2005
Description of Last Major Repair or Replacement:
Several roof top units on the 1980 Building were replaced in 2005

Has there been a Major Repair or Replacement of the ELECTRICAL SERVICES AND DISTRIBUTION SYSTEM? NO
Year of Last Major Repair or Replacement: 1997
Description of Last Major Repair or Replacement:
Several sections of the High School were upgraded as part of the 1997 Renovation

HEATING FUEL: Which of the heating fuel types below does your building primarily rely on for heating?

Natural Gas

BUILDING INTERIOR: Please provide a detailed description of the current building interior including a description of the flooring systems, finishes, ceilings, lighting, etc. (maximum of 5000 characters).

Finishes:
- Masonry and GWB walls require painting especially corridors and shared core spaces.
- Sagging and damaged acoustic ceilings systems should be replaced – condensation and/or roof leaks above ceilings require repair.
- Carpet is being replaced in many locations with resilient tile as part of an ongoing project.
- VCT in fair to good condition in many areas and new in others – replace damaged tiles as needed.
- Given the age and the number of buildings there are many different floor finishes and, of course, their condition varies greatly. Generally, wood, older ACT and VCT, rubber and sheet vinyl floors are in poor condition. Terrazzo floors are old but are in good condition except for an occasional crack. Existing painted concrete floors in the basement of the 1922 Building are spauling with shrinkage and settlement cracks. Ceramic tile floors (and walls) are recent for the most part with

the notable exception of the locker/shower rooms in the Fieldhouse. Most of these spaces (toilet rooms) benefit from an ongoing maintenance commitment. This includes toilet partitions and accessories.
- Gymnasium synthetic flooring is in fair to fair/poor condition. Floor needs courts and lanes to be restriped. The synthetic floor extends into the lobby area and has failed due to excessive traffic.
- Casework/Millwork and hardware conditions vary greatly from poor to good depending on location and age. Millwork is non-conforming to current ADA/MAAB requirements.
Openings:
- The condition of interior doors and hardware vary greatly depending on age and location. In many cases the hardware is non-conforming. It should be noted that the oldest buildings date back to the late 1800's and early 1900's the doors and frames are original to that period. Other locations are as new as 1980 and 1995 and, as would be expected, in good conditions and mostly conforming. Unfortunately, this represents only about half of the overall campus.
- Hollow metal door and frames should be painted and/or replaced
- Magnetic hold open devices require repair and/or replacement at some locations
Vertical Circulation:
- There are a total of 4 elevators. Three of which are old and non-conforming. The elevator in the oldest building is the newest and is in good condition.
- Stairs handrails and guardrails do not meet current building code requirements and should be modified.
- Access to stage is by way of a lift and meet currents ADA/MAAB requirements. There is handicapped seating in the auditorium. The balcony and control booth are not accessible.
Lighting: in general is in fair condition. Classrooms consist of continuous rows of surface fluorescent wrap around type fixtures with a (2) lamp cross section electronic ballast powering 32WT8 lamps. The gymnasium fixtures have recently been upgraded to (4) lamp T5HO high bays with occupancy sensors and wire guards. Library fixtures are pendant direct/indirect (2) lamp cross section with electronic ballasts and 32WT8 lamps. Corridors consist of recessed fluorescent 2X2 fixtures with acrylic lens. The auditorium house lighting contains fluorescent strips mounted in coves for indirect lighting and incandescent PAR down lights. General areas consist of surface mounted 2X2's and 8" fluorescent down lights. Light levels seem adequate. Lighting control consists of occupancy sensors in the classrooms and time clocks for exterior lighting. All other lights are controlled with local live voltage switching.

PROGRAMS and OPERATIONS: Please provide a detailed description of the current programs offered and indicate whether there are program components that cannot be offered due to facility constraints, operational constraints, etc. (maximum of 5000 characters).

Lowell High School currently serves approximately 3,200 students and employs 400 full-time staff members. LHS provides a comprehensive high school offering of programs for all Lowell Public School students in grade 9 – 12, as well as ROTC, Culinary arts, and swimming. In particular, the science related program offerings are constrained due to outdated and inadequate education spaces with the buildings. The facility also houses city-wide services programmed for the students including a community health center, bank, CCTV, DARE, UP and a thrift shop. See space summary attachment.

CORE EDUCATIONAL SPACES: Please provide a detailed description of the Core Educational Spaces within the facility, a description of the number and sizes (in square feet) of classrooms, a description of science rooms/labs including ages and most recent updates, and a description of the media center/library (maximum of 5000 characters).

The core educational space of Lowell High School is spread across three separate buildings, two of which are connected via two above ground tunnels. The third building, which houses only 9th graders, is a standalone academic building.

The original building, consists of 77 traditional classrooms, 2 computer labs, 1music lab, 1 digital photography lab, 1 graphic design lab, and 1 language lab (currently not in working order). The average square footage of a traditional classroom in this building is approximately 850 square ft. There are no dedicated science labs in this building. The designated chemistry lab is within a classroom. There is working gas, with working gas lines. The total square footage of workable lab space in this room is 480 square ft. There is no fume hood installed in this room. There have been no major

updates or renovations to this lab/room in the past 25 years.

The second building which was constructed in 1980 has 34 classrooms and 2 dedicated computer labs. This building also houses the LHS television studio. The average square footage of a traditional classroom in this building is approximately 661 square ft. The 1980 building has 4 dedicated science labs. The total size of the four science labs is 3,083 square ft. One of the labs has working gas and a fume hood. One of these labs has an inoperable fume hood. The four science labs have not been updated since the original build out in 1980.

The 3rd building, designated as the Freshman Academy is a standalone academic facility. This building has 37 traditional classrooms and two computer labs. The average size of the traditional classrooms in this building is approximately 730 square ft. There is one dedicated room for science experiences, this room has running water. There are no eye wash stations or fume hoods in this lab. This room was a former home economics room, and has never been fully updated as a dedicated science lab.

The Lowell High School Media Center is located in the 1980 building. The media center has 10 computer stations for student use. The Media Center was last updated in 1997. One of the dedicated computer labs is off the back of the media center.

CAPACITY and UTILIZATION: Please provide a detailed description of the current capacity and utilization of the school facility. If the school is overcrowded, please describe steps taken by the administration to address capacity issues. Please also describe in detail any spaces that have been converted from their intended use to be used as classroom space (maximum of 5000 characters).

Lowell High School currently serves approximately 3,200 students and employs 400 full-time staff members. LHS provides a comprehensive high school offering of programs for all Lowell Public School students in grade 9 – 12.

See space summary attachment.

MAINTENANCE and CAPITAL REPAIR: Please provide a detailed description of the district's current maintenance practices, its capital repair program, and the maintenance program in place at the facility that is the subject of this SOI. Please include specific examples of capital repair projects undertaken in the past, including any override or debt exclusion votes that were necessary (maximum of 5000 characters).

The district is responsible for the daily cleaning and maintenance of the School, while the City of Lowell DPW is responsible for the major repairs associated with the school facility. The Lowell Public Schools employs a full-time custodial crew of twenty (20) building custodians to clean and maintain the facilities on a daily basis. The City of Lowell Department of Public Works (DPW) provides for the repair of broken furnishings and equipment and major repairs. The district, in conjunction with the City of Lowell, prepares an annual capital plan for inclusion in the City's overall budget. The Lowell Public Schools has recently concluded a comprehensive facilities assessment with the assistance of OMR Architects to assess and document the needs of each school facility city-wide. A copy of the facilities assessment pertaining to this school is attached to the SOI to serve as additional backup for consideration of this project. No overrides or debt exclusion votes have been necessary in the past to fund school related capital projects with the MSBA's assistance.

Priority 4

Question 1: Please describe the conditions within the community and School District that are expected to result in increased enrollment.

The school district projected enrollment is significantly higher than the current 2013-2014 enrollment of 11,043 students in grades PK-8 and 3,134 students in grades 9-12. NESDEC's 10-year average enrollment projection for the Lowell Public School District shows a need for school buildings sized appropriately to house 11,811 students in grades PK-8 and 3,900 students in grades 9-12. In addition, givenLowell's complex, district-wide, school assignment policy and regular mid-year fluctuation of class sizes, it is recommended that 15 additional swing classrooms be provided in the PK-8 space program across the district.

Understanding the current overcrowding situation though, the elementary, middle and PK-8 schools are showing physical space needs across the board in most student-designated spaces, especially in core academic classrooms due to the current overcrowding. Grades K-4 are currently overcrowded by 593 students and based on enrollment projections will be overcrowded by 924 students in the next four years. Grades 5-8 are currently overcrowded by 594 students and based on enrollment projections will be overcrowded by 1,174 students in the next six years. Add to this the 15 swing classroom need. Therefore with the projected population added into the already overcrowded classrooms, there is a documented space need for approximately 2,500 additional seats in theLowellPublic Schoolsystem in the upcoming years.

Given the confirmed need to expand the grade PK-8 schools by 2,500 additional seats, it is agreed that it will be necessary to build additional school buildings or a comprehensive expansion of the existing facilities. There is a desire to keep the strand sizes small and keep school enrollments below 1,000 students at grades PK-8, but there is also a scarcity of suitable land to build additional schools in the City ofLowell. The committee considered moving PK out of the elementary and middle schools and consolidating those services in smaller facilities around the city. And they considered reconfiguring the existing schools to place fifth graders in the elementary schools. Each of these reconfiguration solutions freed up existing square footage to accommodate more students in the current facilities, but the City feels most comfortable retaining the PK in the schools and maintaining the existing grade configuration. The continuation of increasing enrollment throughoutLowellwill mean that the district will need to bring in modular classrooms in subsequent years to many of the PK-8 facilities. There is little space to build new in the City, busing around the city is too expensive and parents want neighborhood schools.

This may seem to not affect the high school, but knowing the full needs of the total school district system, provides a complete understanding of the much larger problem thatLowellfaces in the next decade. Since every child inLowellgoes through the one high school, the city feels that this grouping of buildings has the most need at this time.

Priority 4

Question 2: Please describe the measures the School District has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

The school district and the city recognize the issue of current and projected overcrowding. The district began by hiring OMR Architects to analyze the bigger issues of the existing facilities and develop a 10 year plan to resolve the issues in a systematic fashion. Coupled with that was the enrollment changes that were discovered during the process as what once was thought of as an enrollment bubble, seems to have become a constant that is more significant than can be handled with minor classroom changes. In addition, this summer, the district is planning on renovating the Rogers PK-K school (once served as a middle school and now houses district offices and some PK-K) to take on the developing elementary school problem in a systematic fashion.

There is only one high school in Lowell, made up of multiple buildings. It is at the center of the city. There is overwhelming support to keep it in the city center for a number of reasons including: it is a historical building; one unified school is important to school pride; busing to multiple locations is reduced as there is a city bus system used by many students; location near UMASS Lowell and the City Municipal buildings brings opportunities for the students and the education; the urban presence of the school adds to the pride of the city; parking for students and teachers is simplified by city parking garages; and building a new school for 3,900 students is cost prohibitive. Knowing that these school parcels are important to theLowellSchool District, they are discussing acquiring a small parcel of land to the SW of the current 1980 facility to help with future construction phasing. The Lowell Planning Department has also started considering the extension ofDutton Streetto meet up withFather Morrisette Blvd, if the 1980s building is demolished. This would allow a safer drop-off and pick up scenario for students in the future.

Priority 4

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Students and teachers are directly affected as the available room for instruction is reduced. This is felt within the regular education classrooms and special population classrooms. Small rooms and/or spaces for teachers to meet in small groups or for 1:1 instruction are very difficult to come by in the facility. The school facility also lacks dedicated spaces for required services (OT/PT, speech, etc.) to be delivered to students. The school is at capacity for adding additional sub-separate programs, such as CSA (autism) classrooms to provide instruction in the district as opposed to tuitioning CSA students to out-of-district placements.

Please also provide the following:

Cafeteria Seating Capacity:	350
Number of lunch seatings per day:	8
Are modular units currently present on-site and being used for classroom space?:	NO

If "YES", indicate the number of years that the modular units have been in use:
Number of Modular Units:
Classroom count in Modular Units:
Seating Capacity of Modular classrooms:
What was the original anticipated useful life in years of the modular units when they were installed?:

Have non-traditional classroom spaces been converted to be used for classroom space?:	NO

If "YES", indicate the number of non-traditional classroom spaces in use:
Please provide a description of each non-traditional classroom space, its originally-intended use and how it is currently used (maximum of 1000 characters).:

Please explain any recent changes to the district's educational program, school assignment polices, grade configurations, class size policy, school closures, changes in administrative space, or any other changes that impact the district's enrollment capacity (maximum of 5000 characters). :

As a short-term measure to reduce current class size enrollment at the elementary school grade levels, the Lowell School Committee recently voted to re-open the Rogers School to serve students in grades Pre-K – 2 for the upcoming 2014/15 school year. This is a short-term solution to begin to address overcrowding at the elementary school level, however when this population reaches the 5th grade at the start of the 2016/17 school year, the current middle school configuration (number of classes) will not be able to accommodate the entering 5th grade students.

What are the district's current class size policies (maximum of 500 characters)?:

There are no class size policies, but the preferred class sizes are 20-22 at elementary, 22-24 at middle and under 25 at high school. The preferred school strand sizes are four at elementary schools, six at middle schools and two at Washington, Moody and K-8 schools. To solve the overcrowding issue, and due to the lack of available land, there is a willingness to expand middle schools to eight strand and K-8 to four strand schools with additions.

Priority 7

Question 1: Please provide a detailed description of the programs not currently available due to facility constraints, the state or local requirement for such programs, and the facility limitations precluding the programs from being offered.

With the current overcrowding conditions -- which has intensified the problematic issues with the existing conditions of the buildings related to maintenance, building systems and other larger capital projects -- and the magnitude of the future enrollment projections, and the changing methodologies and space needs necessary to meet 21st century teaching and learning standards, there is a significant shortfall in the current net and gross square footage in the great majority of the Lowell school buildings, including the high school.

Coupled with this is the desire to bring special needs students and their associated programs, back into this school for a better educational environment for the students and teachers. Currently, many special needs students are displaced for partial semesters to one of the alternative or day schools in the city, and are brought back into the mainstream at different intervals throughout the year. This disrupts the educational experience for all the students and contributes to additional and sometimes unplanned overcrowding in classrooms throughout the school year. Additions to this school should include much needed special needs spaces and programs.

The district desires to have21st century-style, flexible spacesfor the development of critical thinking, creative problem solving, independent learning, and student and teacher collaboration at each school. This facility is obsolete and not conducive to 21st century teaching and learning methodologies. These standards in school design include:

- Flexible spaces for student collaboration, interaction and creative thinking, such as small seminar, large group and breakout spaces
- Adaptable and varied spaces that allow for personalization, differentiated instruction and student choice
- Distributed spaces adjacent to classrooms to build student - teacher and teacher - teacher connections, such as teacher planning spaces
- Spaces for visibility to experiential and hands on activities or project-based learning, which include places to work and display, such as Fabrication Labs and non-passive learning environments.
- The evolution of the Library toMediaCenterto Information Commons to today's series of spaces that form the Learning Commons
- Right sized spaces that allow for today's seamless and interactive technology, evolving tools and accessibility needs
- Efficient, interdisciplinary layouts to optimize the time and ways we educate our students
- Buildings with a sense of place, indoor / outdoor connections, natural daylight and appropriate environmental systems for sustainability and student engagement
- And the changing tools and systems required to make secure and safe buildings

The single high school in Lowell, serving grades 9-12 across a sprawling urban campus of buildings, is showing insufficient space in the areas of core academic, vocations and technology and media center, with a clear need for state-of-the-art science and fabrication labs, small and large group seminar, and group work spaces for the students. The current science labs are both under-sized and under- engineered and therefore do not meet state and local standards and codes. At the present time, the current number and configuration of science classrooms/laboratories constrain the staff from providing science programming that meets state and local requirements, including the Common Core initiative. Teacher offices are not integrated into the educational areas making it difficult for interactions between the faculty and students as well as faculty to faculty. There are also student-designated spaces which are oversized based on current MSBA guidelines, such as the physical education and auditorium/ drama spaces, but without further, in-depth, educational programming with the users, a reasonable and probable conclusion is that these spaces fill a much needed role in scheduling and usage throughout the

school day. The considerable size of the student population, a model seen in few other high schools inMassachusetts, will need further discussions with the MSBA. Bringing theFreshmanAcademyinto the folds of the main building in a wing of their own, will provide more safety and security for these students, help develop four year teacher interactions, and provide efficiency in their day to day movement through campus. This HS facility will see a need in the next decade for educating 3,900 students each year as well as provide community-integrated spaces for the City.

Priority 7

Question 2: Please describe the measures the district has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

In April 2013, OMR Architects was hired to prepare a Comprehensive Facilities Assessment and Master Plan which included 29 Lowell school facilities- elementary, middle, PK-8, high, alternative, day and the adult education center. The goals of the study were: 1) Perform a Physical and Programmatic Assessment of the Lowell Public School facilities, and 2) Develop a 10 Year Master Plan for critical maintenance, renovations and additions and/or building replacements.

The facilities assessment and master plan included: reviewing the schools and their relationships within the City of Lowell and their defining neighborhoods; analyzing the existing conditions of all of the facilities (architecture, site, structure, MEP/FP) and providing baseline repair estimates; three educational visioning sessions with school and district administration and educational leaders to set the goals and values for the master plan study; analysis of NESDEC enrollment projections for ten years; educational programming space analysis comparing the existing and projected population and facilities to MSBA guidelines; understanding site availability in Lowell; developing multiple masterplan options and comparing these with cost and value; developing preferred options; and developing a 10 year capital plan for the design and construction work of this report.

The Lowell High School fits into the Masterplan as the Preferred Solution Option 1D/E with a total project cost of $245.4M, not including escalation or land acquisition. This 650,000 GSF solution requires the possession of adjacent land and includes an addition/ demolition/ renovation/ repurposing response to the existing Lowell High School facilities. The same Masterplan includes the Elementary, Middle & K-8 School Preferred Solution of Option 1H with a total project cost of $270M, not including escalation or land acquisition. This solution includes: additions and renovations to Wang, Daley and Robinson Middle Schools to make eight-strand schools serving 792 students each; an addition/ renovation/ conversion of Rogers School to be a four-strand PK-8 facility serving 960 students; a new, four-strand PK-8 facility serving 960 students; and major and minor repairs of 23 other school facilities.

As a short-term measure to reduce current class size enrollment at the elementary school grade levels, the Lowell School Committee recently voted to re-open theRogersSchoolto serve students in grades Pre-K – 2 for the upcoming 2014/15 school year. This is a short-term solution to begin to address overcrowding at the elementary school level, however when this population reaches the 5thgrade at the start of the 2016/17 school year, the current middle school configuration (number of classes) will not be able to accommodate the entering 5thgrade students.

Priority 7

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

An example of the facility deficiency may be observed in Room 314 in the 1922BuildingofLHS, a science lab. There is a working gas with working gas lines. The total square footage of workable the lab space in this room is 480 square ft. Science labs in the 1980BuildingofLHSalso have working gas with working gas lines, however the total square footage of workable the lab space in this room is 661 square ft.

Understand that the number of occupants allowed in the laboratory must be set at a safe level based on building and fire safety codes, size and design of the laboratory teaching facility, chemical/physical/biological hazards, and students" needs (NSTA 2000; Roy 2006). Science classes should have no more than 24 students to allow for adequate supervision during science activities, even if the occupancy load limit might accommodate more (NSTA 2004). It is equally important to ensure adequate workspace for each student. NSTA recommends 60 sq. ft. for each secondary student.

Research data show that accidents rise dramatically as class enrollments exceed 24 students or when inadequate individual workspace is provided (West et al. 2005).

Recommended lab size:

60 sq. ft. x 25 students =1500 sq. ft.

Room 314 at 480 square feet of lab space falls short of NSTA recommendations by1120 sq. ft.

The labs in the 600's at 661 square feet of lab space fall short of NSTA recommendations by 839 square feet (this calculates to 26.5 square feet of workable lab space per student).

ADAcompliance is also an issue.

Another example of facility deficiency may be observed in theLibraryMediaCenter. The library has 110 seats in addition to 25 computer stations in the library and 30 computer stations in the attached computer lab. Due to area constraints only two classes can be in the library at any one time comfortably. The number of classes running each period range from 125 classes to 167.

REQUIRED FORM OF VOTE TO SUBMIT AN SOI

REQUIRED VOTES

If a City or Town, a vote in the following form is required from both the City Council/Board of Aldermen **OR** the Board of Selectmen/equivalent governing body **AND** the School Committee.

If a regional school district, a vote in the following form is required from the Regional School Committee only. FORM OF VOTE Please use the text below to prepare your City's, Town's or District's required vote(s).

FORM OF VOTE

Please use the text below to prepare your City's, Town's or District's required vote(s).

Resolved: Having convened in an open meeting on _____, prior to the closing date, the _____ *[City Council/Board of Aldermen, Board of Selectmen/Equivalent Governing Body/School Committee]* of _____*[City/Town]*, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest dated _____ for the _____*[Name of School]* located at _____*[Address]* which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority in the future

_____

_____

_____

_____

_____

_____; *[Insert a description of the priority(s) checked off on the Statement of Interest Form and a brief description of the deficiency described therein for each priority];* and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the City/Town/Regional School District to filing an application for funding with the Massachusetts School Building Authority.

CERTIFICATIONS

The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in this statement of Interest and attached hereto are true and accurate and that this Statement of Interest has been prepared under the direction of the district school committee and the undersigned is duly authorized to submit this Statement of Interest to the Massachusetts School Building Authority. The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the Authority, any additional information relating to this Statement of Interest that may be required by the Authority.

Chief Executive Officer *	**School Committee Chair**	**Superintendent of Schools**
Michael Q. Geary	Rodney M. Elliott	Jean M. Franco
Acting City Manager		
(signature)	(signature)	(signature)
Date	Date	Date

* Local Chief Executive Officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated to the chief executive office under the provisions of a local charter. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.

APPENDIX F

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.3
August 30, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

08/30/16

Site Name:

Lowell High School
50 FATHER MORISSETTE BL
LOWELL, MA 01852
EDR Inquiry # 4714118.3

Client Name:

Nobis Engineering, Inc.
585 MIddlesex St
Lowell, MA 01851
Contact: Evan Rudomen

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Nobis Engineering, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 972C-4100-B9A0

PO # 91830

Project Lowell High School

Maps Provided:

1977
1952
1950
1907
1892

Sanborn® Library search results

Certification #: 972C-4100-B9A0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

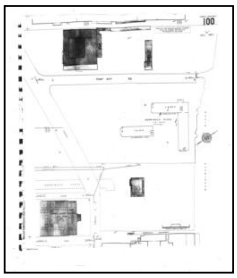
1977 Source Sheets



Volume 1, Sheet 76
1977



Volume 2, Sheet 99
1977



Volume 2, Sheet 100
1977

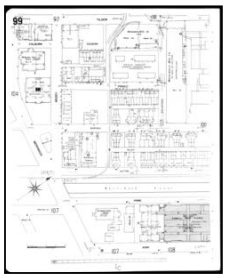


Volume 2, Sheet 107
1977

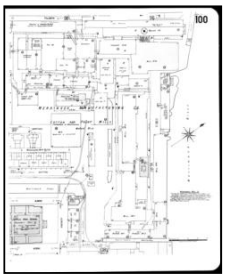


Volume 2, Sheet 108
1977

1952 Source Sheets



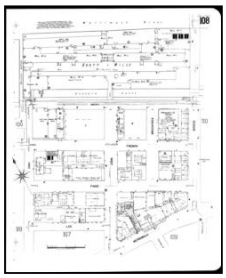
Volume 2, Sheet 99
1952



Volume 2, Sheet 100
1952

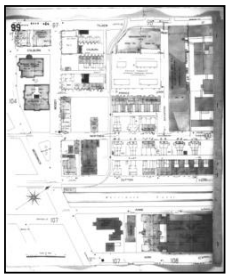


Volume 2, Sheet 107
1952

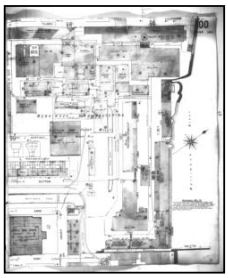


Volume 2, Sheet 108
1952

1950 Source Sheets



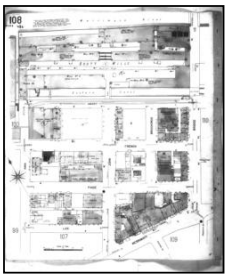
Volume 2, Sheet 99
1950



Volume 2, Sheet 100
1950



Volume 2, Sheet 107
1950

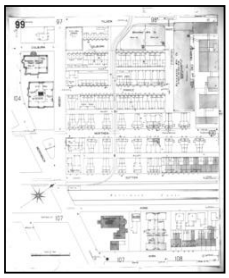


Volume 2, Sheet 108
1950

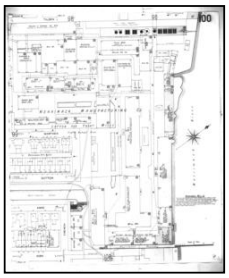
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1907 Source Sheets

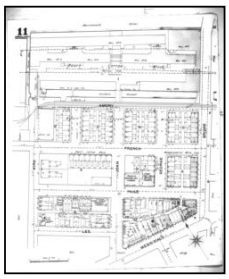


Volume 2, Sheet 99
1907

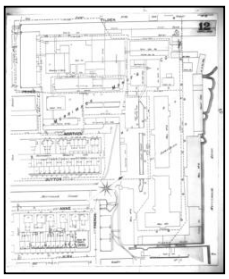


Volume 2, Sheet 100
1907

1892 Source Sheets



Volume 1, Sheet 11
1892



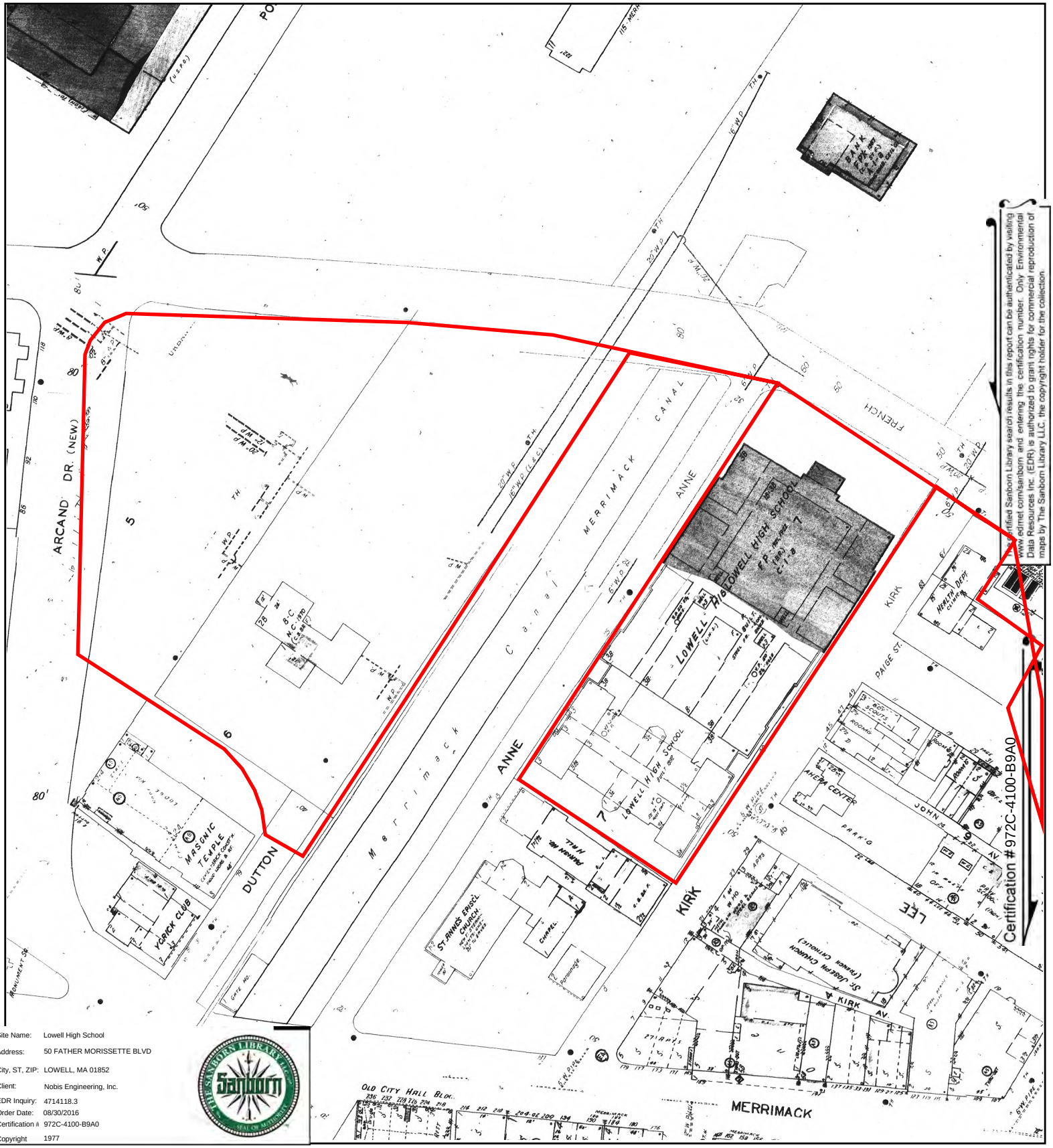
Volume 1, Sheet 12
1892



Volume 1, Sheet 21
1892



Volume 1, Sheet 22
1892



Site Name:	Lowell High School
Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	08/30/2016
Certification #:	972C-4100-B9A0
Copyright	1977

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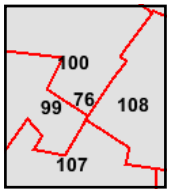
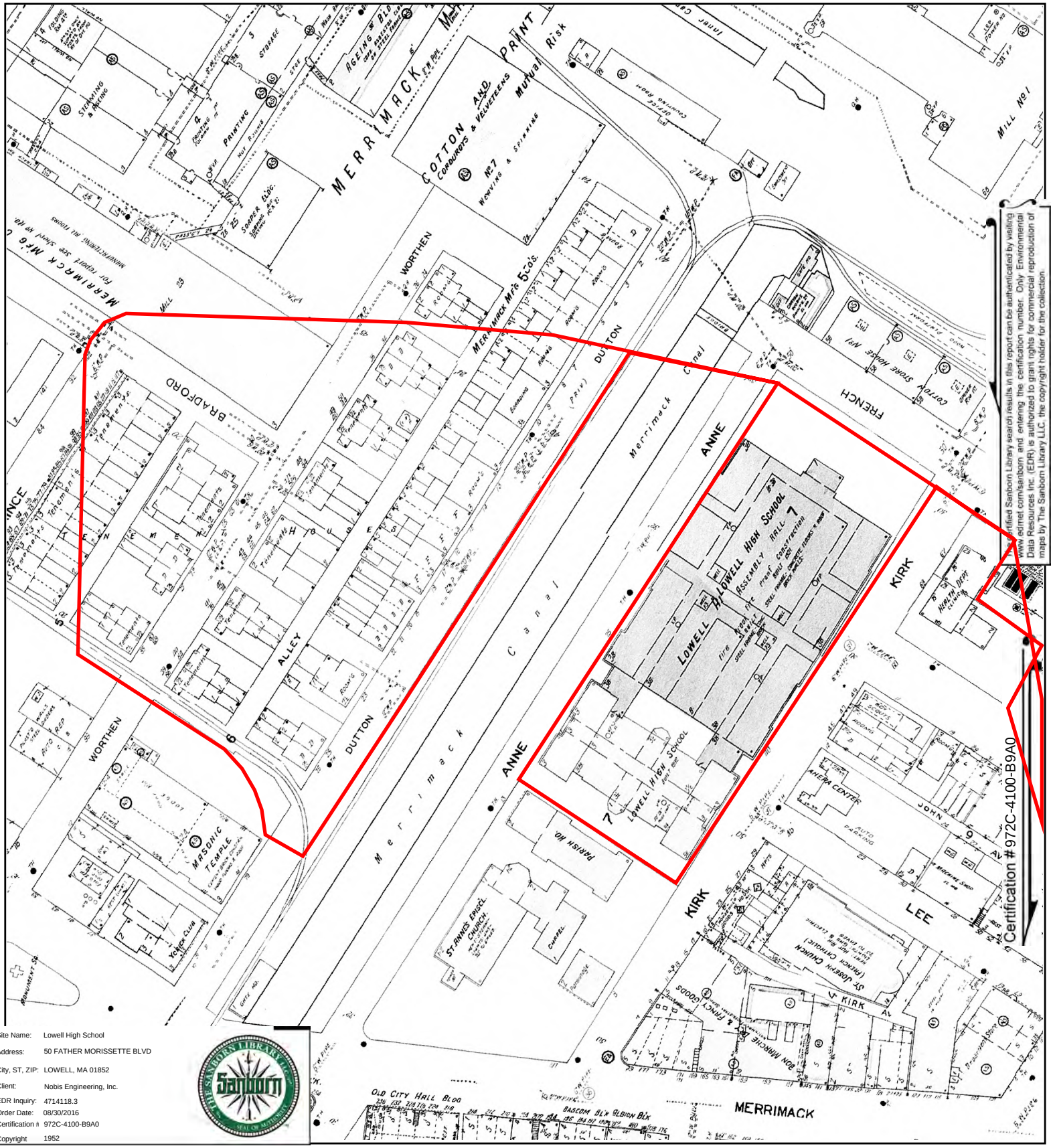


Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99
Volume 1, Sheet 76

N



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Address:	50 FATHER MORISSETTE BLVD
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Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	08/30/2016
Certification #:	972C-4100-B9A0
Copyright	1952

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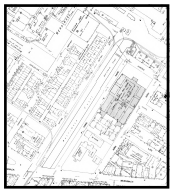

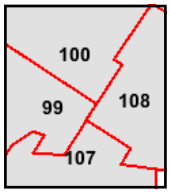

Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99

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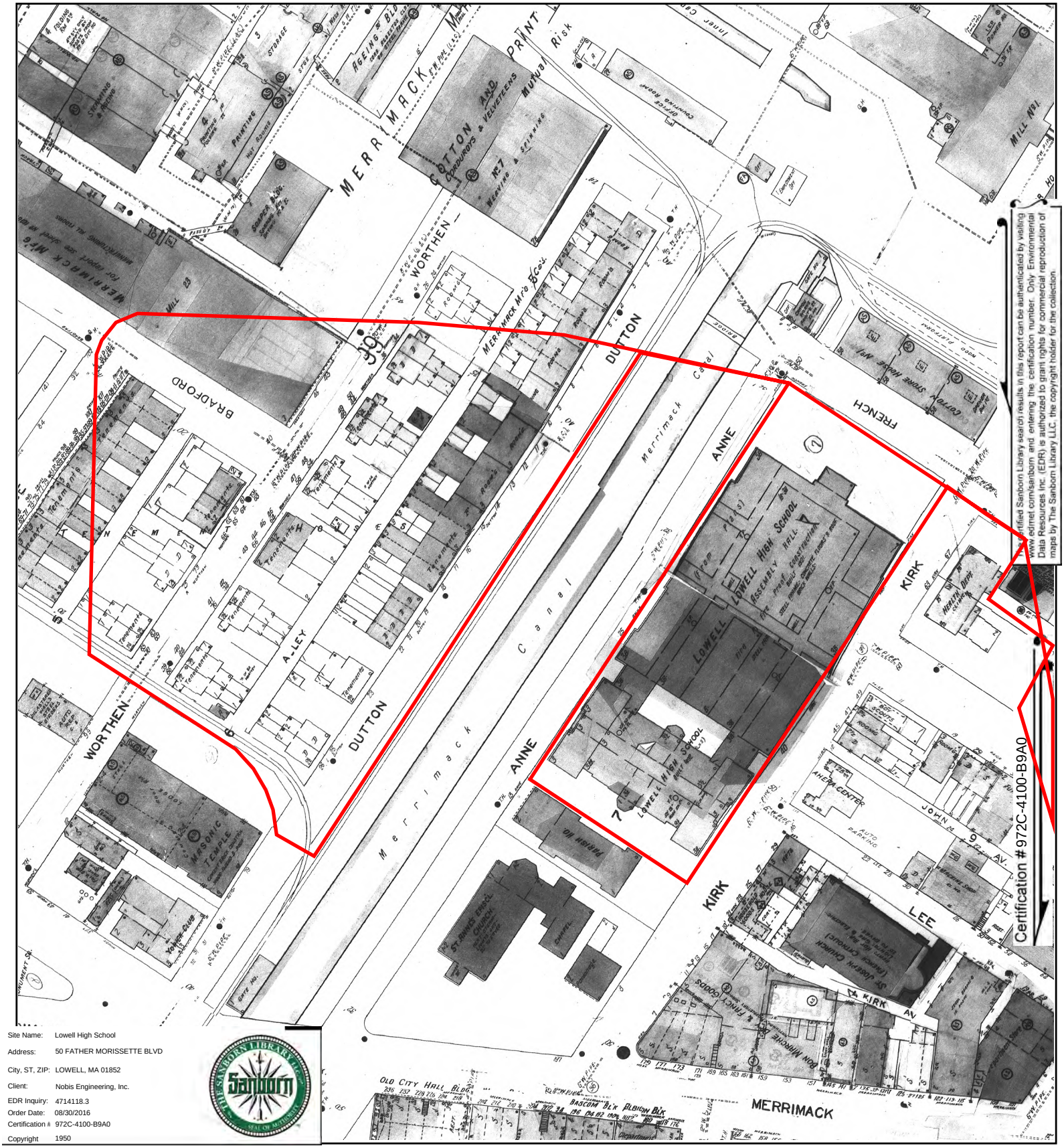

Site Name:	Lowell High School
Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	08/30/2016
Certification #:	972C-4100-B9A0
Copyright	1950

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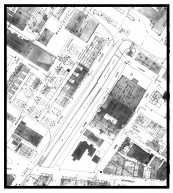

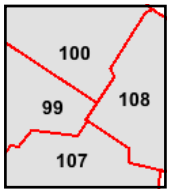

Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99

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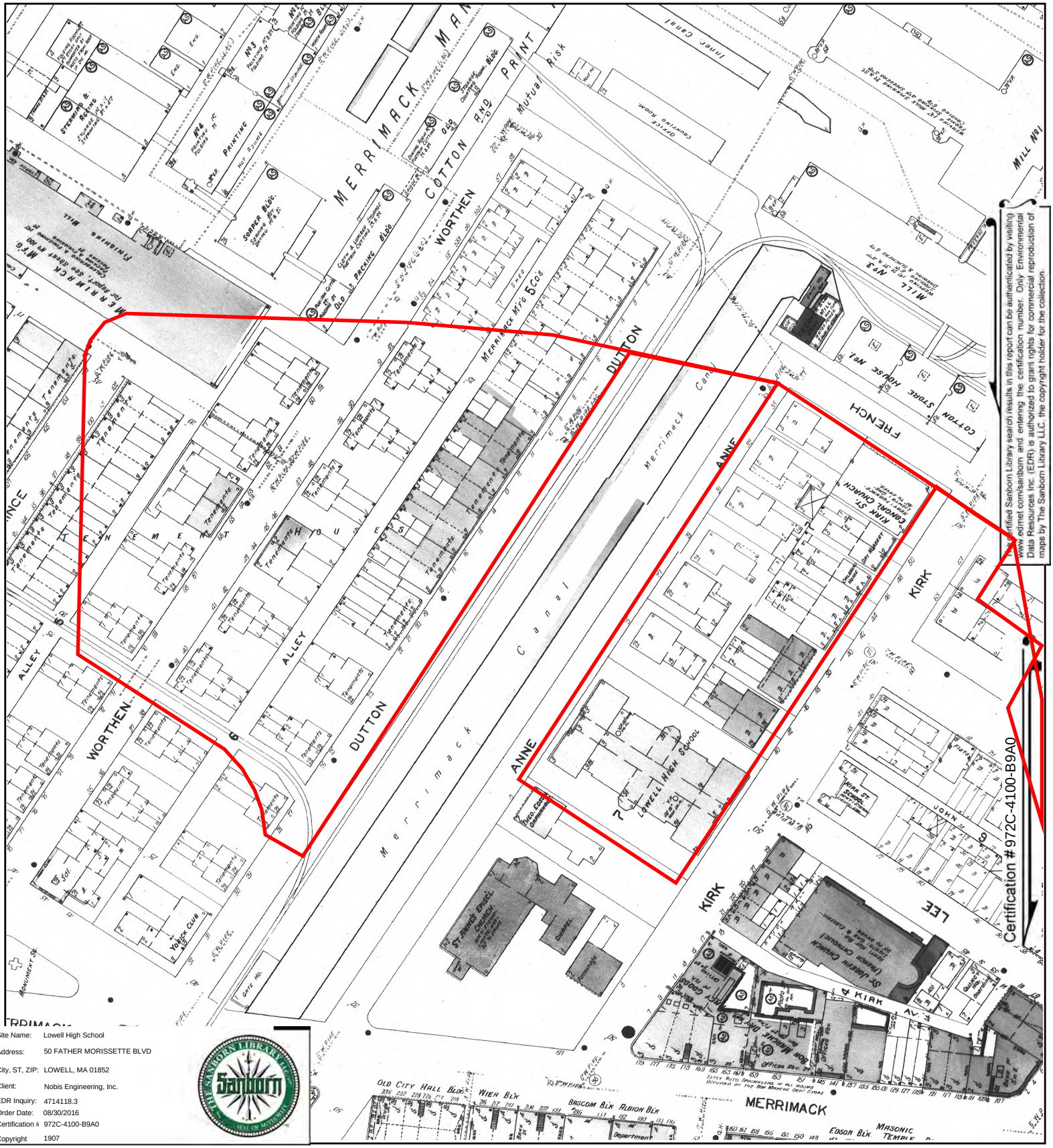

Site Name:	Lowell High School
Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	08/30/2016
Certification #:	972C-4100-B9A0
Copyright	1907

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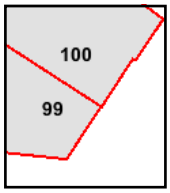

Volume 2, Sheet 100
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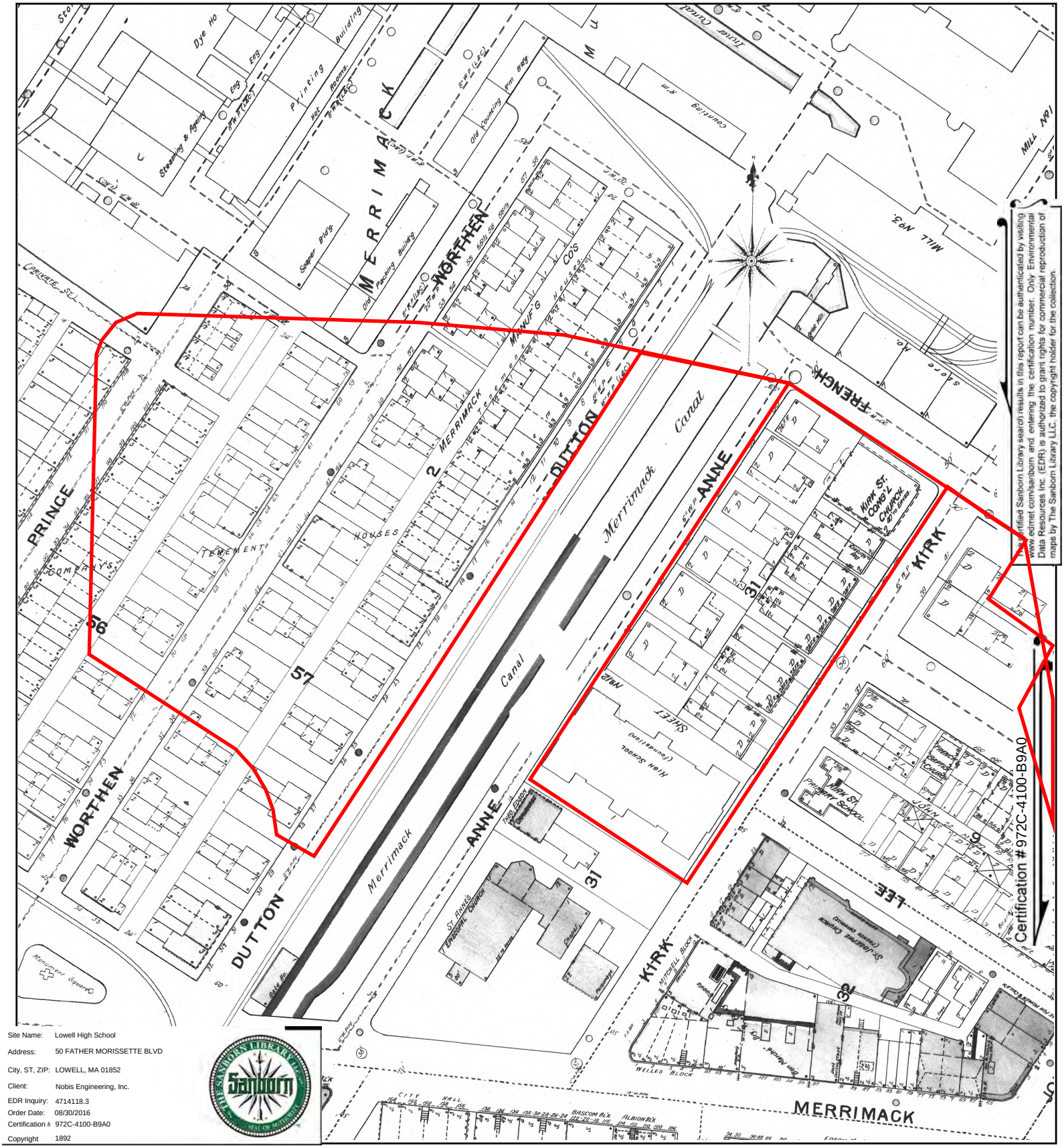

Site Name:	Lowell High School
Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	08/30/2016
Certification #:	972C-4100-B9A0
Copyright	1892

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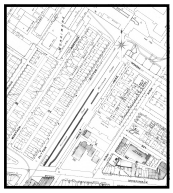

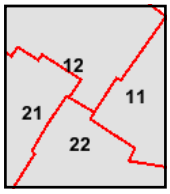

Volume 1, Sheet 22
Volume 1, Sheet 21
Volume 1, Sheet 12
Volume 1, Sheet 11

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Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.3
September 01, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/01/16

Site Name:

Lowell High School
50 FATHER MORISSETTE BL
LOWELL, MA 01852
EDR Inquiry # 4714118.3

Client Name:

Nobis Engineering, Inc.
585 MIddlesex St
Lowell, MA 01851
Contact: Evan Rudomen

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Certified Sanborn Results:

Certification # 972C-4100-B9A0

PO # 91830

Project Lowell High School

Maps Provided:

1977
1952
1950
1907
1892

Sanborn® Library search results

Certification #: 972C-4100-B9A0

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- ☑ Library of Congress
- ☑ University Publications of America
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Sanborn Sheet Key

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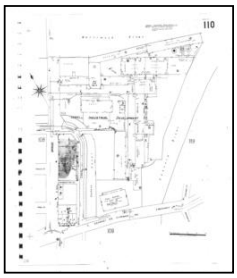
1977 Source Sheets



Volume 1, Sheet 76
1977

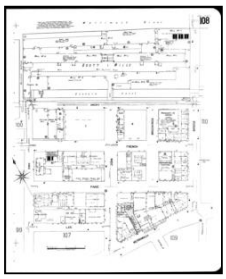


Volume 2, Sheet 108
1977

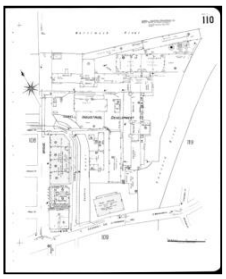


Volume 2, Sheet 110
1977

1952 Source Sheets

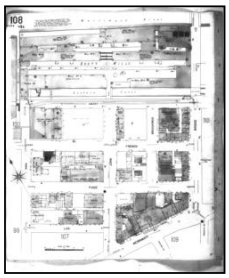


Volume 2, Sheet 108
1952

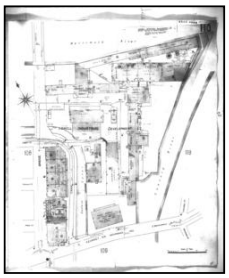


Volume 2, Sheet 110
1952

1950 Source Sheets



Volume 2, Sheet 108
1950



Volume 2, Sheet 110
1950

1907 Source Sheets



Volume 2, Sheet 108
1907



Volume 2, Sheet 110
1907

Sanborn Sheet Key

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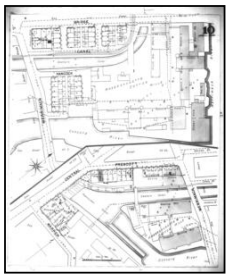
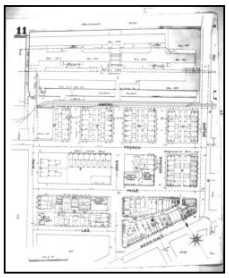
1892 Source Sheets



Volume 1, Sheet 10
1892

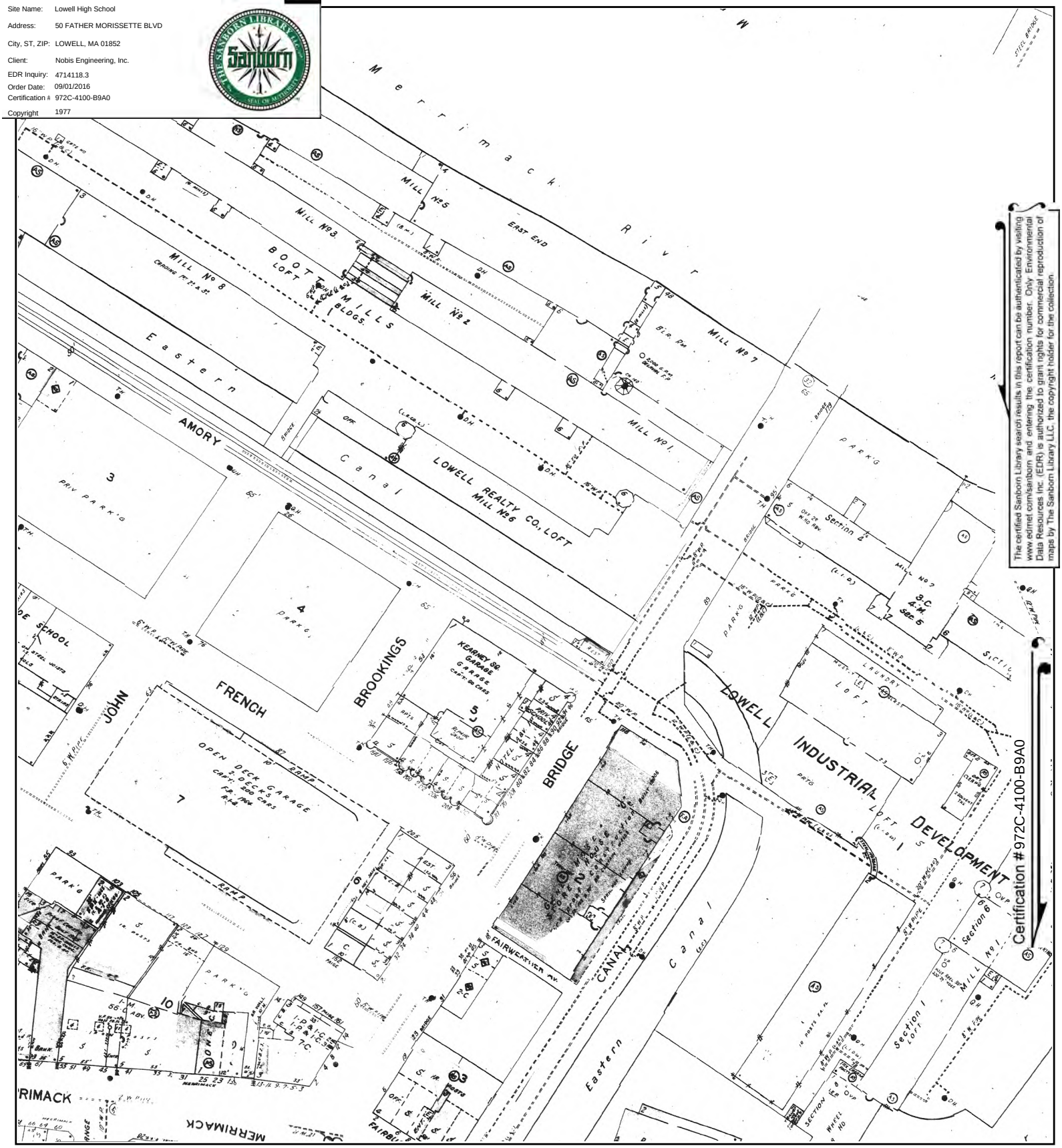


Volume 1, Sheet 11
1892

Certified Sanborn® Map

1977

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
Client: Nobis Engineering, Inc.
EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
Copyright: 1977



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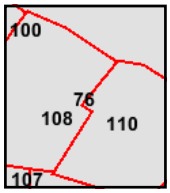

Volume 2, Sheet 110
Volume 2, Sheet 108
Volume 1, Sheet 76

N

Certified Sanborn® Map

1952

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
Client: Nobis Engineering, Inc.
EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
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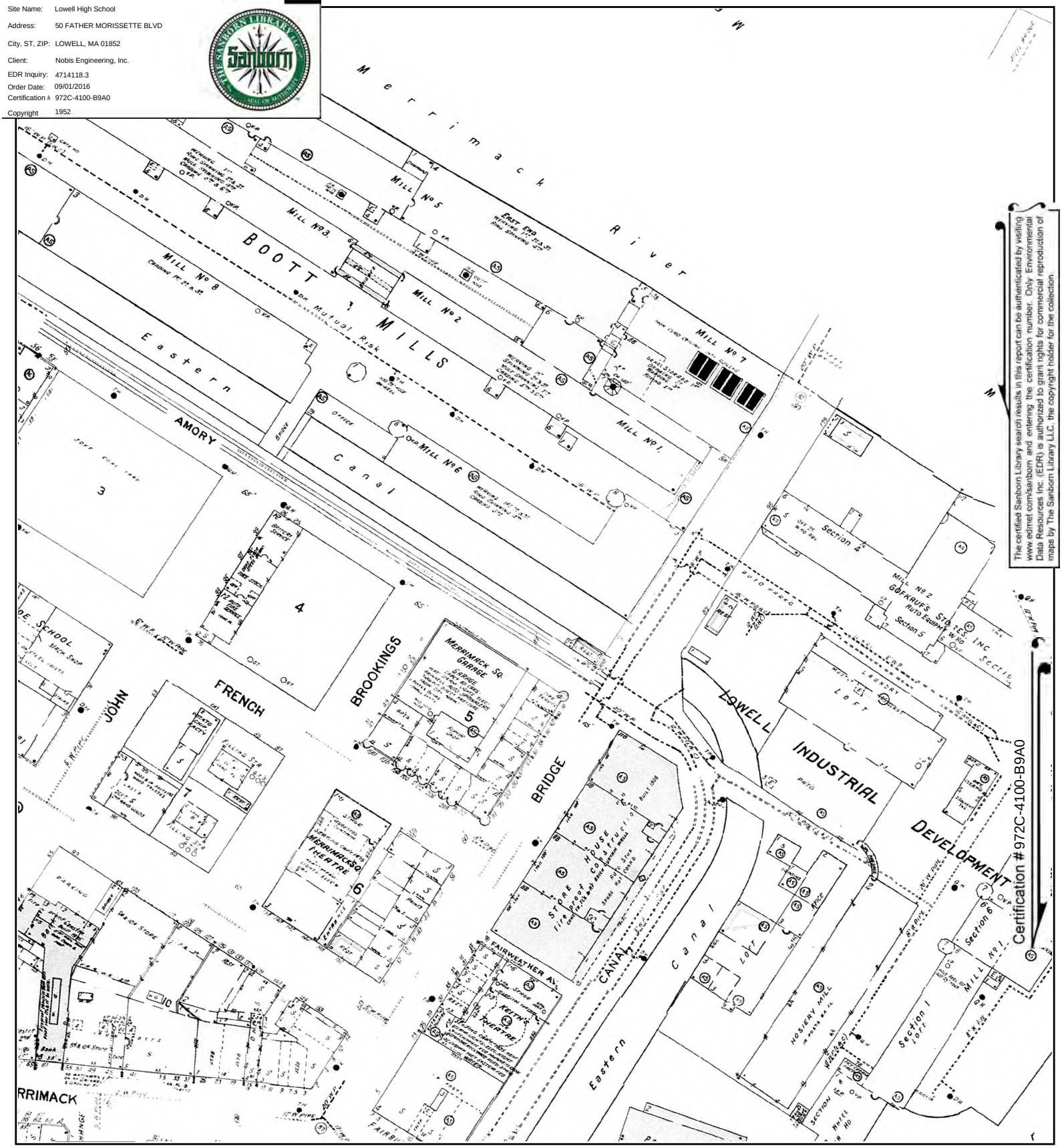

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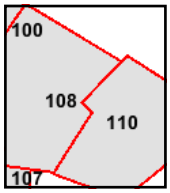


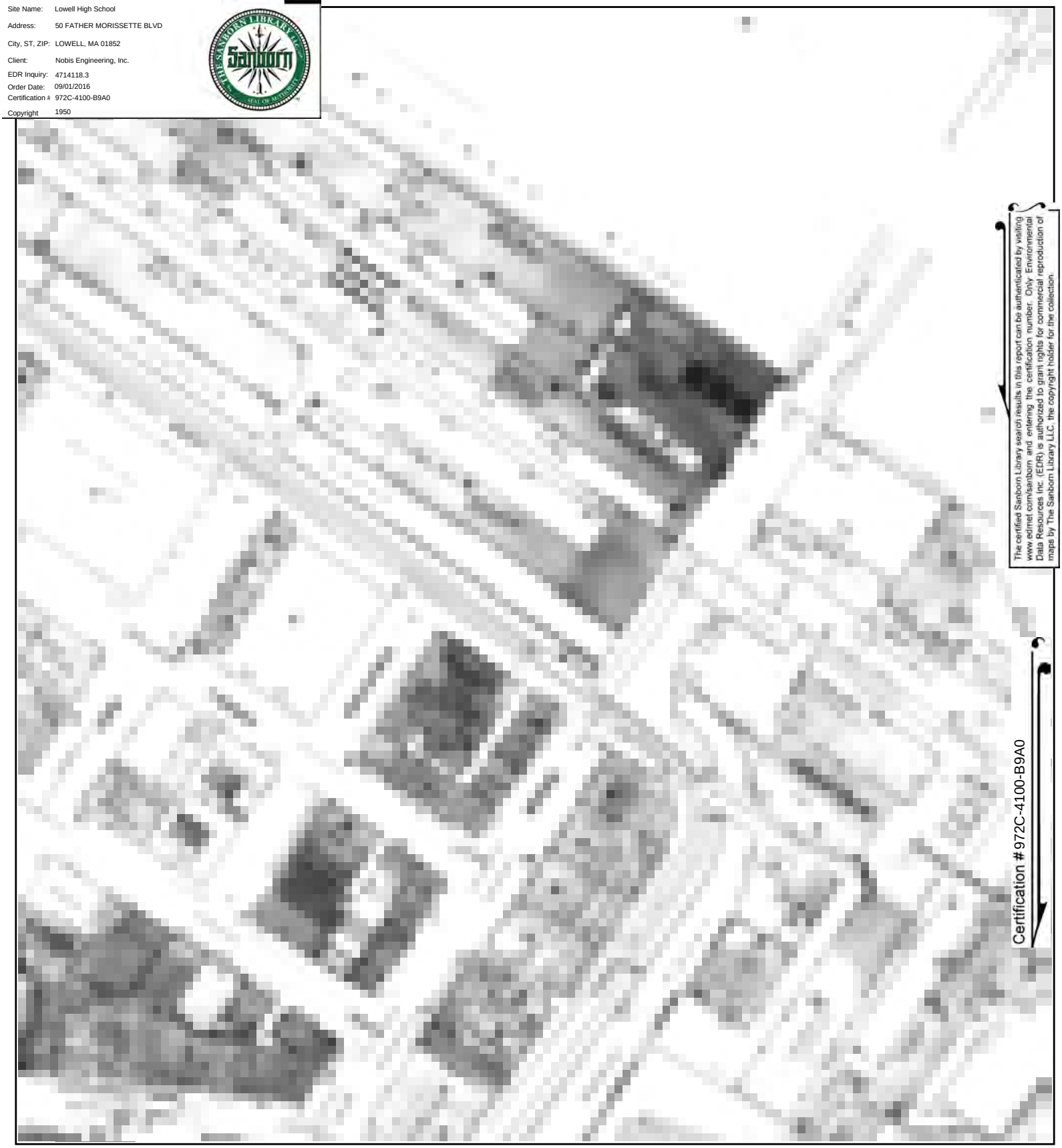
Volume 2, Sheet 110
Volume 2, Sheet 108

N

Certified Sanborn® Map

1950

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
Client: Nobis Engineering, Inc.
EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
Copyright: 1950



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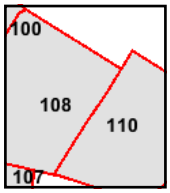

Volume 2, Sheet 110
Volume 2, Sheet 108

N

Certified Sanborn® Map

1907

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
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EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
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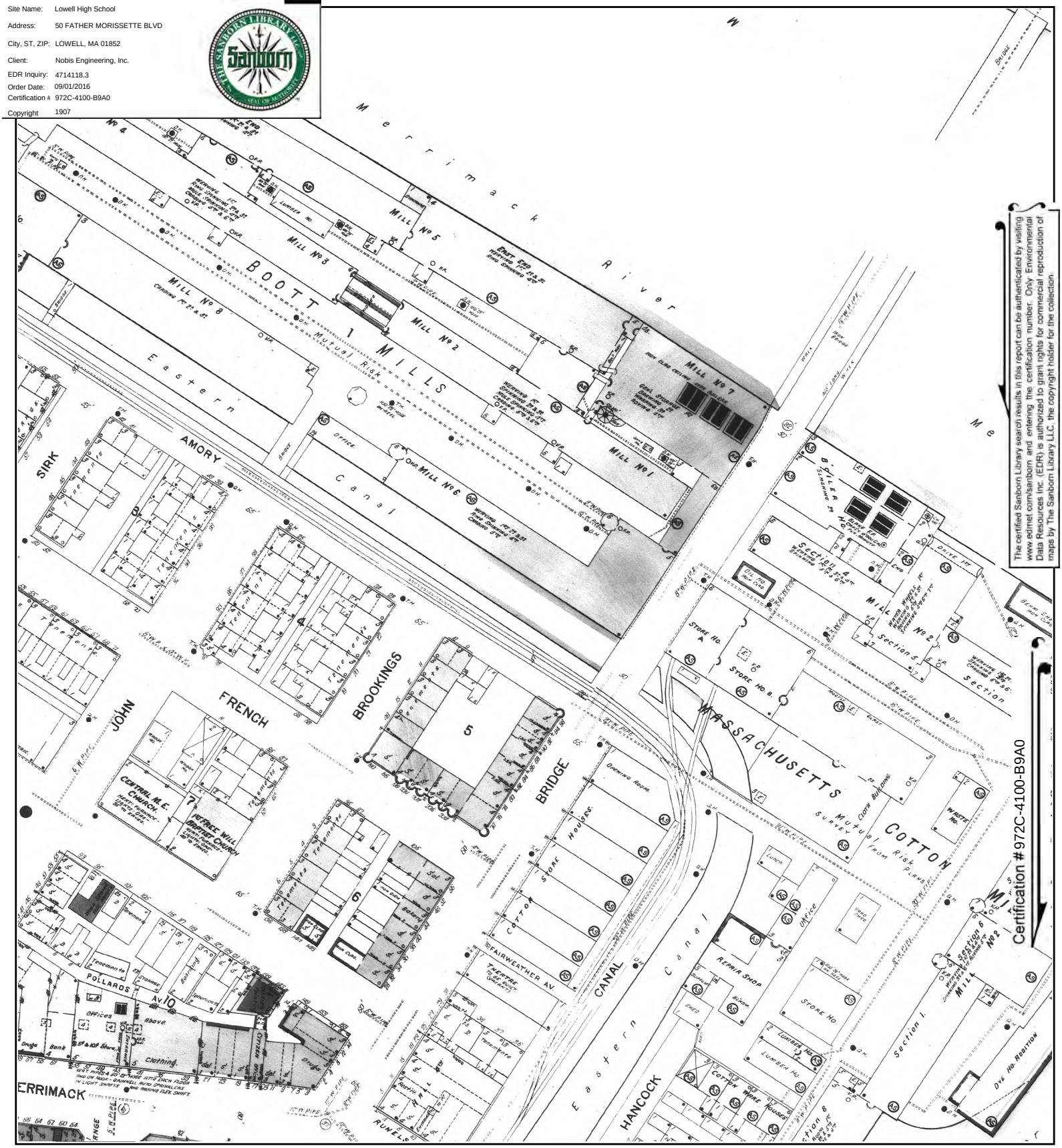

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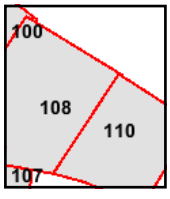


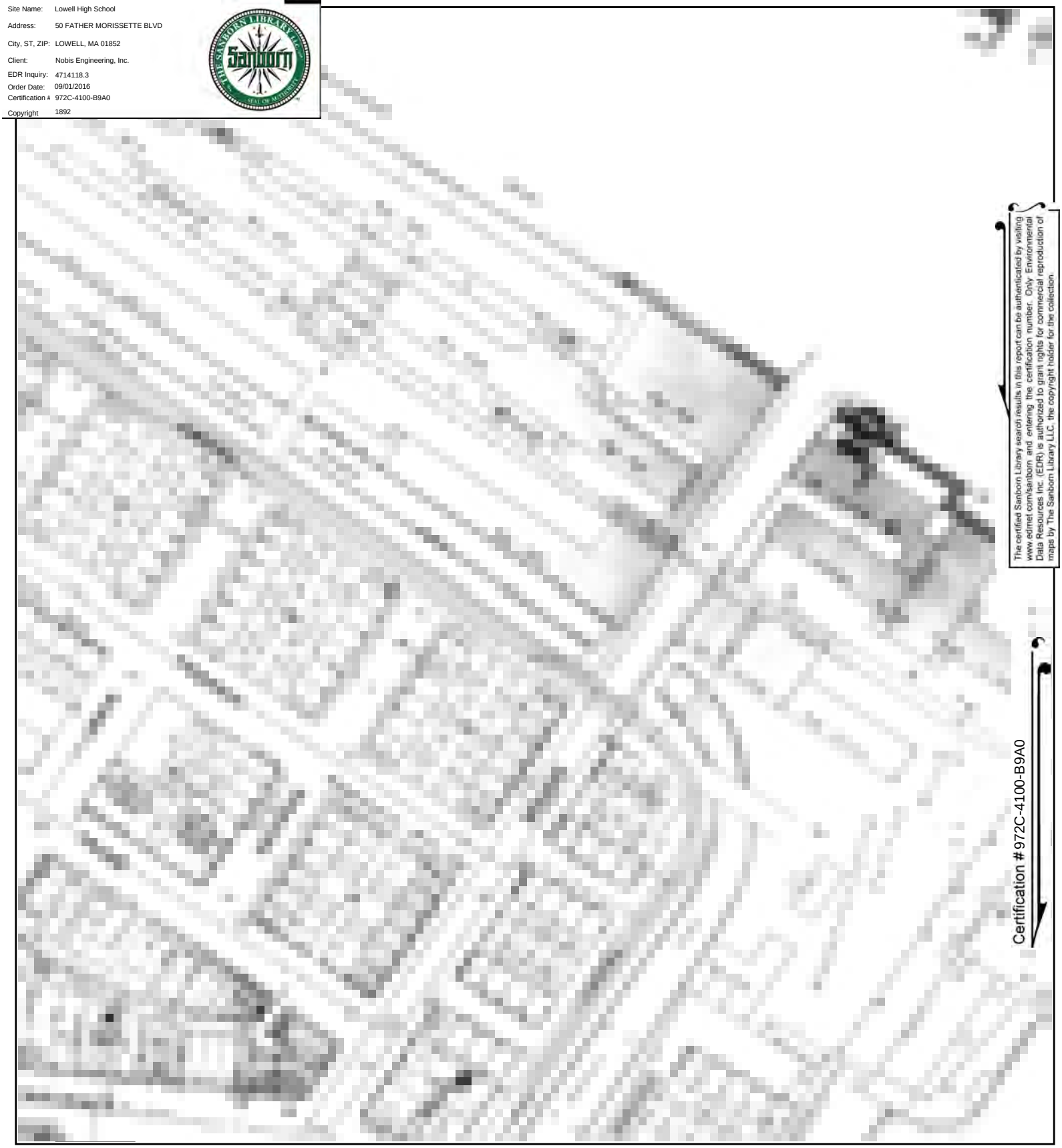
Volume 2, Sheet 110
Volume 2, Sheet 108

N

Certified Sanborn® Map

1892

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
Client: Nobis Engineering, Inc.
EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
Copyright: 1892



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Certification #972C-4100-B9A0

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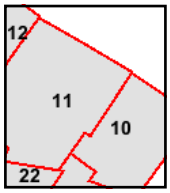
0 Feet 150 300 600





Volume 1, Sheet 11
Volume 1, Sheet 10

N

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.3
September 01, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

09/01/16

Site Name:

Lowell High School
50 FATHER MORISSETTE BL
LOWELL, MA 01852
EDR Inquiry # 4714118.3

Client Name:

Nobis Engineering, Inc.
585 MIddlesex St
Lowell, MA 01851
Contact: Evan Rudomen

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Nobis Engineering, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

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Certified Sanborn Results:

Certification # 972C-4100-B9A0

PO # 91830

Project Lowell High School

Maps Provided:

1977
1952
1950
1907
1892

Sanborn® Library search results

Certification #: 972C-4100-B9A0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Sanborn Sheet Key

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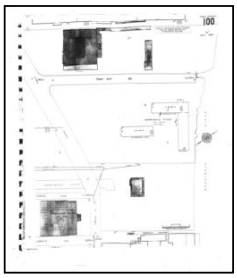
1977 Source Sheets



Volume 1, Sheet 76
1977



Volume 2, Sheet 99
1977



Volume 2, Sheet 100
1977

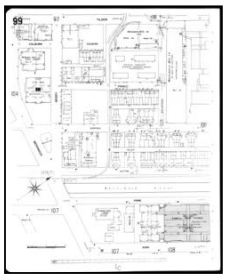


Volume 2, Sheet 107
1977

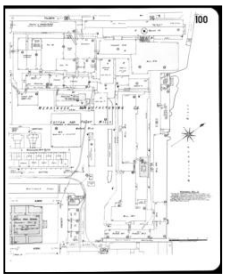


Volume 2, Sheet 108
1977

1952 Source Sheets



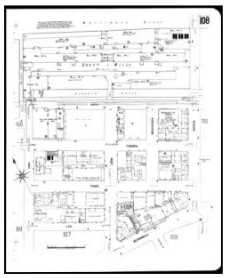
Volume 2, Sheet 99
1952



Volume 2, Sheet 100
1952

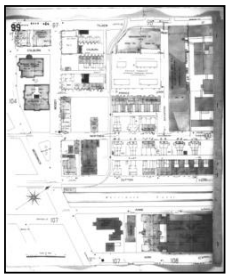


Volume 2, Sheet 107
1952

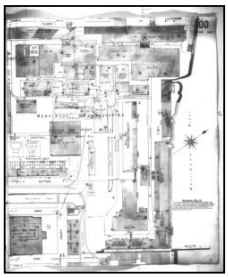


Volume 2, Sheet 108
1952

1950 Source Sheets



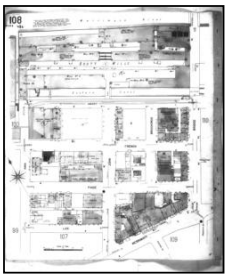
Volume 2, Sheet 99
1950



Volume 2, Sheet 100
1950



Volume 2, Sheet 107
1950

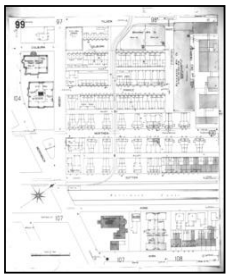


Volume 2, Sheet 108
1950

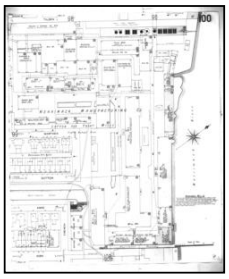
Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1907 Source Sheets



Volume 2, Sheet 99
1907



Volume 2, Sheet 100
1907

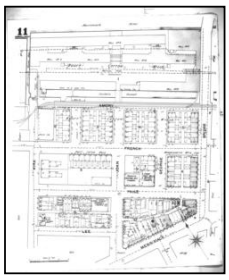


Volume 2, Sheet 107
1907

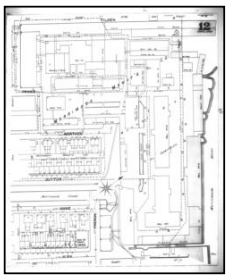


Volume 2, Sheet 108
1907

1892 Source Sheets



Volume 1, Sheet 11
1892



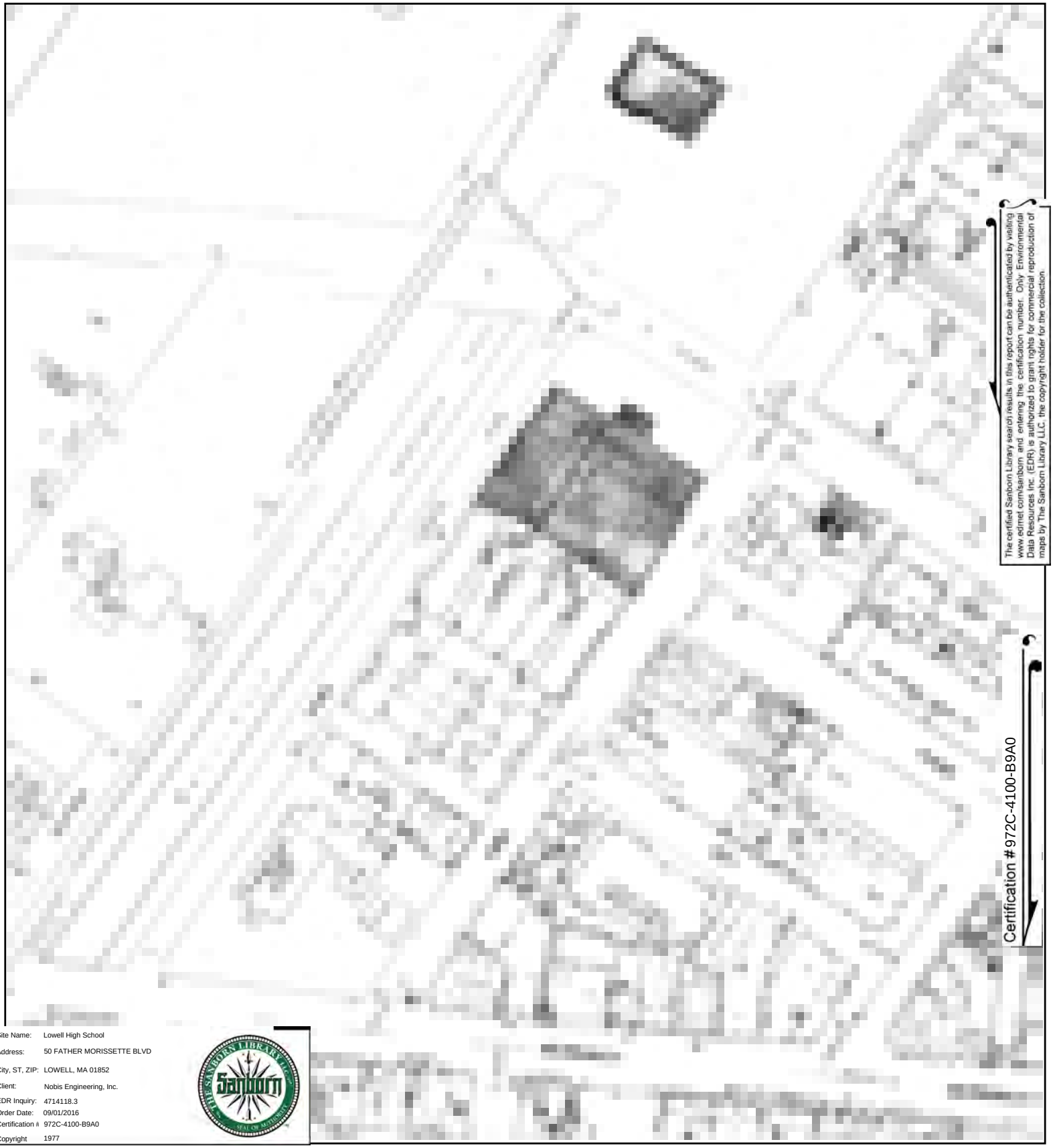
Volume 1, Sheet 12
1892



Volume 1, Sheet 21
1892



Volume 1, Sheet 22
1892



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Certification #972C-4100-B9A0

Site Name: Lowell High School
Address: 50 FATHER MORISSETTE BLVD
City, ST, ZIP: LOWELL, MA 01852
Client: Nobis Engineering, Inc.
EDR Inquiry: 4714118.3
Order Date: 09/01/2016
Certification #: 972C-4100-B9A0
Copyright: 1977

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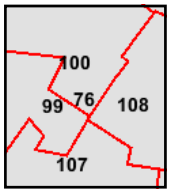
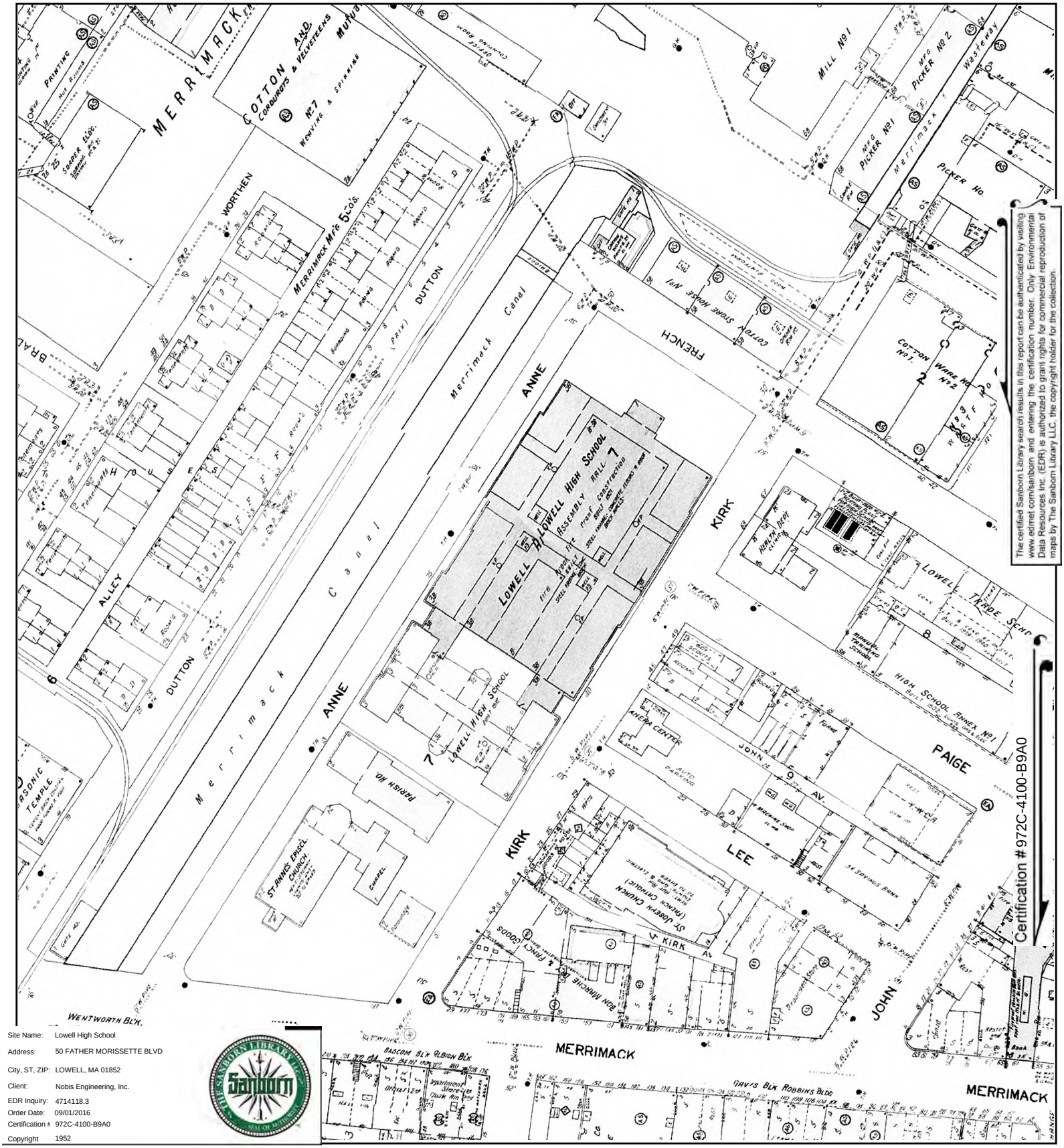


Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99
Volume 1, Sheet 76

N



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Order Date:	09/01/2016
Certification #:	972C-4100-B9A0
Copyright	1952

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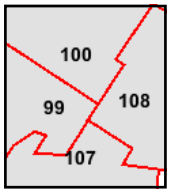
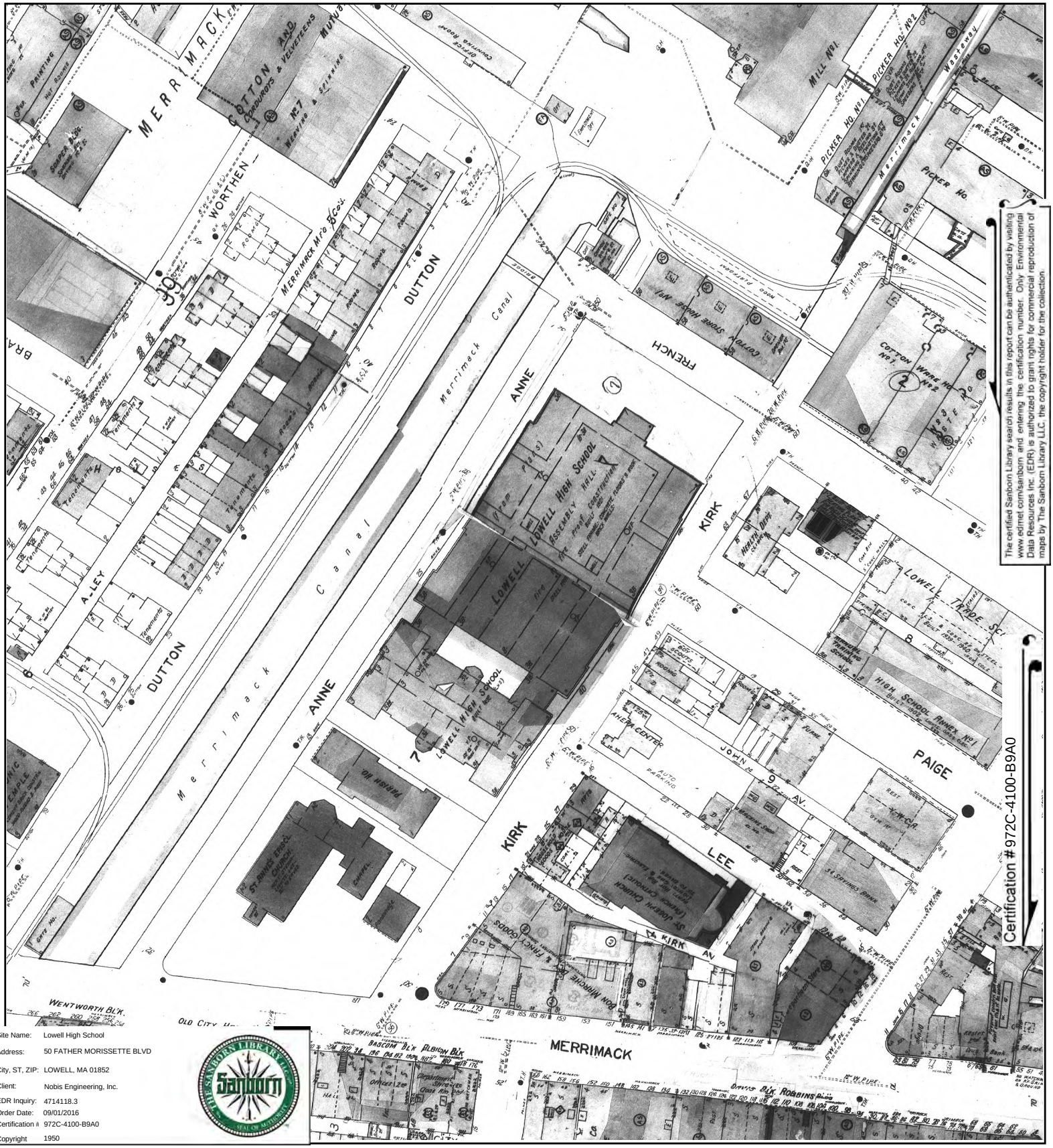


Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99

N



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Client:	Nobis Engineering, Inc.
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Order Date:	09/01/2016
Certification #:	972C-4100-B9A0
Copyright	1950

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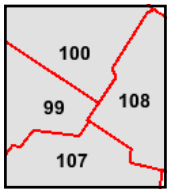

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Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99

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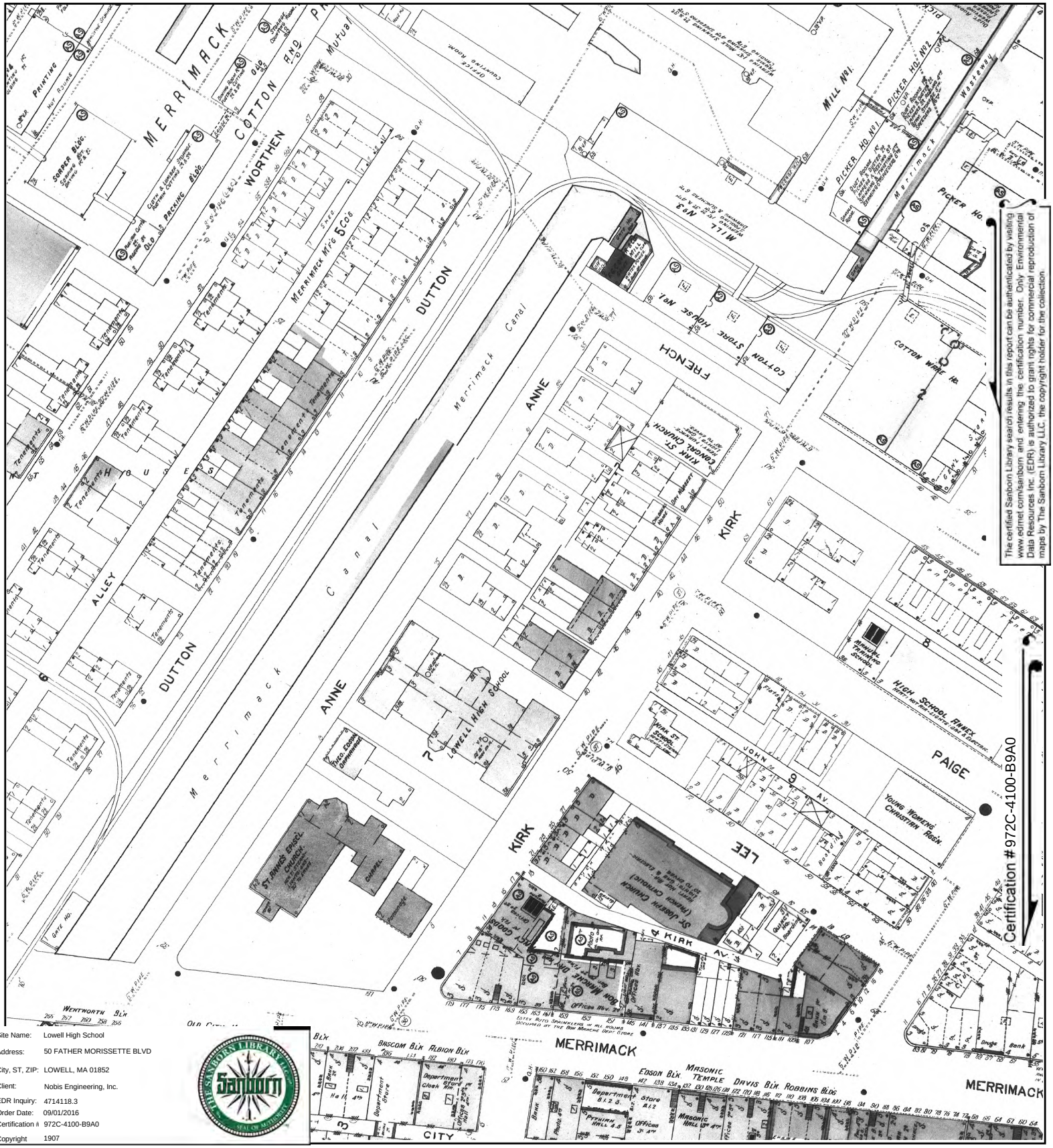

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Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	09/01/2016
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Copyright	1907

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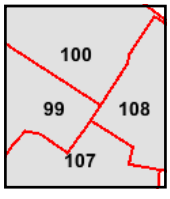

Volume 2, Sheet 108
Volume 2, Sheet 107
Volume 2, Sheet 100
Volume 2, Sheet 99

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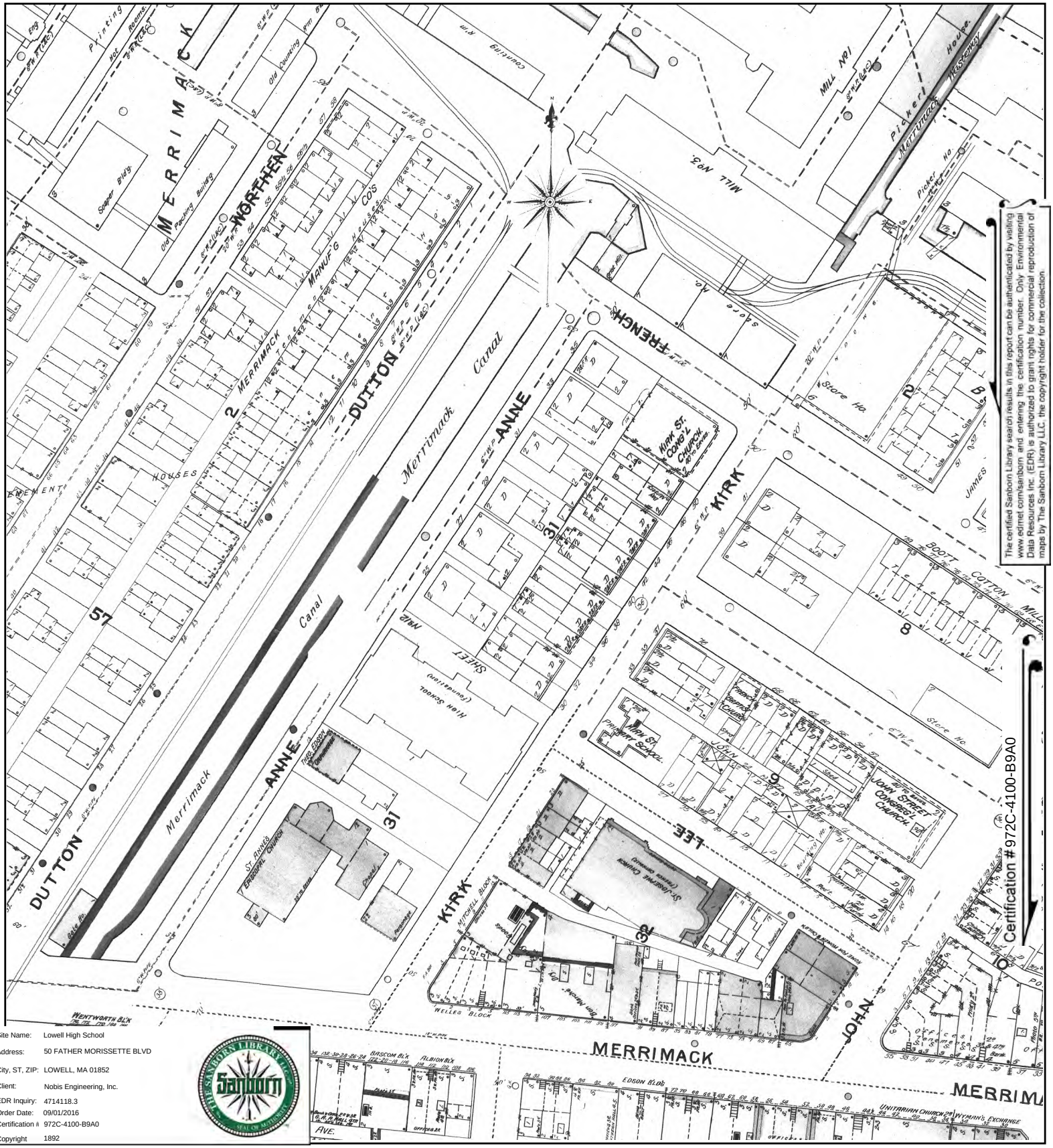

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Site Name:	Lowell High School
Address:	50 FATHER MORISSETTE BLVD
City, ST, ZIP:	LOWELL, MA 01852
Client:	Nobis Engineering, Inc.
EDR Inquiry:	4714118.3
Order Date:	09/01/2016
Certification #:	972C-4100-B9A0
Copyright	1892

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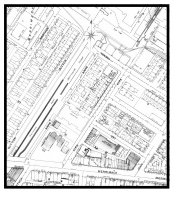

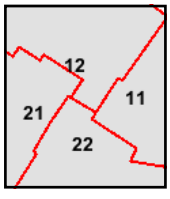

Volume 1, Sheet 22
Volume 1, Sheet 21
Volume 1, Sheet 12
Volume 1, Sheet 11

0 Feet 150 300 600

N

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.9
August 30, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

08/30/16

Site Name:

Lowell High School
50 FATHER MORISSETTE BL
LOWELL, MA 01852
EDR Inquiry # 4714118.9

Client Name:

Nobis Engineering, Inc.
585 MIddlesex St
Lowell, MA 01851
Contact: Evan Rudomen

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Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2008	1"=500'	Flight Year: 2008	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: April 11, 1998	USGS/DOQQ
1985	1"=500'	Flight Date: April 17, 1985	USDA
1980	1"=500'	Flight Date: October 10, 1980	USDA
1977	1"=500'	Flight Date: May 04, 1977	USDA
1965	1"=500'	Flight Date: April 04, 1965	USGS
1963	1"=500'	Flight Date: April 27, 1963	USGS
1952	1"=500'	Flight Date: July 07, 1952	USDA
1938	1"=500'	Flight Date: November 10, 1938	USGS

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INQUIRY #: 4714118.9

YEAR: 2012

= 500'

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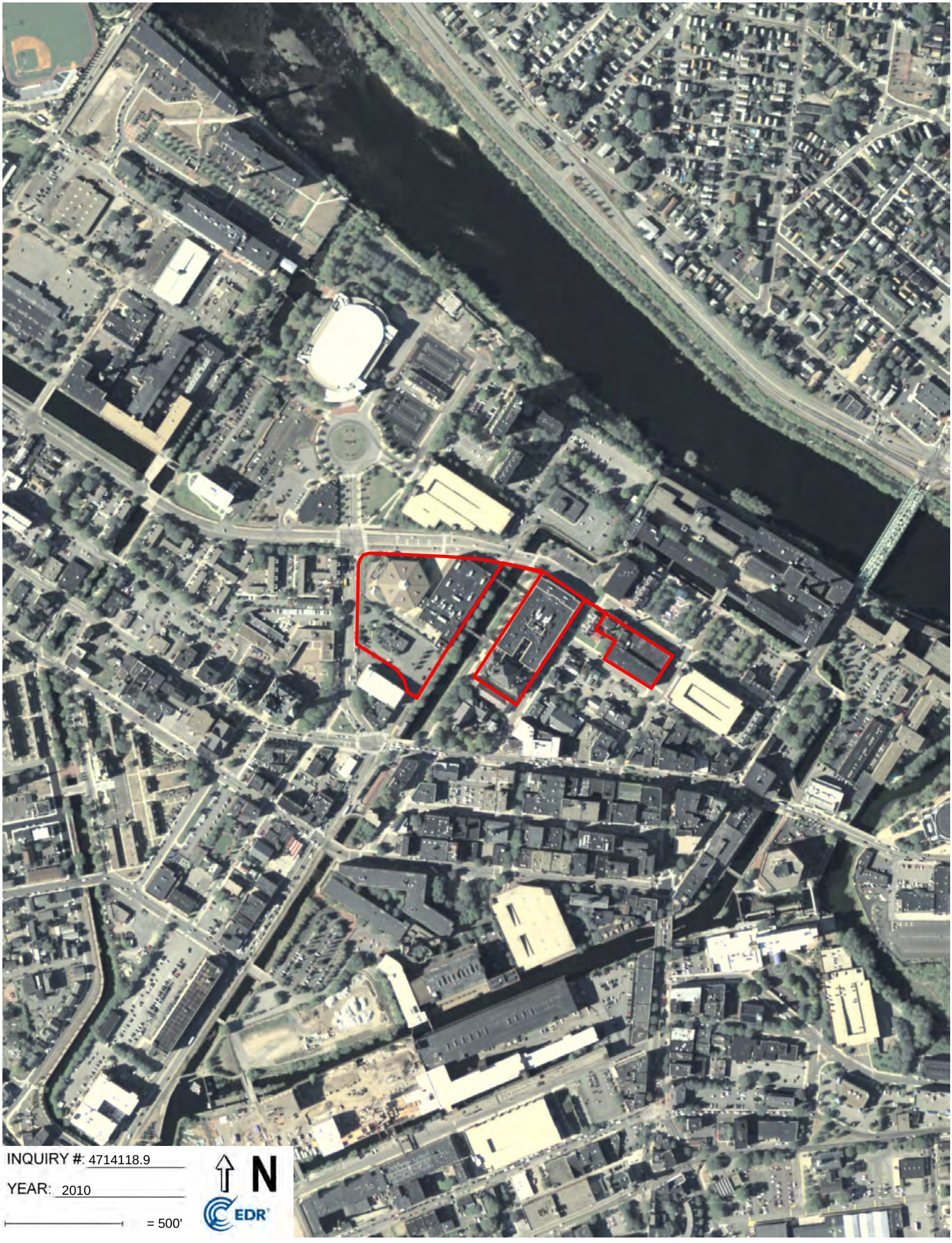
EDR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YEAR: 2010
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EDR


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YEAR: 2008
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YEAR: 2006
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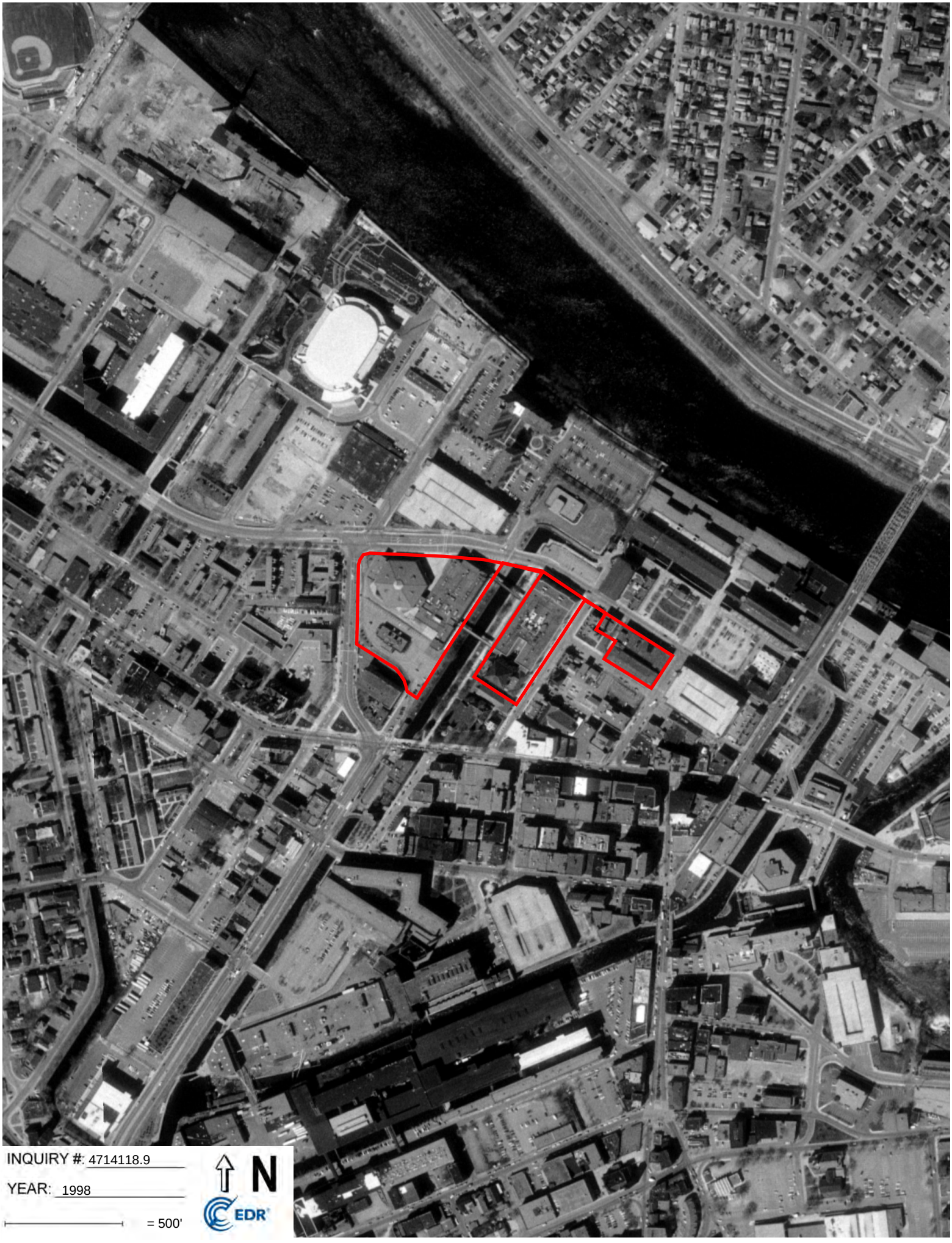
EDR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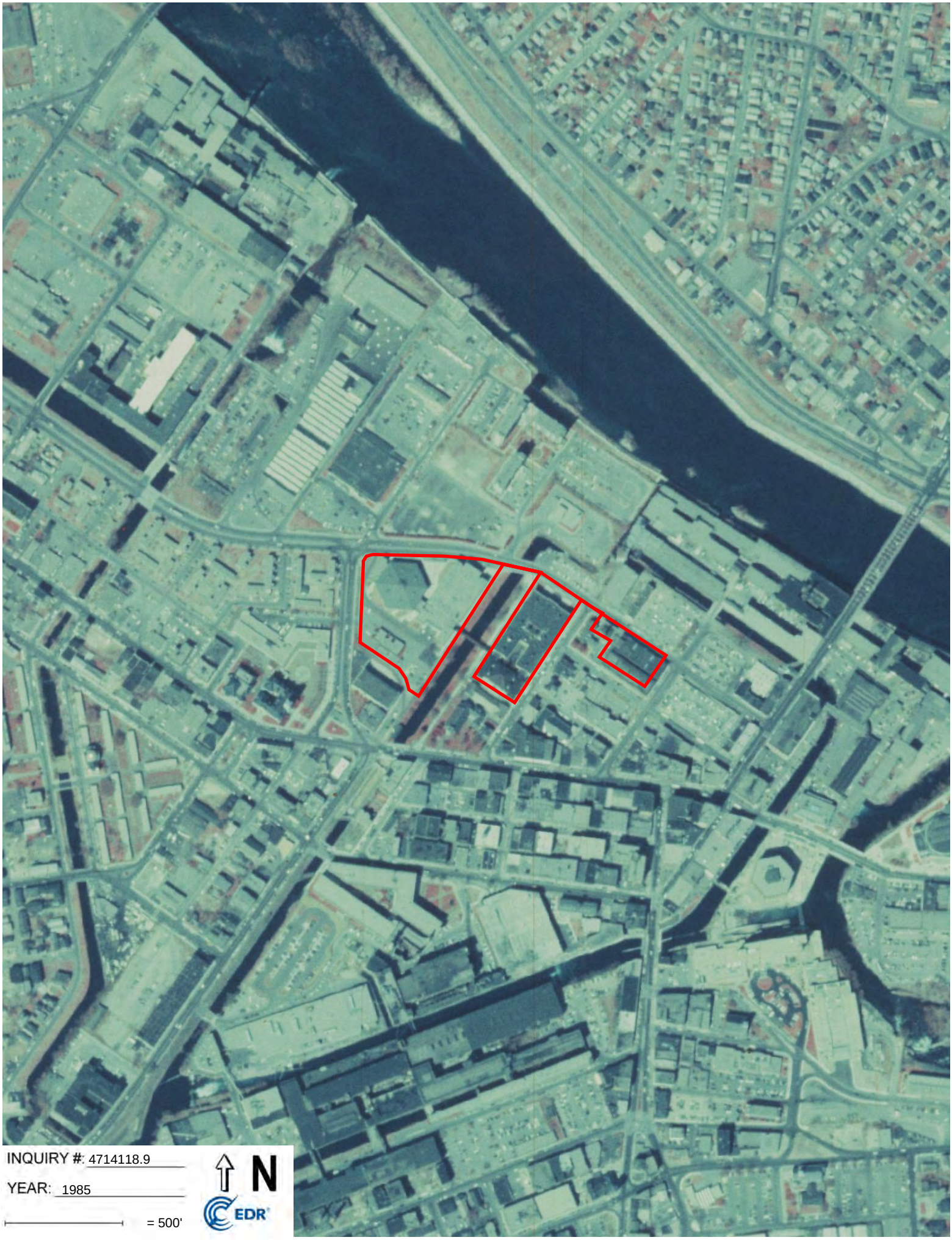
EDR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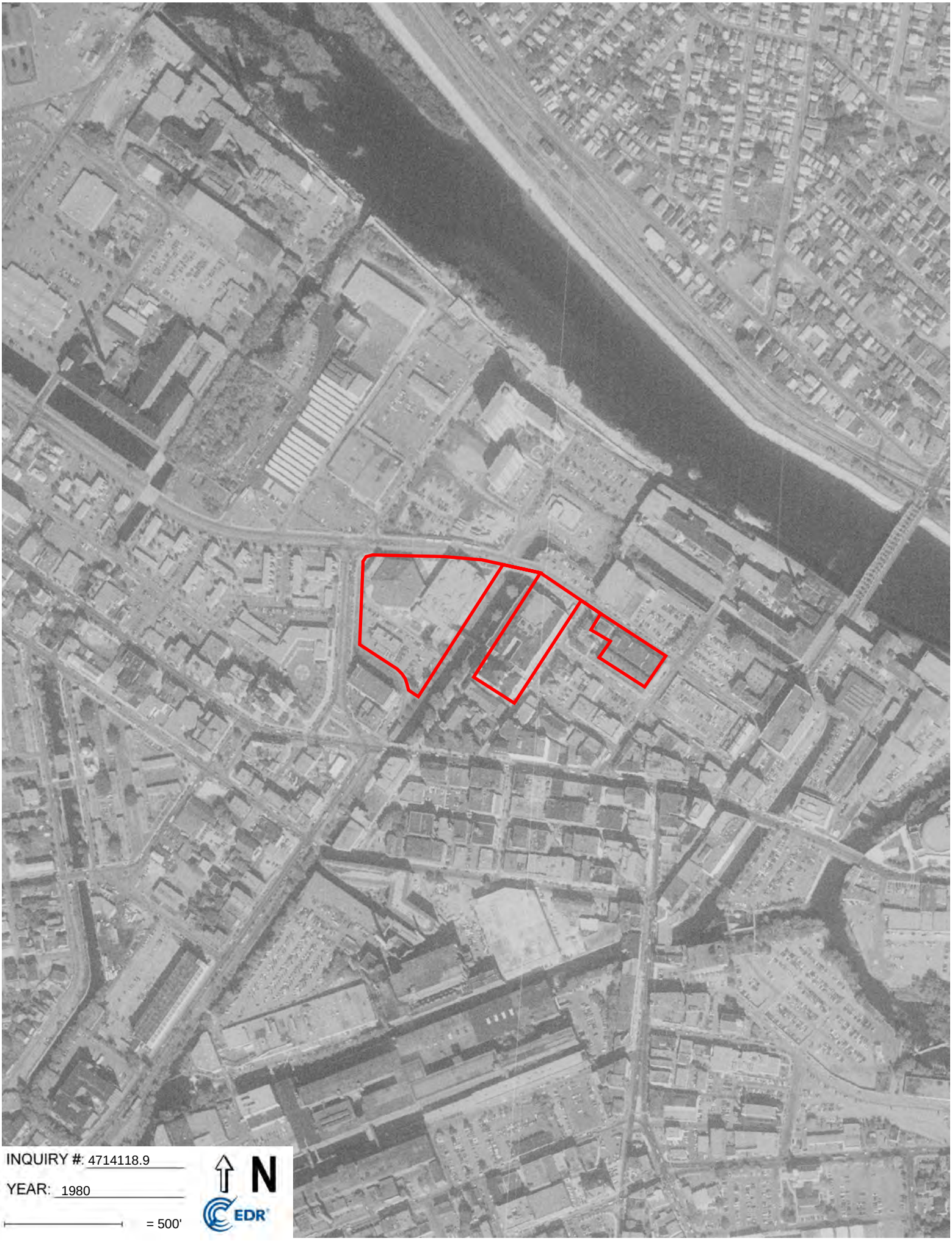
EDR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YEAR: 1980
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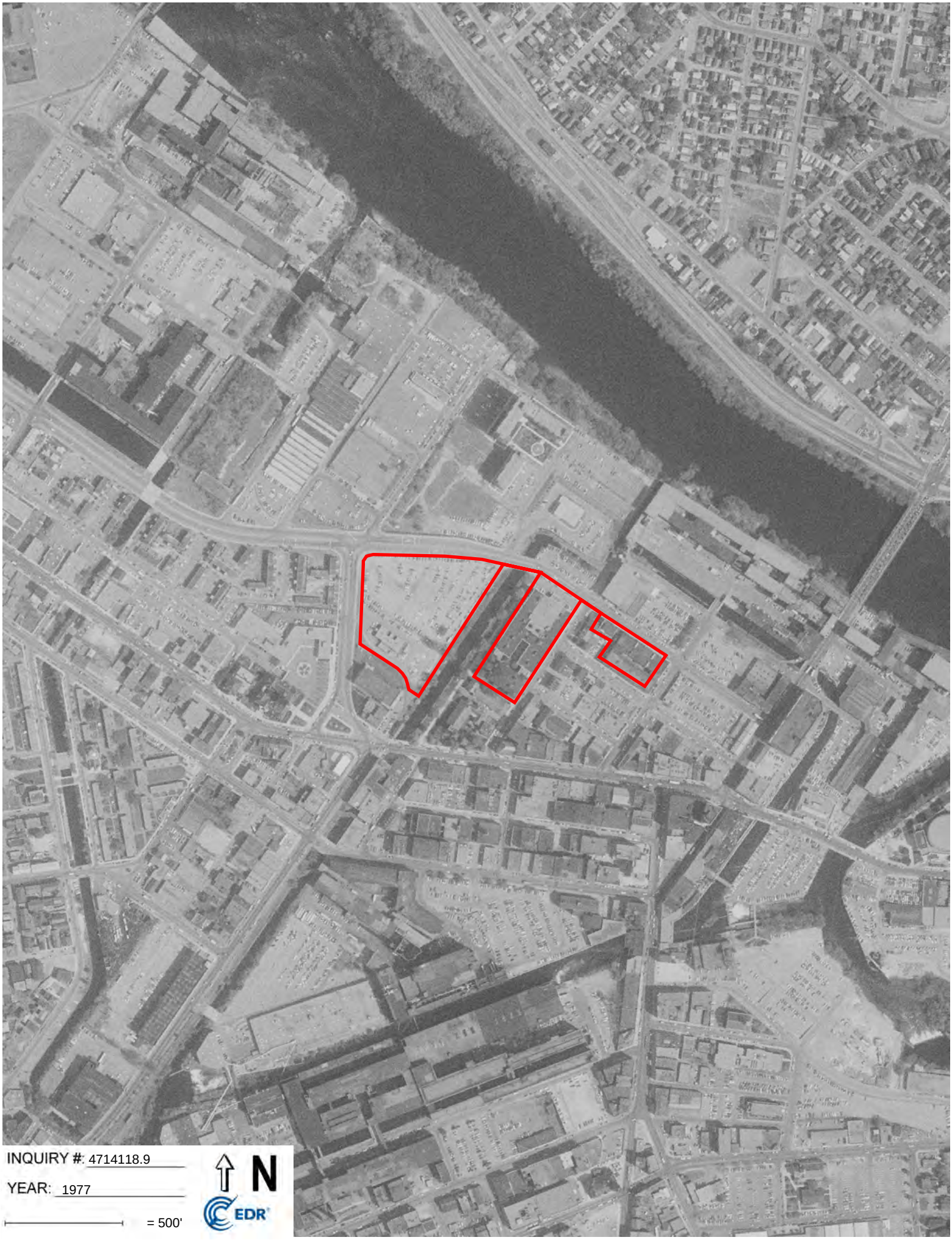
EDR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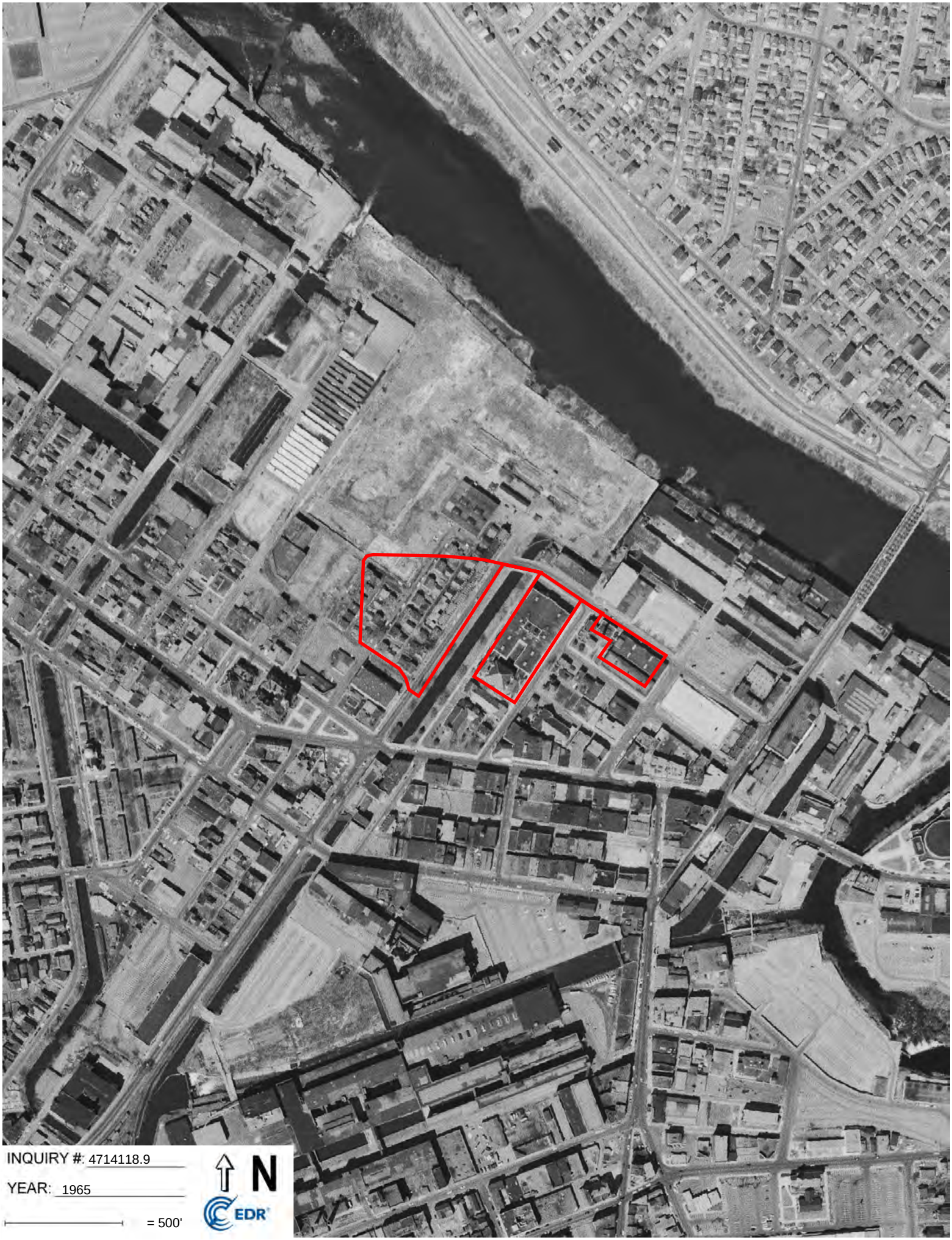
YEAR: 1977
= 500'
N
EDR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YEAR: 1965
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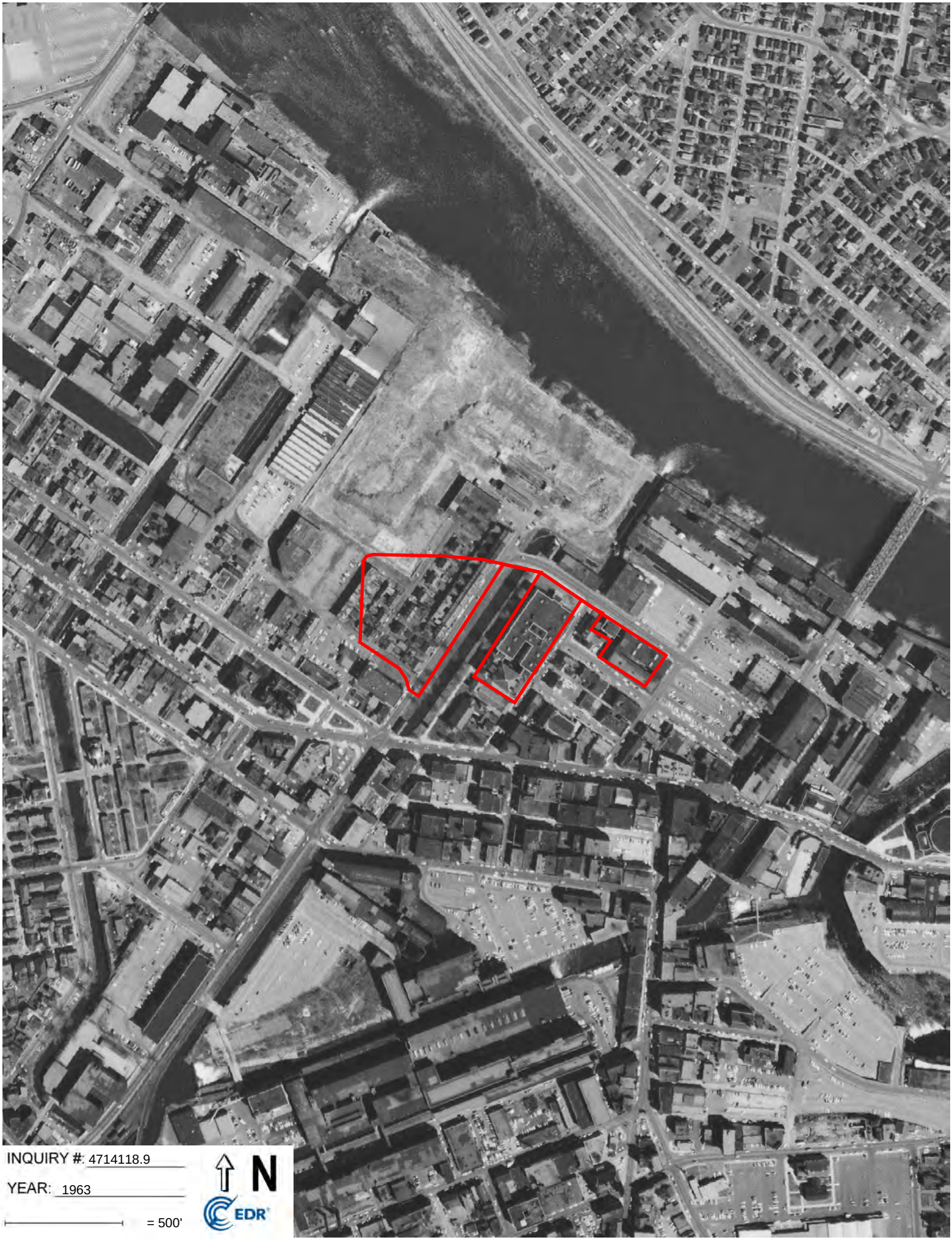
EDR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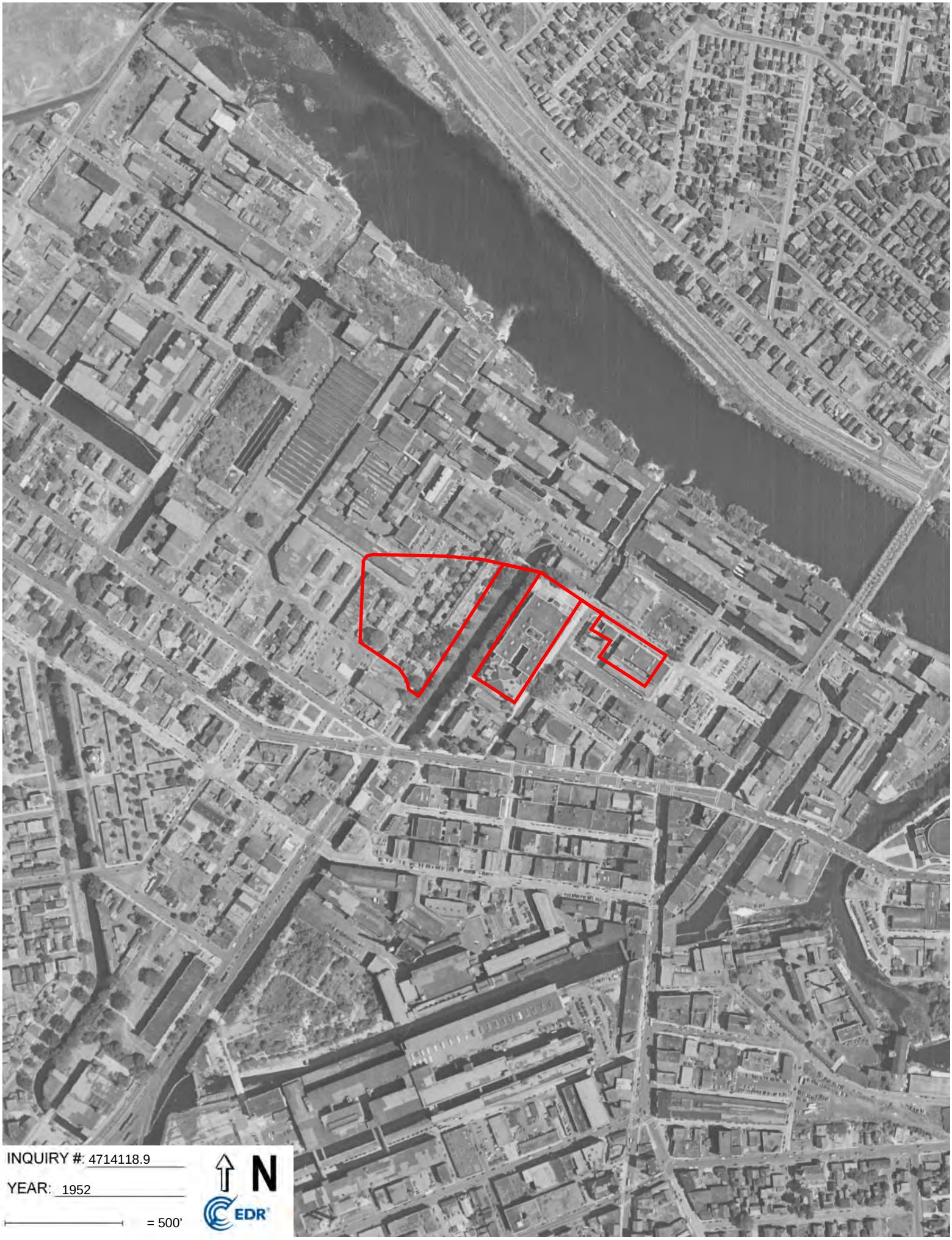
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YEAR: 1952
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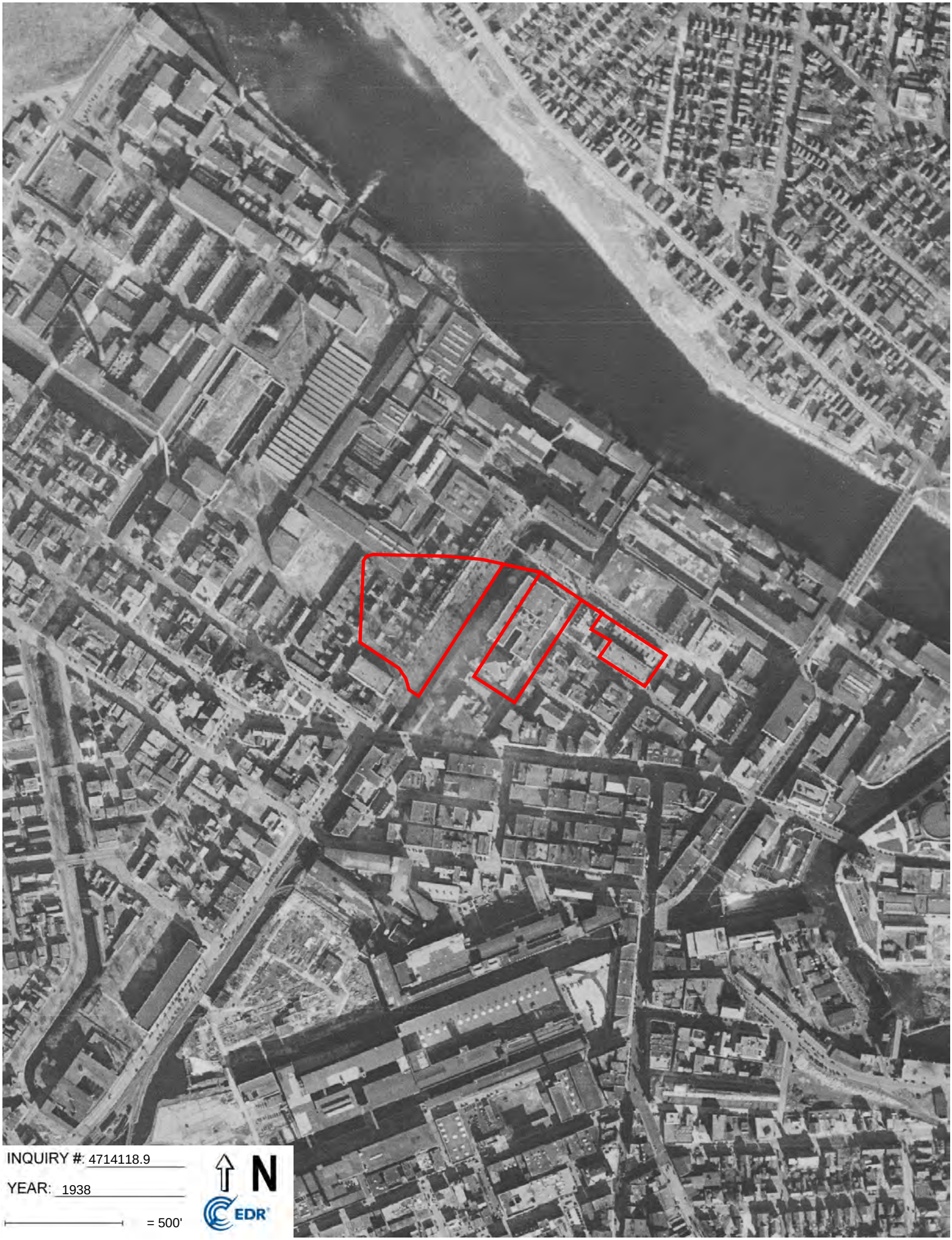
N
EDR


INQUIRY #: 4714118.9
YEAR: 1938
= 500'
N
EDR

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.4
August 30, 2016

EDR Historical Topo Map Report
with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

08/30/16

Site Name:

Lowell High School
50 FATHER MORISSETTE BL
LOWELL, MA 01852
EDR Inquiry # 4714118.4

Client Name:

Nobis Engineering, Inc.
585 MIddlesex St
Lowell, MA 01851
Contact: Evan Rudomen

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Nobis Engineering, Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 91830
Project: Lowell High School

Coordinates:

Latitude:	42.647097 42° 38' 50" North
Longitude:	-71.31045 -71° 18' 38" West
UTM Zone:	Zone 19 North
UTM X Meters:	310600.56
UTM Y Meters:	4724214.60
Elevation:	85.68' above sea level

Maps Provided:

2012
1987
1979
1965, 1966
1950
1943
1942, 1946
1941
1935
1931
1921
1918
1893

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Billerica
2012
7.5-minute, 24000



Lowell
2012
7.5-minute, 24000

1987 Source Sheets



Billerica
1987
7.5-minute, 25000
Aerial Photo Revised 1981
Edited 1987



Lowell
1987
7.5-minute, 25000
Aerial Photo Revised 1981
Edited 1987

1979 Source Sheets



Lowell
1979
7.5-minute, 24000
Photo Revised 1979
Aerial Photo Revised 1977

1965, 1966 Source Sheets



Billerica
1965
7.5-minute, 24000
Edited 1965



Lowell
1966
7.5-minute, 24000
Edited 1966

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1950 Source Sheets



Billerica
1950
7.5-minute, 24000
Edited 1950



Lowell
1950
7.5-minute, 24000
Edited 1950

1943 Source Sheets



Lowell
1943
30-minute, 125000

1942, 1946 Source Sheets



Billerica
1942
7.5-minute, 31680



Lowell
1946
7.5-minute, 31680

1941 Source Sheets



Billerica
1941
7.5-minute, 31680



Lowell
1941
7.5-minute, 31680

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1935 Source Sheets



Lowell
1935
15-minute, 62500

1931 Source Sheets



Lowell
1931
15-minute, 48000

1921 Source Sheets



Lowell
1921
15-minute, 62500

1918 Source Sheets

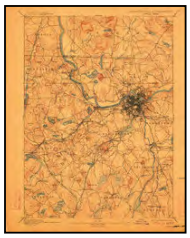


Lowell
1918
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

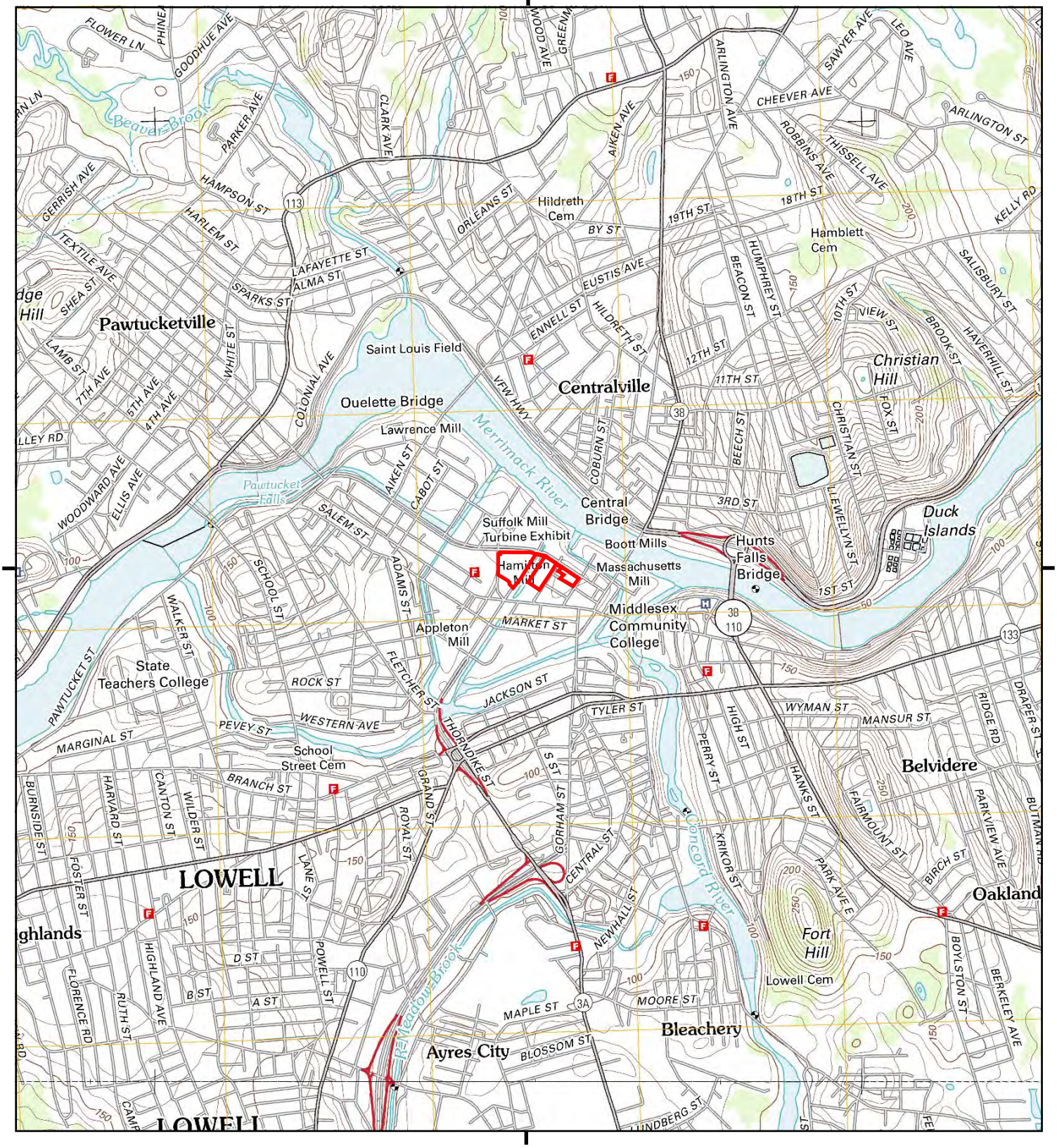
1893 Source Sheets



Lowell
1893
15-minute, 62500

Historical Topo Map

2012



This report includes information from the following map sheet(s).

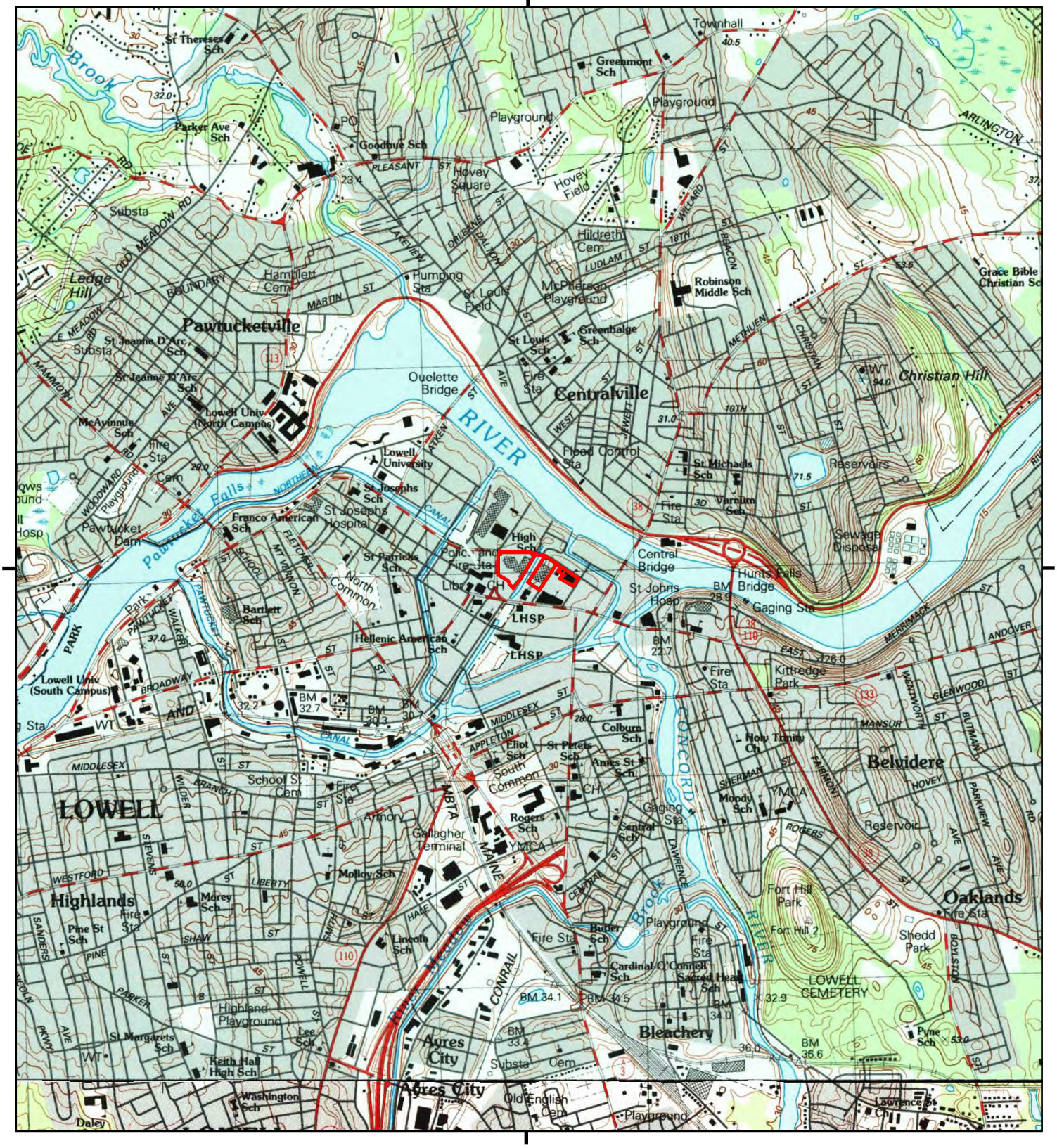
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 2012, 7.5-minute
S, Billerica, 2012, 7.5-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

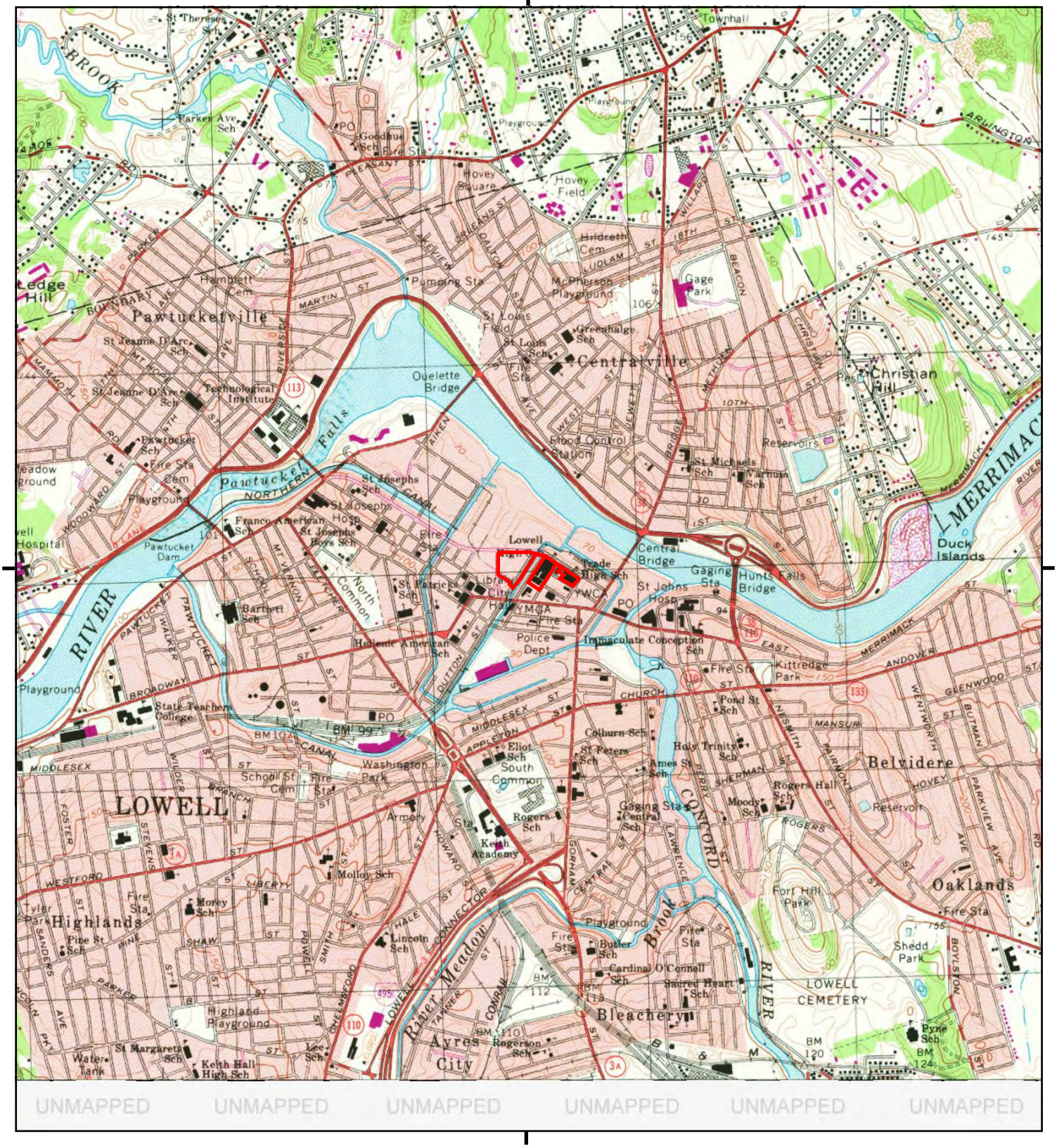
0 Miles 0.25 0.5 1 1.5

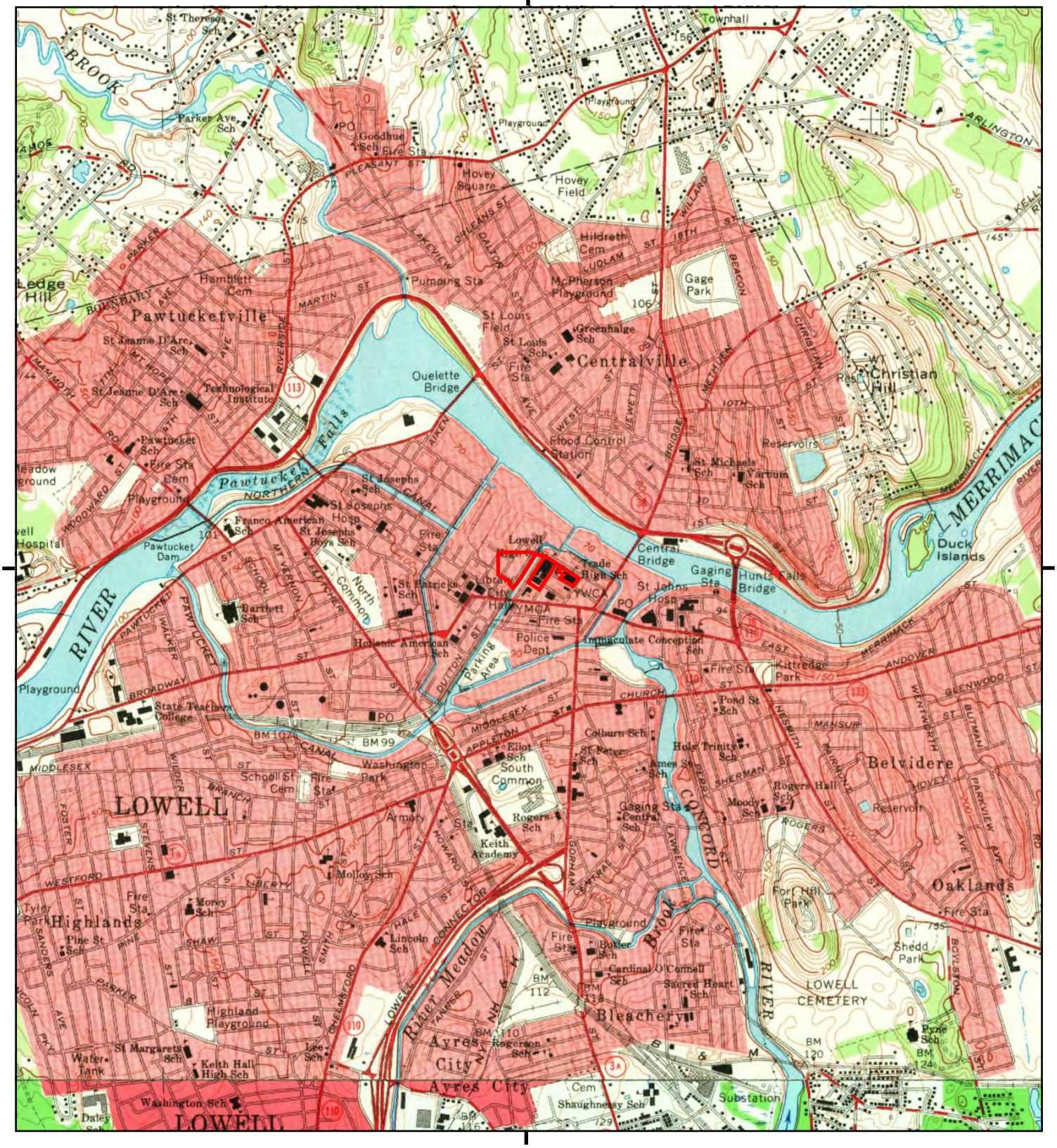
NW N NE
W E
SW S SE

TP, Lowell, 1987, 7.5-minute
SW, Billerica, 1987, 7.5-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N


UNMAPPED
UNMAPPED
UNMAPPED
UNMAPPED
UNMAPPED
UNMAPPED
LOWELL
Pawtucketville
Centralville
Belvidere
Highlands
Oaklands
Bleachery
Ayres City
LOWELL CEMETERY
RIVER
Pawtucket Falls
Merrimack River
Concord River
Beaver Meadow Brook
Lowell High Sch
Keith Academy
Keith Hall High Sch
Rogers Sch
Molloy Sch
Morey Sch
Lincoln Sch
Bartlett Sch
Washington Park
South Common
North Common
Kittredge Park
Shedd Park
Fort Hill Park
Gage Park
Reservoir
Pawtucket Dam
Ouellette Bridge
Central Bridge
Hunts Falls Bridge
Duck Islands
Police Dept
Fire Sta
Armory
Playground
Highland Playground
Pine St Sch
Pond St Sch
Colburn Sch
Moody Sch
Rogers Hall Sch
Butler Sch
Cardinal O'Connell Sch
Sacred Heart Sch
Pyne Sch
St Margaret Sch
Lee Sch
Water Tank
Reservoirs
Gaging Sta
Central Sch
Ames St Sch
Holy Trinity Sch
St Peters Sch
Immaculate Conception Sch
St Johns Hosp
YMCA
YWCA
Public Library
City Hall
Trade High Sch
Franco American Sch
St Joseph Hosp
St Joseph Boys Sch
St Patrick Sch
Hellenic American Sch
Eliot Sch
Golden Hill
Christian Hill
Hovey Square
Hovey Field
McPherson Playground
St Louis Field
St Louis Sch
Greenhalge Sch
Flood Control Station
Pumping Sta
Hildreth Cem
Hamblett Cem
School St Cem
Fire Sta Cem
Goodhue Sch
Parker Ave Sch
St Theresa Sch
St Jeanne D'Arc Sch
Technological Institute
Pawtucket Sch
Fire Sta Cem
Playground
Pawtucket Hospital
Meadow Ground
Ledge Hill
Townhall
PO
BM 99
BM 102
BM 112
BM 113
BM 110
BM 120
BM 124
Playground
Fire Sta
Police Dept
Gaging Sta
Reservoir
Playground
Fire Sta
Water Tank
Reservoirs
Playground
Fire Sta
Playground
Fire Sta
Playground
Fire Sta



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

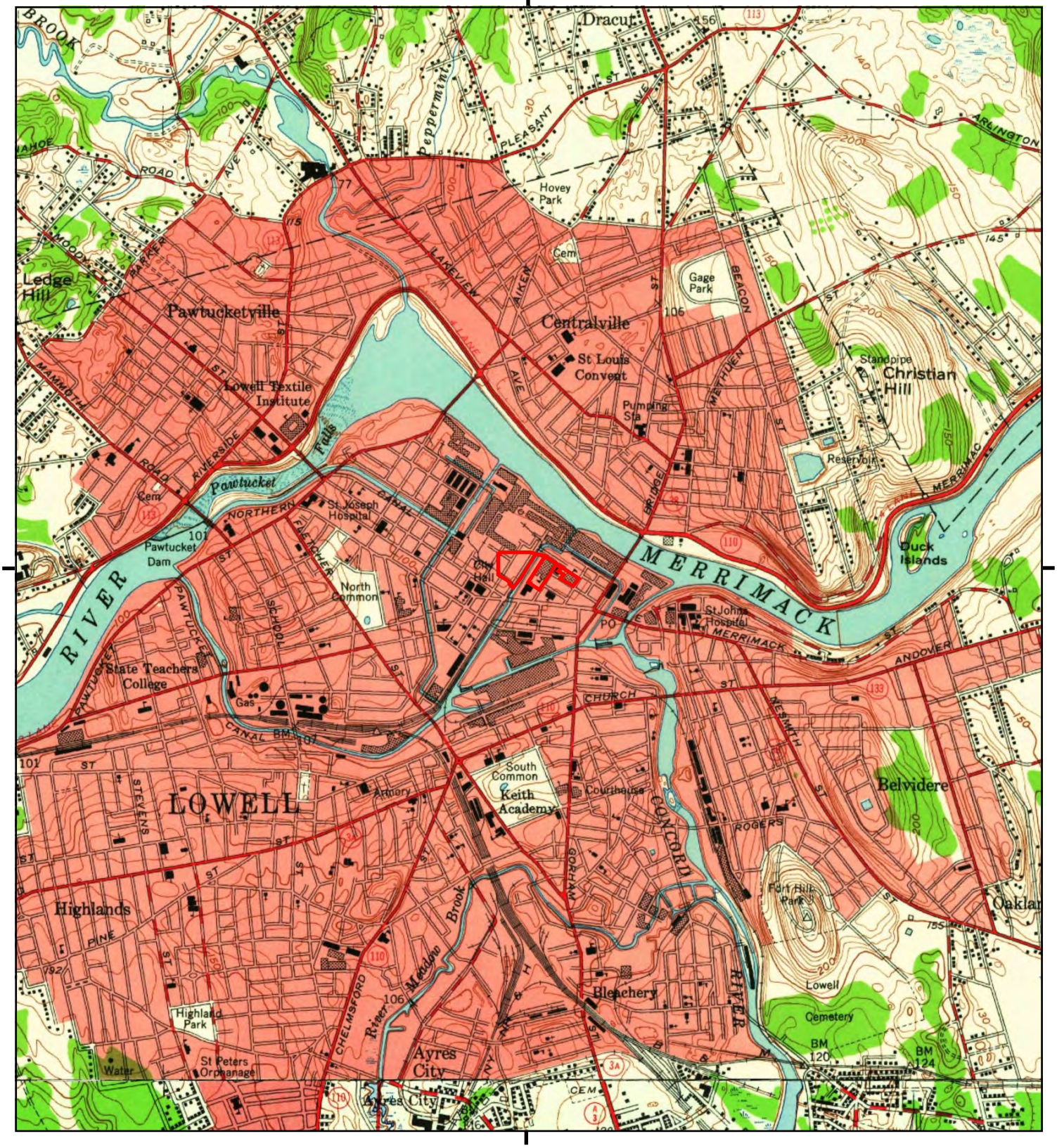
TP, Lowell, 1966, 7.5-minute
S, Billerica, 1965, 7.5-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N

Historical Topo Map

1950



This report includes information from the following map sheet(s).

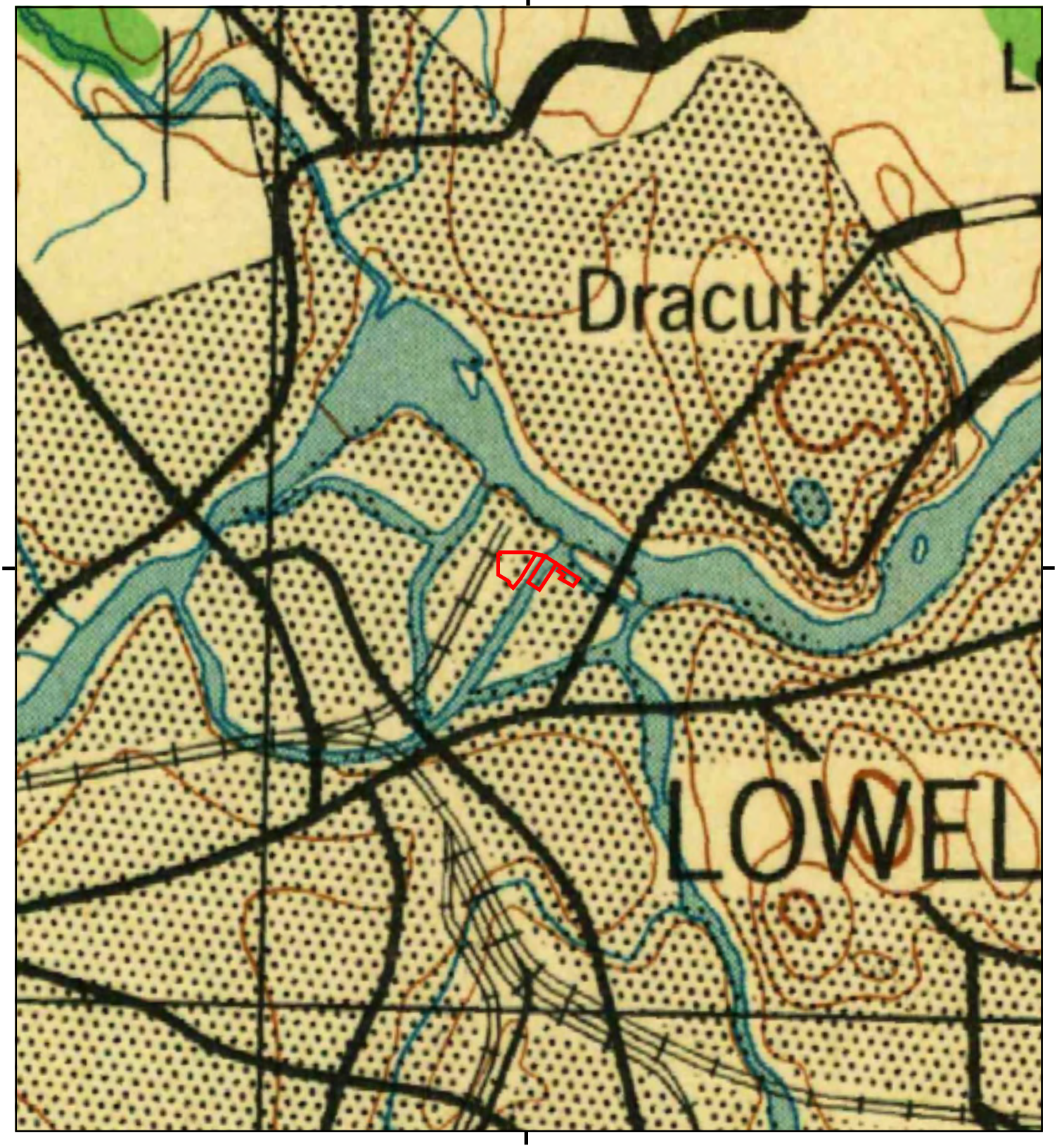
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1950, 7.5-minute
S, Billerica, 1950, 7.5-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

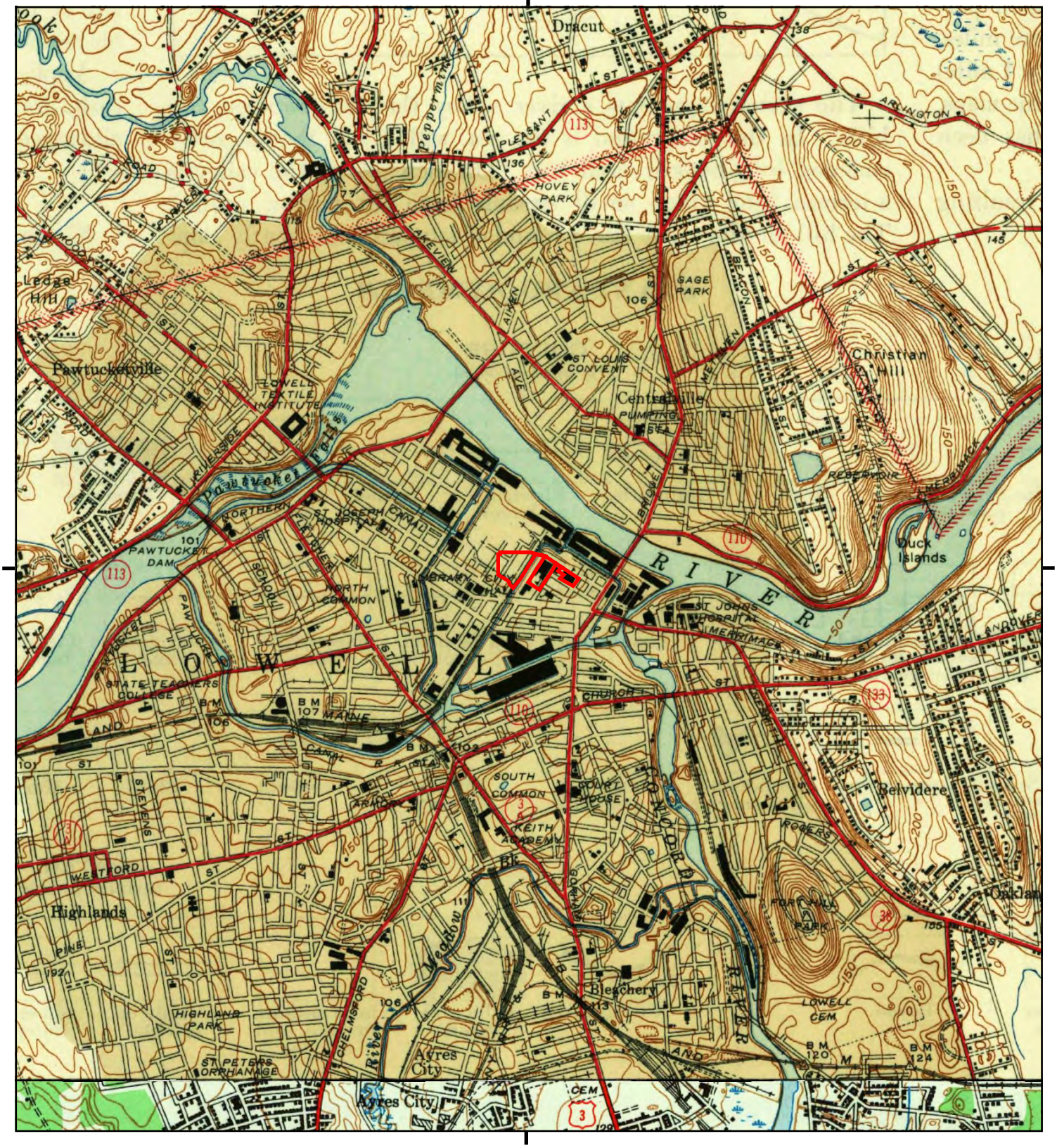
TP, Lowell, 1943, 30-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N

Historical Topo Map

1942, 1946


Dracut
Pawtuckaville
Centralville
Christian Hill
Ledge Hill
Duck Islands
Belvidere
Highlands
Bleachery
Ayres City
LOWELL
MERRIMACK RIVER
Pawtucket River
Concord River
Western Canal
Canal
HOVEY PARK
GAGE PARK
LOWELL TEXTILE INSTITUTE
ST LOUIS CONVENT
ST JOSEPH HOSPITAL
ST JOHNS HOSPITAL
STATE TEACHERS COLLEGE
NORTH COMMON
SOUTH COMMON
COURT HOUSE
KEITH ACADEMY
HIGHLAND PARK
ST PETERS ORPHANAGE
LOWELL CEM
PAWTUCKET DAM
Peppermint Pond
Wadow
Chelmsford River
Merrimack River
Pleasant St
Lakeview Ave
Aiken Ave
Stevens St
Westford St
Pine St
Rogers St
Andover St
Church St
Arlington St
Beacon St
Meadow Rd
Riverside Rd
Pawtucket Blvd
Father Morissette Blvd
Lowell Connector
Merrimack St
Fort Hill Park
Reservoir
Pumping Sta
Bridge
Dam
B M 107
B M 106
B M 113
B M 120
B M 124
B M 102
B M 103
CEM
Canal
Ave
St
Rd
Blvd
Pkwy
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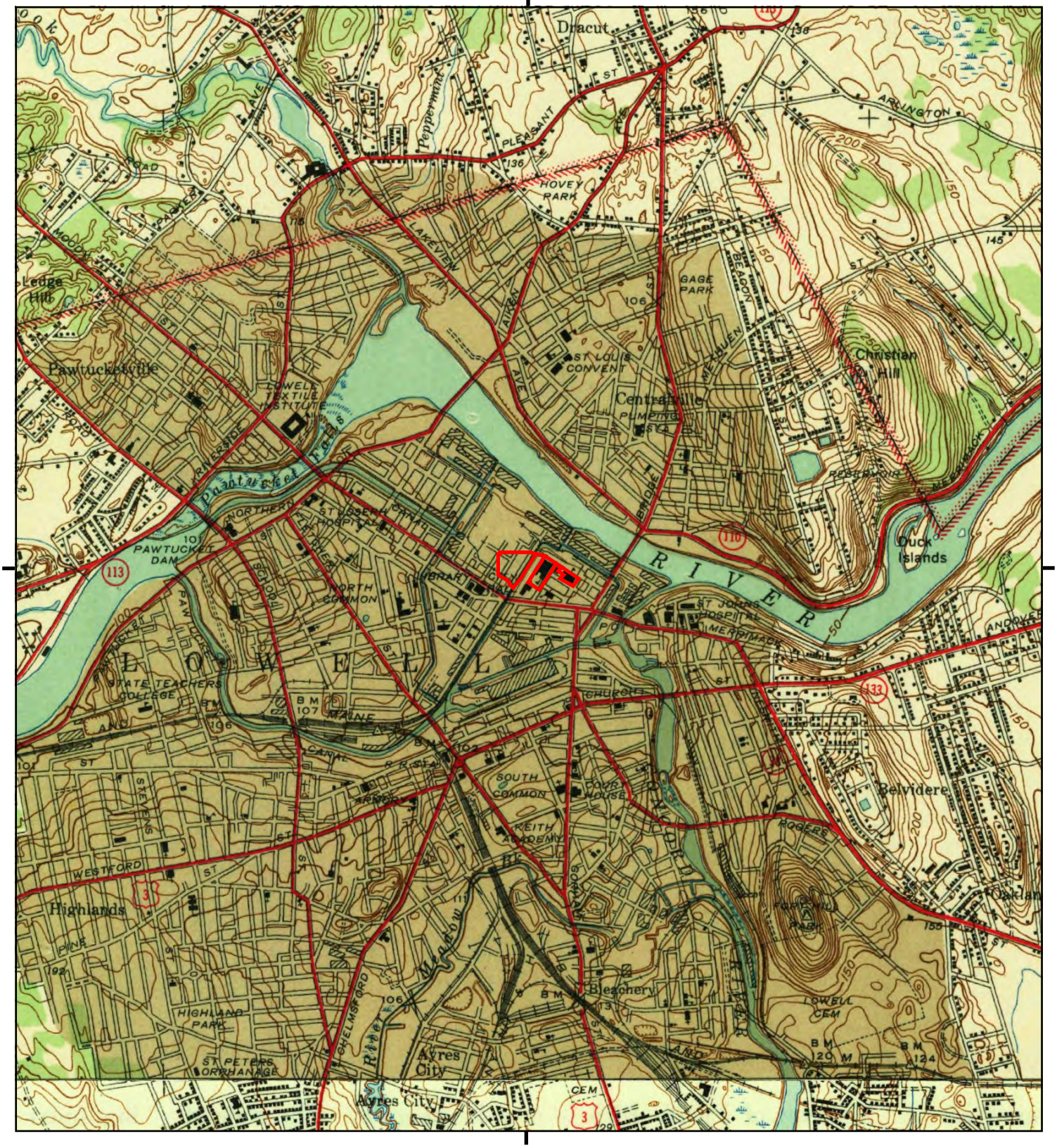
Aly
Bldg
Bldg
Bldg



This report includes information from the following map sheet(s).

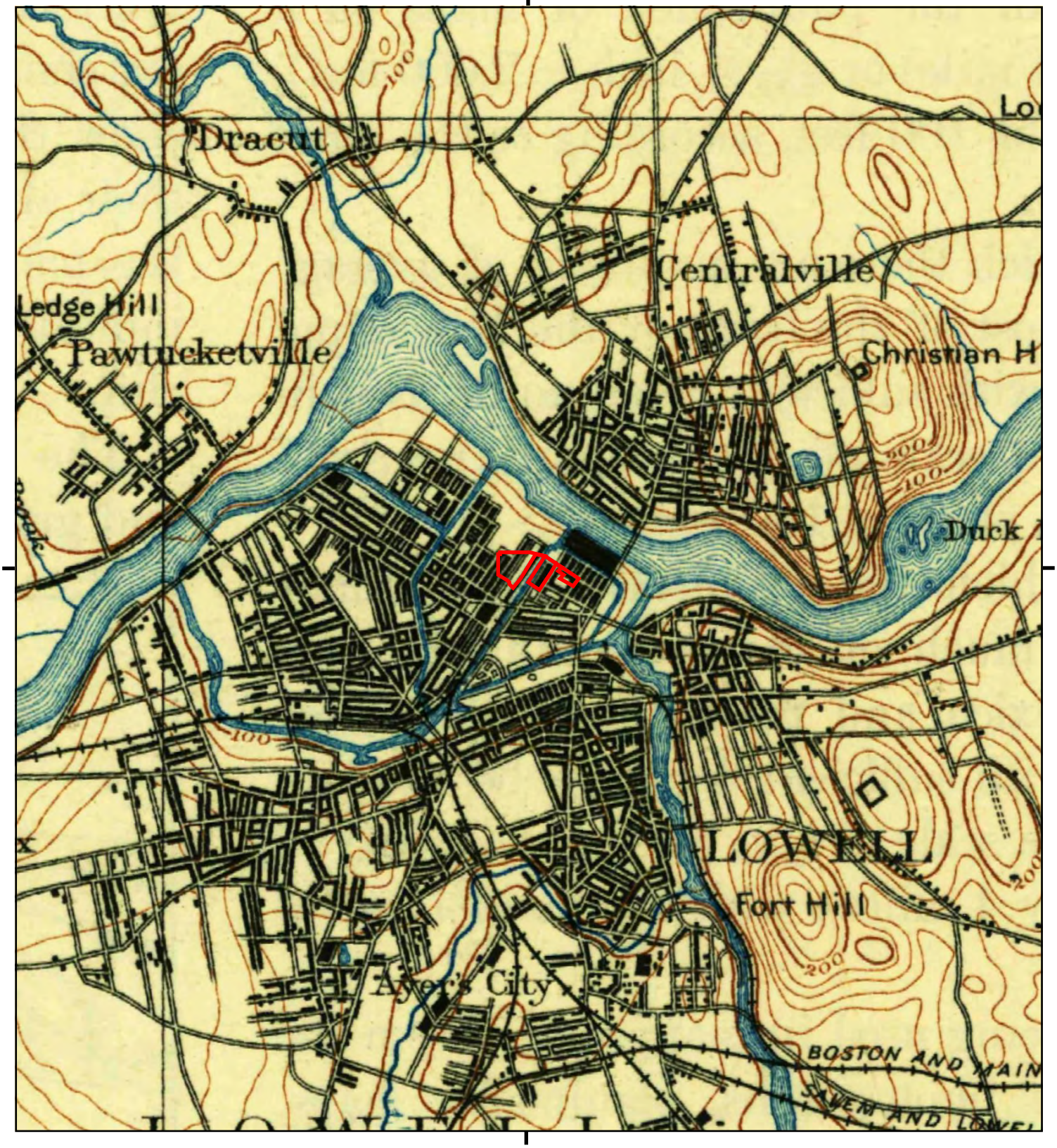
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1941, 7.5-minute
S, Billerica, 1941, 7.5-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

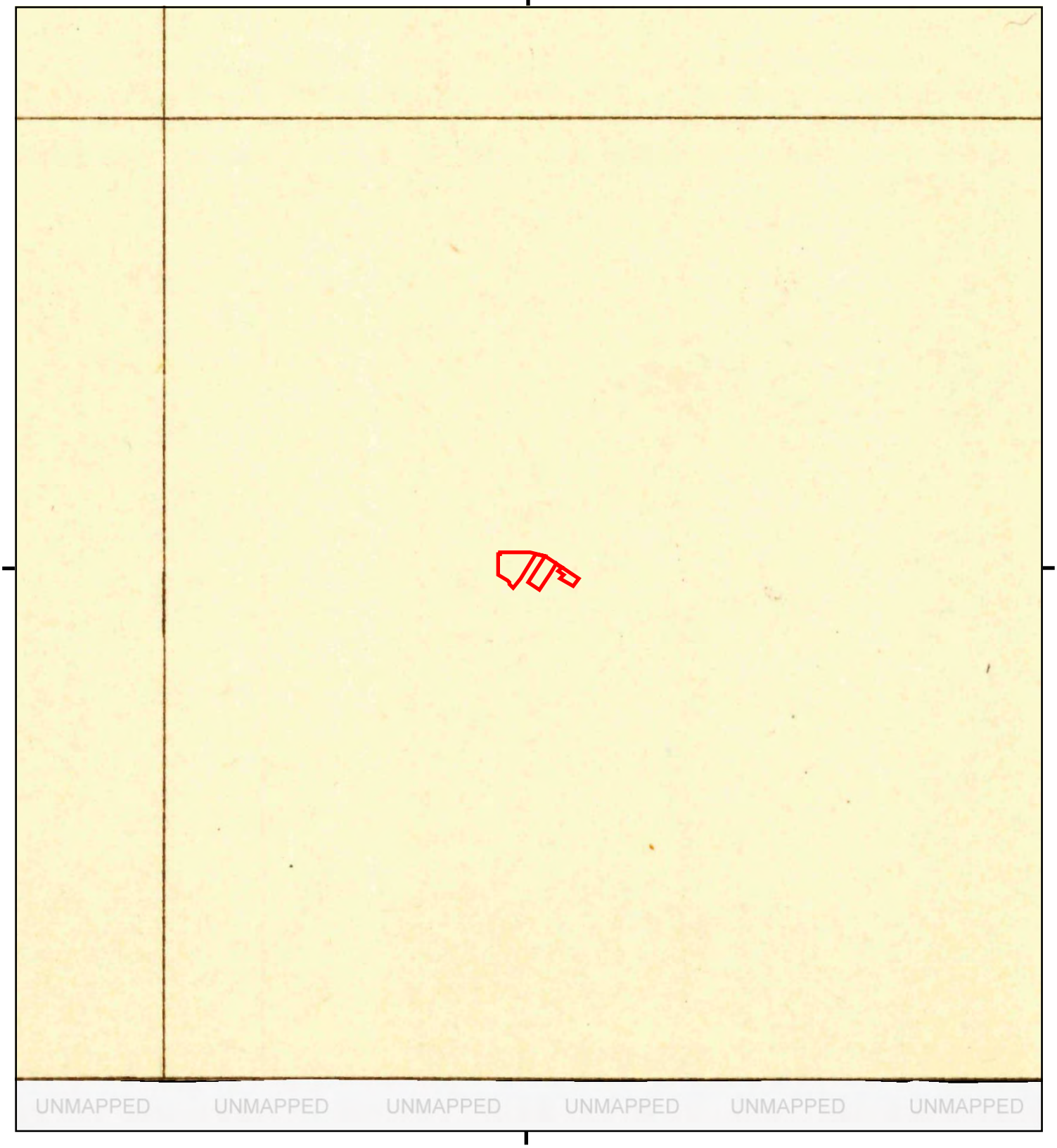
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1935, 15-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

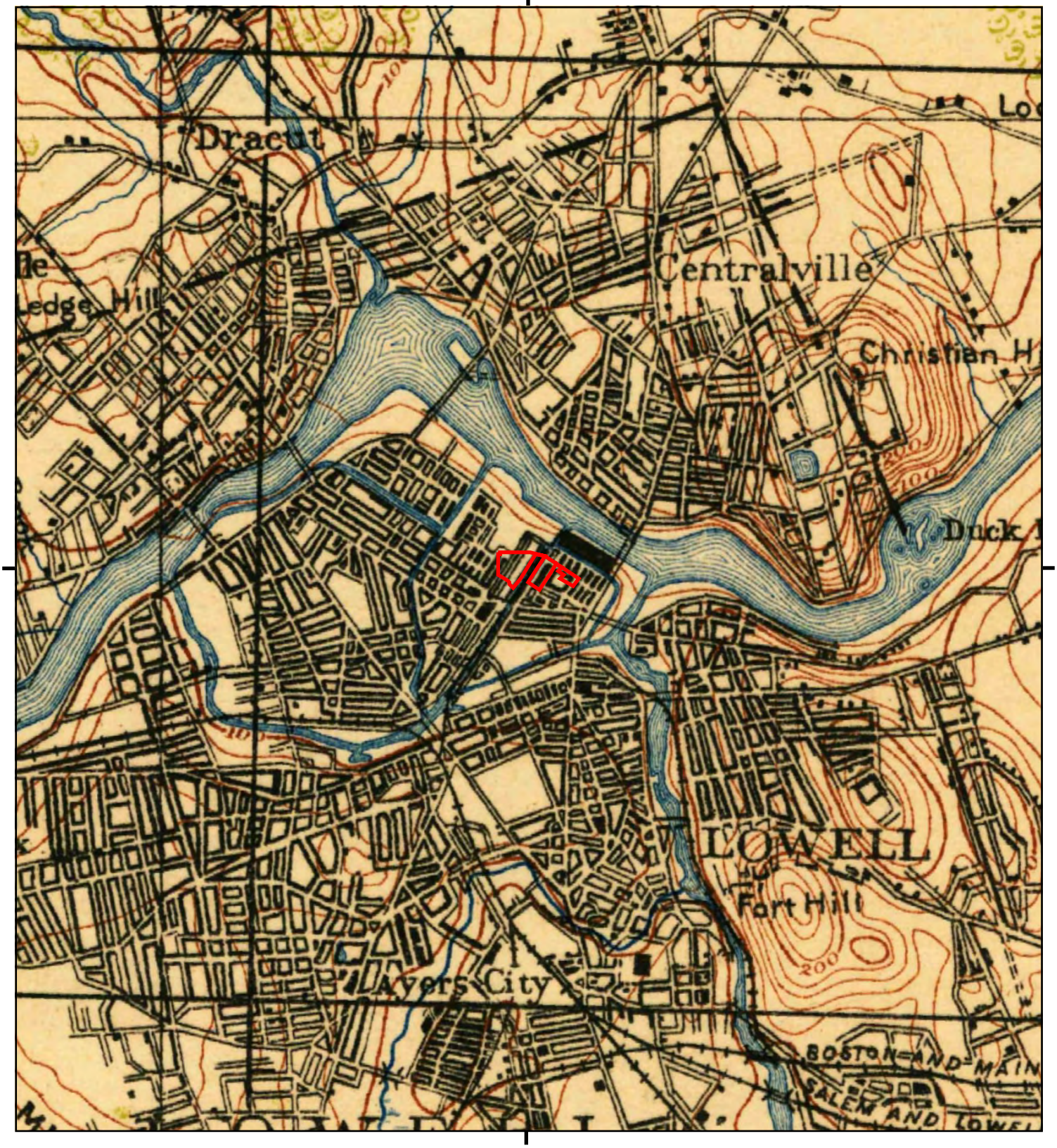
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1931, 15-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

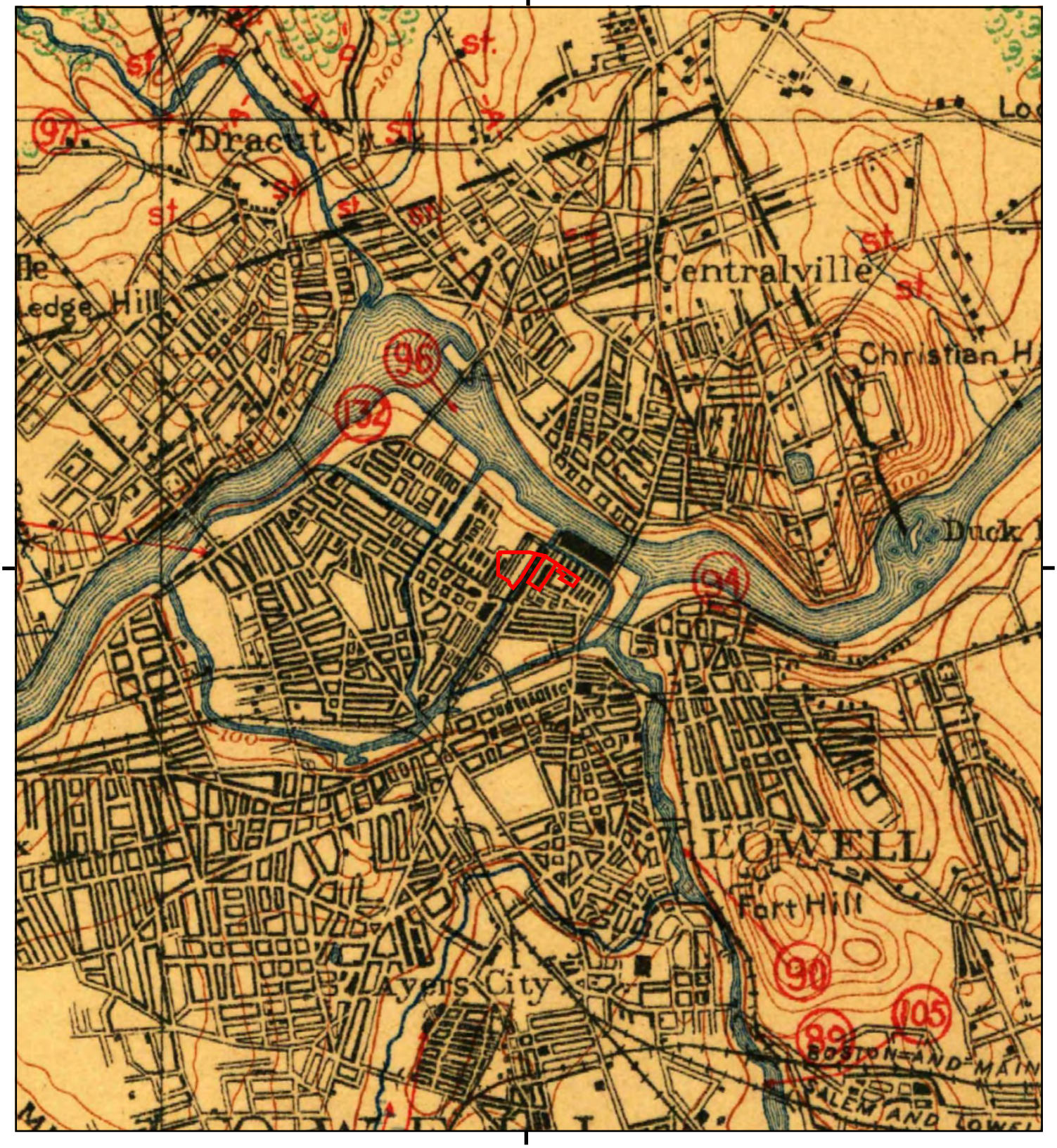
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1921, 15-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

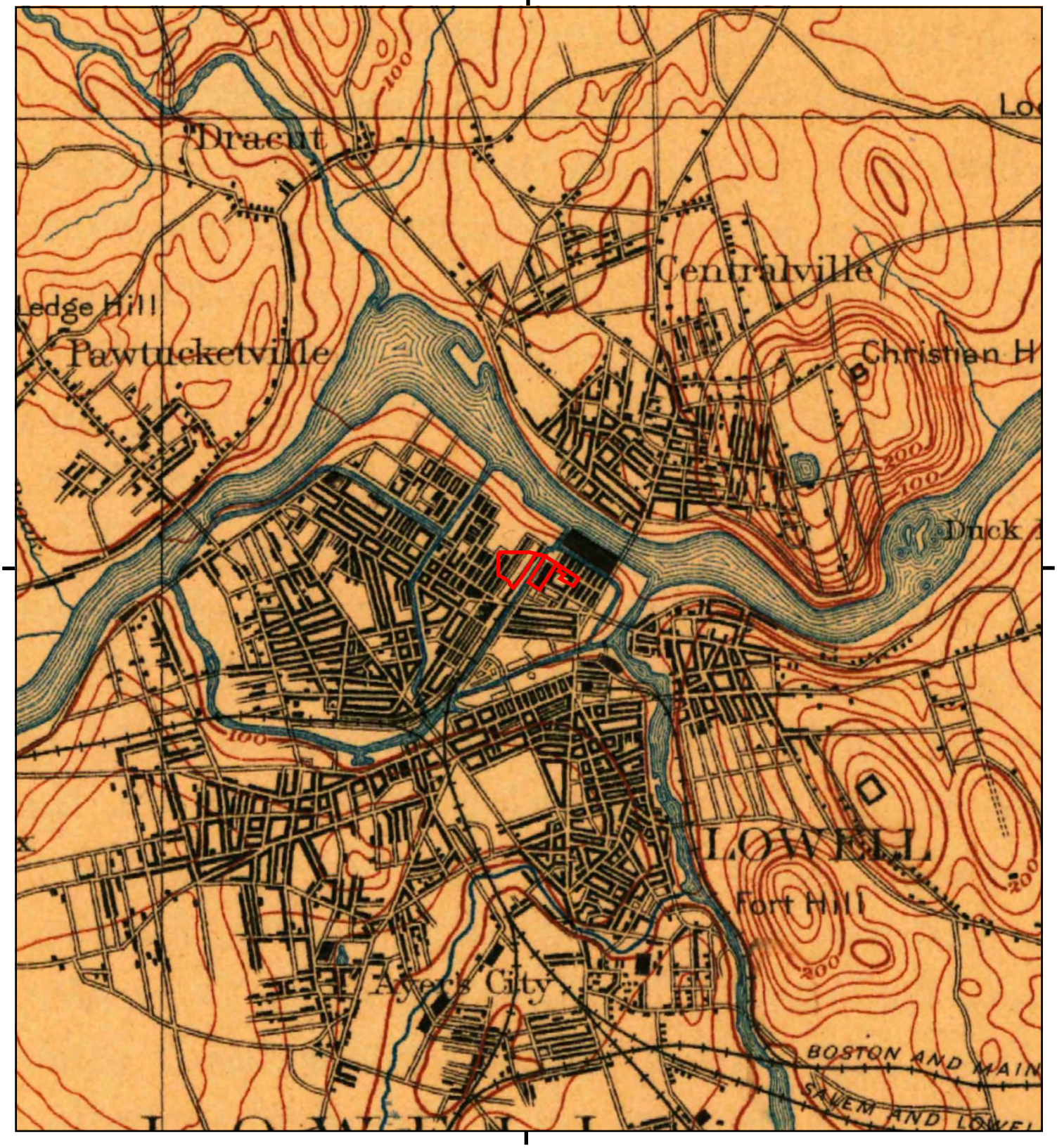
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1918, 15-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Lowell, 1893, 15-minute

SITE NAME: Lowell High School
ADDRESS: 50 FATHER MORISSETTE BLVD
LOWELL, MA 01852
CLIENT: Nobis Engineering, Inc.

N

Lowell High School
50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Inquiry Number: 4714118.5
September 02, 2016

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2013	☑	☑	Cole Information Services
2008	☑	☑	Cole Information Services
2003	☑	☑	Cole Information Services
1999	☑	☑	Cole Information Services
1995	☑	☑	Cole Information Services
1992	☐	☑	Cole Information Services
1986	☐	☑	Polk's City Directory
1981	☐	☑	Polk's City Directory
1976	☐	☑	Polk's City Directory
1971	☐	☑	Polk's City Directory
1966	☐	☑	Polk's City Directory
1960	☐	☑	Polk's City Directory
1954	☐	☑	Polk's City Directory
1948	☐	☑	Polk's City Directory
1942	☐	☑	Polk's City Directory

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FINDINGS

TARGET PROPERTY STREET

50 FATHER MORISSETTE BLVD
LOWELL, MA 01852

Year	*CD Image*	*Source*	

FATHER MORISSETTE BLVD

2013	pg A2	Cole Information Services	
2008	pg A6	Cole Information Services	
2003	pg A10	Cole Information Services	
1999	pg A14	Cole Information Services	
1995	pg A18	Cole Information Services	
1992	-	Cole Information Services	Street not listed in Source
1986	-	Polk's City Directory	Street not listed in Source
1981	-	Polk's City Directory	Street not listed in Source
1976	-	Polk's City Directory	Street not listed in Source
1971	-	Polk's City Directory	Street not listed in Source
1966	-	Polk's City Directory	Street not listed in Source
1960	-	Polk's City Directory	Street not listed in Source
1954	-	Polk's City Directory	Street not listed in Source
1948	-	Polk's City Directory	Street not listed in Source
1942	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
ARCAND DR			
2013	pg. A1	Cole Information Services	
2008	pg. A5	Cole Information Services	
2003	pg. A9	Cole Information Services	
1999	pg. A13	Cole Information Services	
1995	pg. A17	Cole Information Services	
1992	pg. A21	Cole Information Services	
1986	pg. A25	Polk's City Directory	
1986	pg. A26	Polk's City Directory	
1981	pg. A30	Polk's City Directory	
1981	pg. A31	Polk's City Directory	
1976	pg. A34	Polk's City Directory	
1976	pg. A35	Polk's City Directory	
1971	pg. A39	Polk's City Directory	
1971	pg. A40	Polk's City Directory	
1966	-	Polk's City Directory	Street not listed in Source
1960	-	Polk's City Directory	Street not listed in Source
1954	-	Polk's City Directory	Street not listed in Source
1948	-	Polk's City Directory	Street not listed in Source
1942	-	Polk's City Directory	Street not listed in Source
ARCAND DR D			
1992	pg. A22	Cole Information Services	
FRENCH ST			
2013	pg. A3	Cole Information Services	
2008	pg. A7	Cole Information Services	
2003	pg. A11	Cole Information Services	
1999	pg. A15	Cole Information Services	
1995	pg. A19	Cole Information Services	
1992	pg. A23	Cole Information Services	
1986	pg. A27	Polk's City Directory	

FINDINGS

Year	CD Image	Source
1986	pg. A28	Polk's City Directory
1981	pg. A32	Polk's City Directory
1976	pg. A36	Polk's City Directory
1976	pg. A37	Polk's City Directory
1971	pg. A41	Polk's City Directory
1971	pg. A42	Polk's City Directory
1966	pg. A45	Polk's City Directory
1960	pg. A48	Polk's City Directory
1954	pg. A50	Polk's City Directory
1948	pg. A53	Polk's City Directory
1948	pg. A54	Polk's City Directory
1942	pg. A57	Polk's City Directory

KIRK ST

2013	pg. A4	Cole Information Services
2008	pg. A8	Cole Information Services
2003	pg. A12	Cole Information Services
1999	pg. A16	Cole Information Services
1995	pg. A20	Cole Information Services
1992	pg. A24	Cole Information Services
1986	pg. A29	Polk's City Directory
1981	pg. A33	Polk's City Directory
1976	pg. A38	Polk's City Directory
1971	pg. A43	Polk's City Directory
1971	pg. A44	Polk's City Directory
1966	pg. A46	Polk's City Directory
1966	pg. A47	Polk's City Directory
1960	pg. A49	Polk's City Directory
1954	pg. A51	Polk's City Directory
1954	pg. A52	Polk's City Directory
1948	pg. A55	Polk's City Directory
1948	pg. A56	Polk's City Directory
1942	pg. A58	Polk's City Directory
1942	pg. A59	Polk's City Directory

City Directory Images

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 2013

5	DOUGLAS BOYLE
50	AARONS LOCKSMITH
	CITY OF LOWELL
75	CORAVOS EVAN DMD
	DRIZEN KENNETH DDS
	EVAN CORAVOS
	LOWELL DENTISTRY FOR CHILDREN
	MONTMINY GEORGE DR
	REICHHELD TING ORTHODONTICS
	ROSS CHRISTOPHER K DMD
	SZAREK MICHAEL
	WATMAN AARON DDS
86	ANNA DIAZ
88	SHIRLEY PIZARRO
90	SIXTO DEJESUS
92	FRANCISCO SANTIAGO
104	CARLOS REYES
	CECILIA LOPEZ
	FIRCELIA AYBAR
	LUZ SANCHEZ
110	ANDREZ FELIC
	CARMEN CRUZ
	JEANETTE ANDERSON
	JOSE MORALES
	LEONOR MONTEJO
	LISA GUZMAN
118	CLAUDIA RODRIUEZ
	JUANA DEPENA
300	PAUL TSONGAS

Target Street	Cross Street	Source
✓	-	Cole Information Services

FATHER MORISSETTE BLVD 2013

150	OLGA HERNANDEZ
152	CARMEN COLON
154	OCCUPANT UNKNOWN
155	SENG CHHEM
156	ELVIS SANTOS
158	JAIME ALCANTARO
160	OCCUPANT UNKNOWN
166	JETZENIA JONES
	LUIS PAGAN
	ULYSSES JARAMILLO
168	CINDY VELASQUEZ
	CINDY VELAZQUEZ
	EDUARDO LOPEZ
	LEONILDA GONZALEZ
	LUIS RIVERA
170	ISABEL CUESTA
	LERCY RIVERA
182	AURORA ROMAN
	IVELISSE RIOS
	SERAFINA GABRIEL
184	AMARILIS BENCOSME
	CLARIBEL NEGRON
	JOYMAIRA RODRIGUEZ
	LEISHLA ROSADO
	YOLANDA ARCE
186	ANA GARCIA
	CARL RIVERA
	JEFFREY RIOS
	MYRIAM QUINONES
188	ELIEZER PEREZ
190	JANADIEL RAMOS
	KATHERINE CORTIJO
	LAURA FORTIN
	LEONCIO BEDOYA
208	JOSE MONTANEZ
544	LUZ CORTES
	LYNNETTE CORA
	ROSA FRANCO

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 2013

2	LATIN GLOBAL MULTISERVICES
8	UV NAILS DESIGN
12	SALON
40	LOWELL SUMMER MUSIC SERIES
	UNIVERSITY OF MASSACHUSETTS
43	CITY OF LOWELL
50	CITY OF LOWELL

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 2013

8	ST ANNES EPISCOPAL CHURCH
10	LIVING WATERS CENTER OF HOPE
14	ACRE FAMILY DAY CARE
17	CITY OF LOWELL
27	MISSIONARY OBLATES OF MARY IMMACULAT
31	MADISON LESLIE REALTY INC
	MADISON SECURITY GROUP
	TIMOTHY GROVER
45	COMMUNITY TEAMWORK INC
	WIC
67	UNITED STATES GOVERNMENT

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 2008

11	KELLY MURITA
50	CHRISTOPHER K ROSS
	CITY OF LOWELL
	CITY OF LOWELL HISTORIC BOARD
	CULTURAL ORG OF LOWELL COOL
	LOWELL POLICE DEPARTMENT
	MASSACHUSETTS MAJOR CITY CHIEFS INC
75	ALTAVISION REAL ESTATE
	CHRISTOPHER ROSS
	CHRISTOPHER ROSS DMD
	DR MONTMINY INC
	EVAN CORAVOS DMD
	LOWELL DENTISTRY FOR CHILDREN
	MICHAEL SZAREK
	MICHAEL SZAREK
	REICHHELD KING ORTHODONTICS
86	ANNA DIAZ
88	ISMAEL CRUZ
92	FRANCISCO SANTIAGO
104	ANNA BOLANOS
	DIOLIS BRITO
110	CARMEN ROSA
	FRANCHESCH HERMANVEZ
	ILSA GUZMAN
	JALESKA MONTANEZ
	JEANETTE ANDERSON
	JOHNNY SANTIAGO
	LEONOR MONTEJO
	MERCEDES REYES
	NORMAND ROCHELEAU
	RAMON GARCIA
	RAQUEL MARTINEZ
118	AMAURY RUIZ
	ELSA MARTINEZ
	GLORIA GOMEZ
	J CARVONA
	YAHAIRA RODRIGUEZ
300	LOWELL DEVILS
	LOWELL LOCK MONSTERS
	PAUL TSONGAS

Target Street	Cross Street	Source
✓	-	Cole Information Services

FATHER MORISSETTE BLVD 2008

30	TRC ENVIRONMENTAL CORP
50	LOWELL HIGH SCHOOL
	TEEN HELATH SERVICE ST MEM
150	OLGA HERNANDEZ
152	NELIDA RIVERA
154	HILDA TORRES
156	ELVIS SANTOS
158	SHEILA CALDERON
160	J GONGALES
166	JETZENIA JONES
	LUIS PAGAN
168	BRENDA ALVARADO
	LEONILDA GONZALEZ
	NYDIA LOPEZ
170	DAVID MINGO
	MIGUEL VALENCIA
	NOTHING LIKE CHRIS U AUTO PRTS
	ZULMA CINTRON
182	AURORA ROMAN
	MIRIAM ROSA
	SERAFINA GABRIEL
	WILFREDO ORTIZ
184	JASON LIMA
	NOEMI ALSINA
	REBECCA DIAZ
	YOLANDA ARCE
186	EDDIE SANTIAGO
	KARL RIVERA
188	CARMEN COLON
	E VAZQUEZ
	ELIEZER PEREZ
	MATILDE DUCLET
190	ANGEL SANTOS
	CLARIBEL NEGRON
	MARY PENA
	ROBERT CORTIJO
	WAYNE SEVIGNY
208	JOSE MONTANEZ
544	DESTINY DEJESUS
	EDWIN ALCANTARO
	JENNIFER RUIZ
	LUZ CORTEZ
	LYNNETTE CORA
	ROSA FRANCO

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 2008

40	CENTER FOR LOWELL HISTORY UNIVERSITY OF MASSACHUSETTS
43	LOWELL SCHOOL DISTRICT
50	NEW HORIZONS
170	LOWELL NORTH CANL LTD PARTNER
190	MARGARO SANTOS

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 2008

8	MERRIMACK VALLEY PROJECT
	SAINT ANNES CHURCH
10	MERRIMACK VALLEY HOUSING PARTNERSHIP
14	ACRE FAMILY DAY CARE CORP
31	JOHN DEANGELIS
67	LOWELL NATIONAL HISTORICAL PARK

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 2003

50	CITY OF LOWELL
	CULTURAL ORGANIZATION OF LWL INC
	LOWELL ACADEMY INC
	LOWELL CITY OF STRTWRKR PRGRM
	LOWELL CITY OF TBC CNTRL PRGRM
75	CHRISTOPHER K ROSS DMD
	LORRAINE CORAVOS
	MICHAEL SZAREK
	MONTMINY DRS INC
	REICHHELD FAMILY ORTHODONTICS
	SZRK MCHL STVN D D S
	WILLIAM PEPIN
86	JENNIFER MORELL
88	NEREIDA ROMAN
90	HERMINDO AREVALO
92	FRANCISCO SANTIAGO
104	ANA CARABALLO
	ANNA BOLLANOS
	JOSE MERCADO
	JUWANA STEPHENS
	KYONG KIM
	MARIBEL AVILES
	MONSERRATE RIVERA
	PABLO RODRIGUEZ
110	JEANETTE ANDERSON
	LEONOR MONTEJO
	NORMAND ROCHELEAU
118	ELSA MARTINEZ
	MARY PENA
	WILFRIDO ORTIZ
	YAHAIRA RODRIGUEZ
300	GLOBAL SPECTRUM INC
	GLOBECAST
	LOWELL LOCK MONSTERS
	TSONGAS ARENA

Target Street	Cross Street	Source
✓	-	Cole Information Services

FATHER MORISSETTE BLVD 2003

150	OLGA HERNANDEZ
152	NELIDA RIVERA
154	HILDA TORRES
155	BOSTON PO EMPL CREDIT UNION
	UNITED STT GVRNMNT PSTL SRVC
156	E SANTOS
160	JUDITH CUARTAS
166	JANICE WILLIAMS
	ULYSSES JARAMILLO
168	AURELIO NALES
	NYDIA LOPEZ
182	MIRIAN ROSA
	RICHARD SNOW
	SERAFINA GABRIEL
184	JOANNE WAUGH
	MYRIAM QUINONES
186	PATRICK LOTT
	RUTH DIAZ
	THOMAS COTTO
188	JOSE RIVERA
	MARGARITA GOMEZ
190	ANGEL SANTOS
	HAROLD BRUNELLE
	JOSE ROBLES
	ROBERT CORTIJO
544	LUZ CORTEZ
	LYDIA RIVERA
	MARIA AVILES
	MARISOL FEBO

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 2003

43	COMMUNITY TEAMWORK INC
	LOWELL CITY OF SCHOOL DEPT
50	LOWELL CITY OF SCHOOL DEPT
	NEW HORIZONS
166	C GONZALEZ
186	DOUNGCHAN PHOTHIMATH
208	EUSEBIO HERNANDEZ

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 2003

8	ALL SAINTS ANGLICAN CHURCH LWL
10	UNITED TEEN EQUALITY CTR
14	ACRE FAMILY DAYCARE
17	LOWELL CITY OF SCHOOL DEPT
27	MSNRY OBLT OF MARY IMCLT ANDRE
67	UNITED STATES GOVERNMENT INTRR

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 1999

50	LOWELL POLICE DEPARTMENT
75	CHILDRENS DENTAL ASSOCIATES OF L
	DISC MUSCLE & JOINT TREATMENT CENTER
	DRS MONTMINY INCORPORATED
	LAWRENCE PAUL DENT
	MEYERS PAUL E DR CHIRPRCTR
86	DAYSHA MORELL
104	ANNA BOLLANOS
	KYONG KIM
	M AVILES
110	HELEN ROCHELEAU
118	ROSA GONZALEZ
260	TSONGAS PAUL ARENA
300	LOWELL LOCK MONSTERS
	PAUL TSONGAS ARENA
	TSONGAS PAUL ARENA

Target Street	Cross Street	Source
✓	-	Cole Information Services

FATHER MORISSETTE BLVD 1999

166	AIDA LOPEZ
182	SERAFIN GABRIEL
184	JOANNE WAUGH
188	M GOMEZ
190	HAROLD BRUNELLE
208	MARIA HERNANDEZ

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 1999

40	LOWELL FAMILY RESEARCH CENTER THE
42	TORY TURCO
50	LOWELL CITY OF SCHOOL DEPARTMENT
	NEW HORIZONS
170	NORTH CANAL APARTMENTS

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 1999

8	ST ANNES EPISCOPAL CHURCH
10	MERRIMACK VALLEY HOUSING PARTNERSHIP
14	ACRE FAMILY DAYCARE
27	MISSIONARY OBLATES OF MARY IMMACULATE ANDRE GARIN RETIREMEN
	OBLATE MINISTRY DEVELOPMENT SERVICE

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 1995

0	FIRE DEPT-FOR ALL OTHER PURPOSES-LOWELLL
50	LOWELL CITY OF CIVIL DEFENSEE
	LOWELL CITY OF CONSERVATION COMMM
	LOWELL CITY OF HISTORIC BOARDD
	LOWELL CITY OF PLANNING & DEVELOPMENT HOUSING REHAB OFCC
	LOWELL CITY OF PLANNING & DEVELOPMENT OFCC
	LOWELL CITY OF PLANNING BDD
	LOWELL CITY OF PURCHASING DEPTT
	LOWELL CITY OF-CITY MANAGER-CATV COORDINATORR
	LOWELL CITY OF-PLANNING & DEVELOPMENT-ADMINISTRATIONN
	LOWELL CITY OF-PLANNING & DEVELOPMENT-COMMUNITY DEV PROGRAMM
	LOWELL CITY OF-PLANNING & DEVELOPMENT-ECONOMIC DEV PROGRAMM
	LOWELL CITY OF-PLANNING & DEVELOPMENT-TRAFFIC ENGG
	LOWELL CITY OF-POLICE DEPT-DRUG HOTLINEE
	V I ASSOCIATES
75	CHERTAVIAN, LEVON, DENT
	CHILDREN'S DENTAL ASSOC OF LOWELL
	CORAVOS, EVAN, DENT
	DRS MONTMINY INC
	GROMAN, LAWRENCE, DENT
	LAWRENCE, PAUL, DENT
	MONTMINY DRS INC
	MONTMINY, GEO
	MONTMINY, JOS J, JR, OPTMTRST
	MONTMINY, PAUL J
	PEPIN, W REID, JR, DENT
	REICHHELD FAMILY ORTHODONTICS-MAIN OFC
	REICHHELD FAMILY ORTHODONTICS-NEW PATIENT INFO
	WATMAN, AARON, DDS
86	MICHAUD, L & K
90	AREVALO, HERMINDO
92	RADIA, PRABHUDAS N
104	BOLLANOS, ANNA
	KIM, KYONG
110	ROCHELEAU, HELEN

Target Street	Cross Street	Source
✓	-	Cole Information Services

FATHER MORISSETTE BLVD 1995

168	PATEL, CHANDRAKANT
182	GABRIEL, SERAFINA
	PATEL, DAYABHAI & SHARMISTA
184	HENRY, JOANNE W
186	CINTRON, M

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 1995

30	CORPORATE TECHNOLOGIES INC
43	COMMUNITY TEAMWORK INC-FAMILY LIFE SERVICES PROGRAMS-SCHOOL AGE
	LOWELL CITY OF-SCHOOL DEPT-ELEMENTARY SCHOOLS-MCDONOUGH CITY
	LOWELL CITY OF-SCHOOL DEPT-MIDDLE SCHOOLS-MCDONOUGH CITY MAGNETT
44	MALICIOUS INTENT
50	EDUCATIONAL TALENT SEARCH
	LOWELL CITY OF-SCHOOL DEPT-HIGH SCHOOL-LOWELL HIGHH
	NEW HORIZONS
170	NORTH CANAL APARTMENTS
186	PHOTHIMATH, DUANG CHANH & NOY
188	NORTH CANAL TENANT COUNCIL
200	VASQUEZ, E M
548	BAILLARGEON, NANCY

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 1995

8	ST ANNE'S EPISCOPAL CHURCH
14	GREATER LOWELL PASTORAL COUNSELING CENTER THE
	LOWELL PASTORAL COUNSELING CENTER
	PASTORAL COUNSELING CENTER
27	MISSIONARY OBLATES OF MARY IMMACULATE ANDRE GARIN RESIDENCE
	OBLATE MINISTRY DEVELOPMENT SERVICE
29	DEMERS, FRANCIS
	OUELLETTE, PAUL

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR 1992

0	FIRE DEPT FOR OTHER PURPOSES LOWELL
50	LOWELL CITY OF CIVIL DEFENSE
	LOWELL CITY OF HEALTH DEPT BABY WELFARE
	LOWELL CITY OF HEALTH DEPT DIABETICS
	LOWELL CITY OF HEALTH DEPT INSPECTORS
	LOWELL CITY OF HEALTH DEPT LEAD PREVENTION
	LOWELL CITY OF HEALTH DEPT MAIN OFC
	LOWELL CITY OF HEALTH DEPT TUBERCULOSIS
	LOWELL CITY OF HISTORIC BD
	LOWELL CITY OF PARKS & RECREATION
	LOWELL CITY OF PLANNING & DEVELOPMENT CATV COORDINATOR
	LOWELL CITY OF PLANNING & DEVELOPMENT HOUSING REHAB OFC
	LOWELL CITY OF PLANNING & DEVELOPMENT MUNICIPAL PARKING DIV
	LOWELL CITY OF PLANNING & DEVELOPMENT OFC
	LOWELL CITY OF PLANNING BD
	LOWELL CITY OF POLICE DEPT
	LOWELL CITY OF PURCHASING DEPT
	LOWELL CITY OF SUBSTANCE ABUSE RESOURCE OFC
75	CHERTAVIAN, LEVON, DENT
	CHILDREN'S DENTAL ASSOC OF LOWELL
	CORAVOS, EVAN, DENT
	DRS MONTMINY INC
	GROMAN, LAWRENCE, DENT
	LAWRENCE, PAUL, DENT
	LOWELL ORAL SURGERY ASSOCS
	MCGOWAN CHAS E, ORAL SURG
	MONTMINY DRS INC
	MONTMINY, GEO
	MONTMINY, JOS J, JR, OPTMTRST
	MONTMINY, PAUL J
	MORGAN, JOHN P, DDS
	MOYNIHAN, ROBT E, ORAL SURG
	PEPIN, W REID, JR, DENT
	REICHHELD FAMILY ORTHODONTICS-MAIN OFC
	STONE JEFFREY D, DMD
	WATMAN, AARON, DDS
	WETMORE, BRUCE C, DDS
86	MICHAUD, L & K
90	AREVALO, HERMINDO
92	RADIA, PRABHUDAS N
104	AVILES, M
	BOLLANOS, ANNA
	KIM, KYONG
	STEPHENS, J
110	ROCHELEAU, HELEN

Target Street	Cross Street	Source
-	✓	Cole Information Services

ARCAND DR D 1992

110 DARANIKONE, SYSAATH

Target Street	Cross Street	Source
-	✓	Cole Information Services

FRENCH ST 1992

43	LOWELL CITY OF SCHOOL DEPT SCHOOLS JUNIOR HIGH SCHOOLS CITY MAGNET
50	NEW HORIZONS
170	NORTH CANAL APARTMENTS
186	PHOTHIMATH, DUANG CHANH & NOY
188	NORTH CANAL TENANT COUNCIL
544	MORALES, JUDY
592	AYALA, MARIA

Target Street	Cross Street	Source
-	✓	Cole Information Services

KIRK ST 1992

8	ST ANNE'S EPISCOPAL CHURCH
10	TRAINING CENTER THE
14	GREATER LOWELL PASTORAL COUNSELING CENTER THE
	LOWELL PASTORAL COUNSELING CENTER
	PASTORAL COUNSELING CENTER
30	LOWELL CITY OF-SCHOOL DEPT-ADULT EDUCATION PROGRAM

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1986

ARCAND DR —FROM MERRIMACK ST AT DUTTON TO FRENCH ST EXTN

ZIP CODE 01854

50 Kennedy J F Civic Center
Lowell-Board Of Health 454-8821
Lowell-Inspector Of Animals
Lowell-Inspector Of Milk
Lowell Police Dept 937-3200
Lowell Police Relief Association 937-3200
Lowell Purchasing Department 454-8821
Lowell Recreation Department 454-8821
Lowell Fire Department Headquarters 458-4588
Lowell Fire Dept Engine Co No 3 458-4588
Lowell Fire Dept Ladder 3 458-4588
Lowell Fire Prevention 458-4588
Lowell Fire Dept Rescue Co 1 458-4588
Lowell Div Of Planning & Development 454-8821
Firemen's Club Credit Union 457-7588
Firemen's Fund Association 457-7588
International Association Of Firefighters No 853 457-7588

75 Professional Park ofc bldg
Lowell Oral Surgery Associates Inc 458-1264

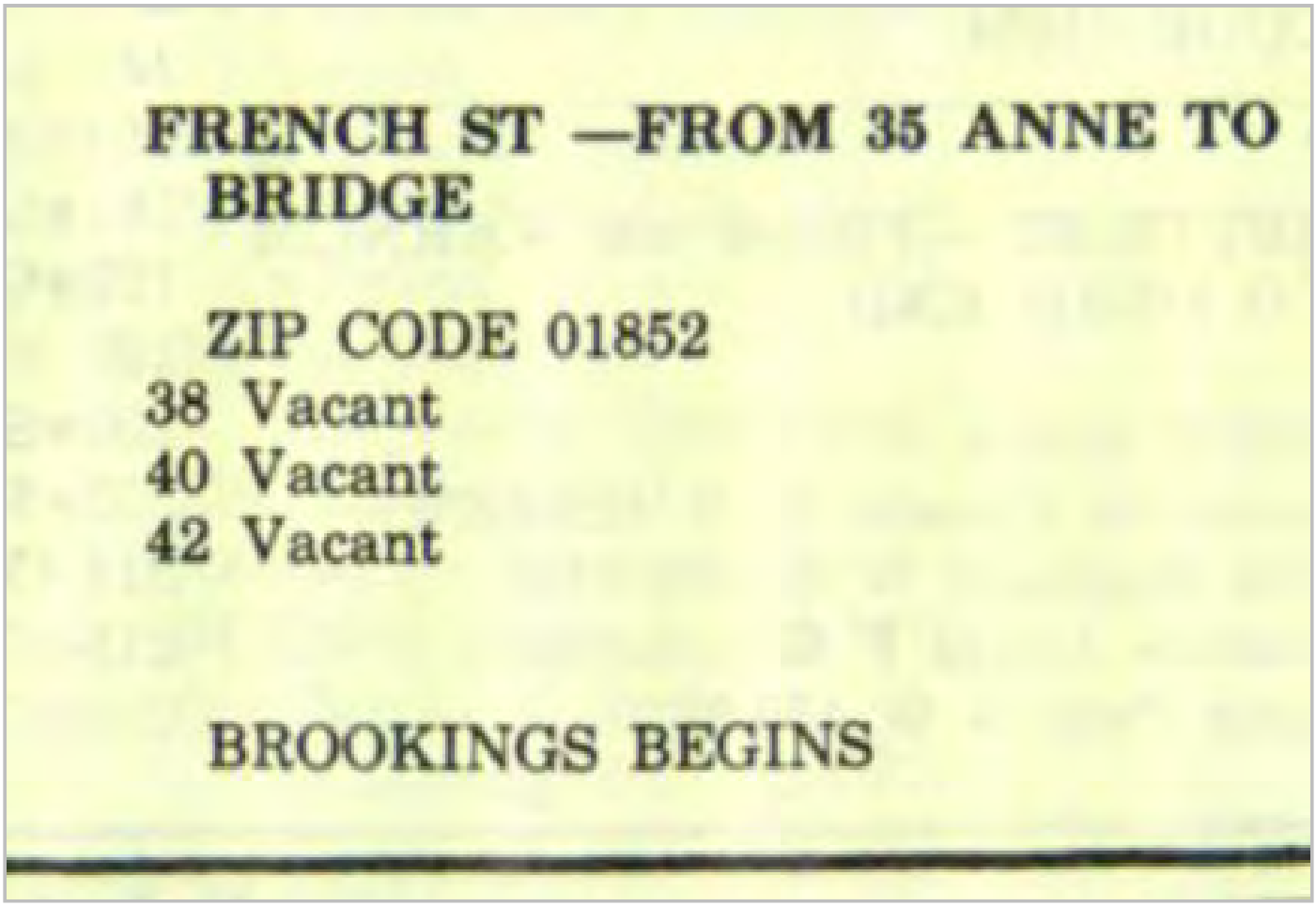
Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1986

Drs Montminy Inc optometrists 459-0702
Chertavian Levon dentist 458-8350
Reichheld,John N orthodontist 453-3872
Pepin W Reid Jr dentist 454-9332
Children's Dental Associates Of Lowell dentist 459-0452
86 Michaud Laura 937-9827
88★Dolan Brenda
90★Montijo Leonor M
92★Radia Prabagdas 458-7230
104 Apartments
A★Bolands Robt O
B★Dillon Michl F
C★Stairs Sue
D Vacant
E★Nath Ngeth 459-6341
F★Rodriguet Barbara
110 Apartments
A★Pathana Boutsaba 937-5797
B★Fortin Donna
C★Ninsisy Sayath 459-4563
D★Daranikone Sysahth 459-7110
E Sharfuddin Quazi 454-2945
118 Apartments
A★Lockott Joannette
B★Martin Edwardo
C★Guadalupe Luis 452-3740
D Marrero Antonio

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1986



FRENCH ST —FROM 35 ANNE TO BRIDGE

ZIP CODE 01852

38 Vacant

40 Vacant

42 Vacant

BROOKINGS BEGINS

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1986

FRENCH ST—Contd

190 Vacant
198 Vacant
200 Apartments
1★Perez Milta
2★Cruz Esther
3 Torres Gloria 454-4221
4★Jimenez Wilfredo
5 Vacant
6★Mejia Merela 441-1603
202 Feeney The Florist (Storage)
206 Feeney The Florist (Stge)
208 Apartments
1★Tozzez Victor 937-8272
2★Yonette Michl
3★Oyola Marie V 441-0684
4★Irizarry Frank
5★Lamontagne Jeannette
6★Madera Angel J

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1986

KIRK ST —FROM 181 MERRIMACK TO OPP 40 FRENCH

ZIP CODE 01852

8 Greater Lowell Pastoral Counseling Center 459-0141

10 Saint Anne's Parish House 452-8868

15 Jordan Marsh Co (Side Ent) 458-6361

KIRK AV BEGINS

29 St Joseph Rectory 458-6346

Gagnon Herve Rev

LEE BEGINS

KOUMANTIZELIS SQ

30 Lowell High School (Side Entr)

31 Chiungos John C lwyr 452-7738

JOHN STREET AV ENDS

45 Apartments

1★Chan Sokhom

3 No Return

4★Somkhithinthachack

5★San Peerom 459-7886

6 No Return

7★Mom Chanth 441-1343

★Sor Sarin 937-3928

47 Apartments

2 Sokseng Lynchan

★Pin Him

PAIGE BEGINS

BOY SCOUT SQ

63 Vacant

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1981

ARCAND DR —FROM MERRIMACK ST AT DUTTON TO FRENCH ST EXTN

ZIP CODE 01854

50 Kennedy J F Civic Center
Lowell-Bacteriologist
Lowell-Board Of Health 454-8821
Lowell-Inspector Of Animals
Lowell-Inspector Of Milk
Lowell Inspectors Of Plumbing 454-8821
Lowell-School Hygiene Div 454-8821
Lowell Police Dept 454-0425
Lowell Police Relief Assn
Lowell-Purchasing Department 454-8821
Lowell Recreation Department 454-8821
Lowell Fire Department Headquarters 455-5454
Lowell Fire Dept Engine Co No 3
Lowell Fire Dept Ladder 3
Lowell Fire Prevention
Lowell Fire Dept Rescue Co 1
Lowell Div Of Planning & Development
Firemen's Club Credit Union 457-7588
Firemen's Fund Association 457-7588
International Assoc Of Firefighters No 853 457-7588

75 Professional Park ofc bldg
Lowell Oral Surgery Associates Inc 458-1264
D R S Montminy Inc 459-0702
Brennan Danl M dentist 459-0594
Chertavian Levon dentist 458-8350
Reichheld John N orthodontist 453-3872
Vacant
Pepin W Reid Jr dentist 454-9332
Pepin Wm R dentist 454-9332
Children's Dental Associates Inc dentist 459-0452

86★Michaud Laura Mrs
88★Dolan Brenda J Mrs
90★Secades Florentino 454-5208

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1981

92★Baez Wilfred 454-6081
104 Apartments
A Marquez Carmen Mrs
B Rivera Ana Mrs
C Stairs Suzanne H Mrs
D★Johnston Wm A 454-9721
E★Bull Albert
F★Torres Gloria
110 Apartments
A Gervais Arth
B★Nieves Juana Mrs
C Vacant
D Black Marvin 453-0661
E★Sharfuddin Quazi 454-2945
118 Apartments
A Daniels Edith Mrs
B Wynn Lucille K Mrs 458-3745
C Anderson Janet Mrs
D★Marrero Antonio

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1981

FRENCH ST —FROM 35 ANNE TO 56 BRIDGE

ZIP CODE 01852

38 Verada Two Hundred Fourteen (Div Lolar Ind) elec & sound equip 452-5013
40 Dara International Inc buy closeouts on co's 459-3118
42 White J C Store Inc genl mdse 452-8956
Sandra Lee Sweet Co
H & H Paper Co 452-8956
43 Lowell High Sch Annex 455-5431

BROOKINGS BEGINS

190 Vacant
198 Vacant
200 Apartments
1 Vacant
2 Vacant
3 Rodriguez Luz Mrs 458-8692
4 Vacant
5 Vacant
6 Baez Luz Mrs
202 Feeney The Florist (Storage)
206 Feeney The Florist (Stge)
208 Apartments
1 Conlon Shirley Mrs
2 Sanchez Aracelis
3 Vacant
4 Santiago Juana
5 Lopes Lucy Mrs
6 Rodriques Carmen 452-7723

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1981

KIRK ST —FROM 181 MERRIMACK TO OPP 40 FRENCH

ZIP CODE 01852

8 Lowell Pastoral Counseling Center
459-0141

10 Saint Anne's Parish House 452-8868
★Des Marais Robt

15 Jordan Marsh Co (Side Ent)

KIRK AV BEGINS

29 St Joseph Rectory
★Gagnon Herve Rev

LEE BEGINS

KOUMANTIZELIS SQ

30 Lowell High School 455-5431
High Sch Placement Bureau

31 Ahepa Center hall 452-8070

JOHN STREET AV ENDS

45 Vacant

Apartments

1 Vacant

47 Vacant

Apartments

2 Vacant

PAIGE BEGINS

BOY SCOUT SQ

63 National Park Serv (Stge)
Youth Conservation Corps summer federal program

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1976

ARCAND DR —FROM MERRIMACK ST AT DUTTON TO FRENCH ST EXTN

ZIP CODE 01854

50 Kennedy J F Civic Center
City-Bacteriologist
City-Board Of Health
City-Inspector Of Animals
City-Inspector Of Milk
City Inspectors Of Plumbing 454-8821
City-School Dept Dental Clinic 454-8821
City-School Hygiene Div 454-8821
City Police Dept 454-0425
Lowell Police Relief Assn
City-Purchasing Department 454-8821
City Board Of Parks

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1976

City Recreation Department 454-8821
City Fire Department Headquarters 455-5454
City Fire Dept Engine 3
City Fire Dept Ladder 3
City Fire Prevention
City Fire Dept Rescue Co 1
Firemen's Club Credit Union 457-7588
Firemen's Fund Association 457-7588
International Assoc Of Firefighters No 853 457-7588

75 Professional Park ofc bldg
Lowell Oral Surgery Associates Inc 458-1264
D R S Montminy Inc 459-0702
Brennan Danl M dentist 459-0594
Chertavian Levon dentist 458-8350
Reichheld John N orthodontist 453-3872
Southwick Edw H phys 453-8457
Pepin W Reid Jr dentist 454-9332
Pepin Wm R dentist 454-9332
Children's Dental Associates Inc dentist 459-0452

86 No Return

88 Carillo Sherie Mrs

90★Duren Anna H Mrs 453-2623

92★Caferella Paul T 453-8054

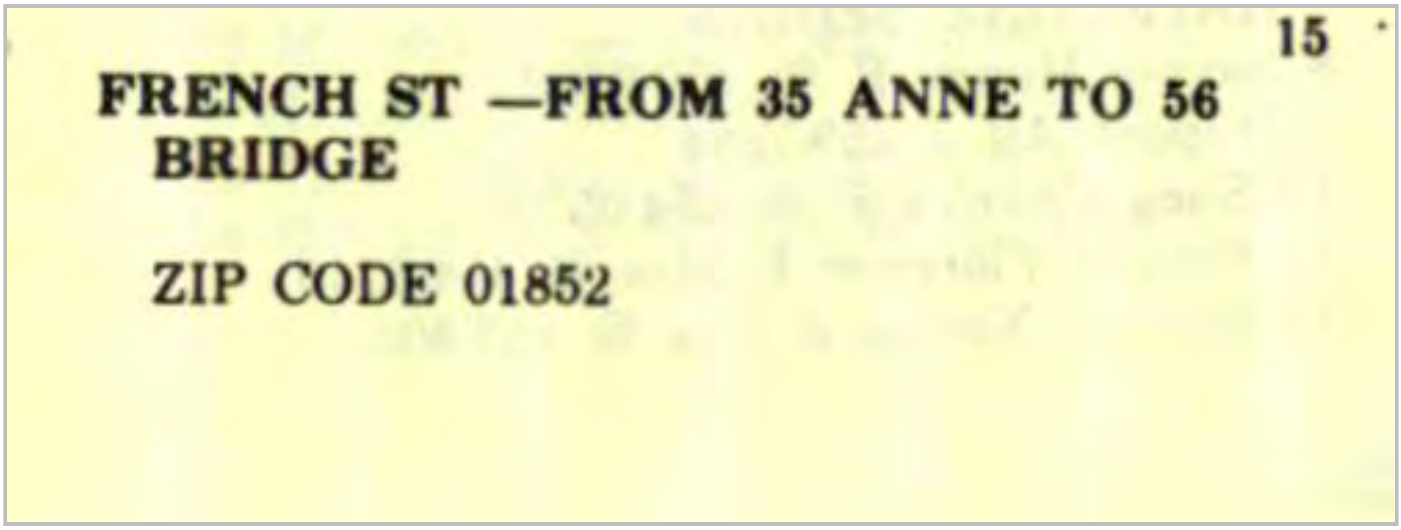
104 Apartments
A Carvalho Maria S Mrs
B Boland James H 454-6557
C★Doucette John
D Mc Cann John H 454-6860
E Cimon Robt C 458-0263
F Casanova Juan J 455-5219

110 Apartments
A Gervais Arth
B Mc Carran Wm 453-7242
C Augnsto Nilda Mrs
D★Burns Marilyn Mrs
E Pancholy Gautham C 452-1892

118 Apartments
A Mody Jitendra J 453-3468
B Wynn Lucille K Mrs 452-4147
C★Black Marvin 453-0661
D Vacant

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1976



15

FRENCH ST —FROM 35 ANNE TO 56 BRIDGE

ZIP CODE 01852

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1976

38 Verada 214 Div Lolar Ind elec & sound equip 452-5013
40 Dara International Inc buy closeouts on co's 459-3118
42 White J C Store Inc genl mdse 452-8956
H & H Paper Co 452-8956
43 Lowell High Sch Annex 455-5431

44

BROOKINGS BEGINS
190 Vacant
198 Vacant
200 Apartments
1★Perez Iris 459-6730
2 Cruz Molyn Mrs
3★Rinera Rita Mrs
4 Gonzalez Miguel 454-7201
5★Ramirez Alfredo 459-6713
6 Rivera Mytra Mrs 458-7739
202 Feeney The Florist (Storage)
206 Feeney The Florist (Stge)
208 Apartments
1 Conlon Shirley Mrs
2★Sanchez Domenic
3 Reyes Maria Mrs
4 Rivera Carmen Mrs
5 Santiago Felix
6 Hammons Levora Mrs

29

45

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1976

KIRK ST —FROM 181 MERRIMACK TO OPP 40 FRENCH

ZIP CODE 01852

8 Pastoral Counseling Center 459-0141
10 Saint Anne's Parish House 452-2150
15 Jordan Marsh Co (Side Ent)
KIRK AV BEGINS
29 St Joseph Rectory
★Cyr Myles Rev
LEE BEGINS
KOUMANTIZELIS SQ
30 Lowell High School 455-5431
High Sch Placement Bureau
31 Ahepa Center hall 452-8070
JOHN STREET AV ENDS
45 Vacant
47 Vacant
49 Boy Scouts Of Am Greater Lowell Council 458-6836
PAIGE BEGINS
BOY SCOUT SQ
63 Lowell High School (Drug Rehabilitation Dept)

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1971

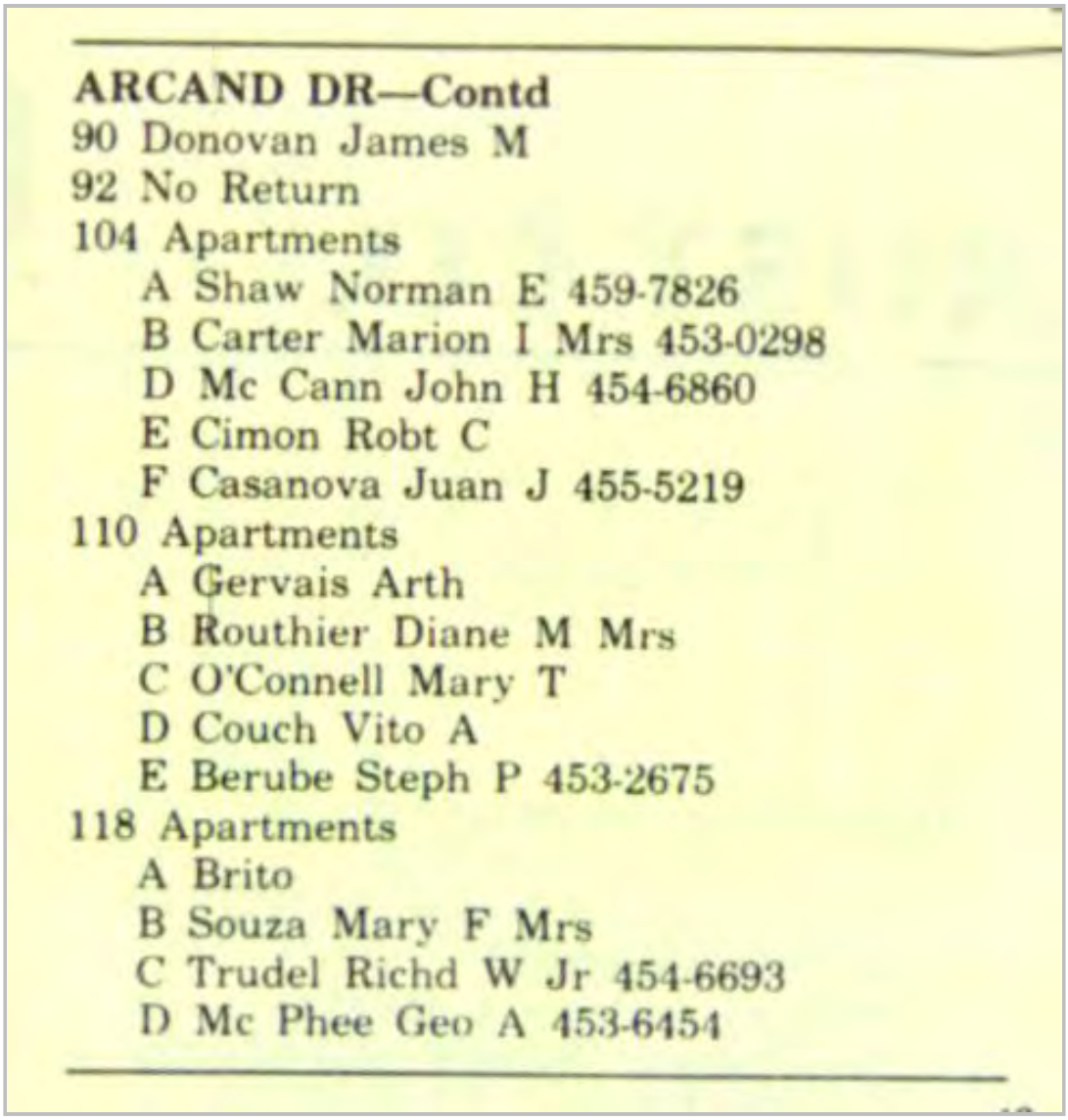
ARCAND DR —FROM MERRIMACK ST AT DUTTON TO FRENCH ST EXTN

ZIP CODE 01854

75 Professional Park ofc bldg
Moynihan Robt E dentist 458-1264
Mc Gowan Charles E dentist 458-1264
Mc Cann Wm P dentis 459-7707
Montminy Geo R optom 459-0702
Montminy Joseph F Jr optom 459-0702
Montminy Paul J optom 459-0702
Brennan Danl M dentist 459-0594
Chertavian Levon dentist 458-8350
Reichheld John N orthodontist 453-3872
86 Flanagan Cath Mrs
88 Vacant

Target Street	Cross Street	Source
-	✓	Polk's City Directory

ARCAND DR 1971



ARCAND DR—Contd

90 Donovan James M
92 No Return
104 Apartments
A Shaw Norman E 459-7826
B Carter Marion I Mrs 453-0298
D Mc Cann John H 454-6860
E Cimon Robt C
F Casanova Juan J 455-5219
110 Apartments
A Gervais Arth
B Routhier Diane M Mrs
C O'Connell Mary T
D Couch Vito A
E Berube Steph P 453-2675
118 Apartments
A Brito
B Souza Mary F Mrs
C Trudel Richd W Jr 454-6693
D Mc Phee Geo A 453-6454

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1971

15

FRENCH ST —FROM 35 ANNE TO 56 BRIDGE

ZIP CODE 01852

20 Bon Marche Whse No 3

42 White J C Store Inc genl mdse 452-8956
H & H Paper Co 452-8956

43 Lowell Trade High School 452-5312

44

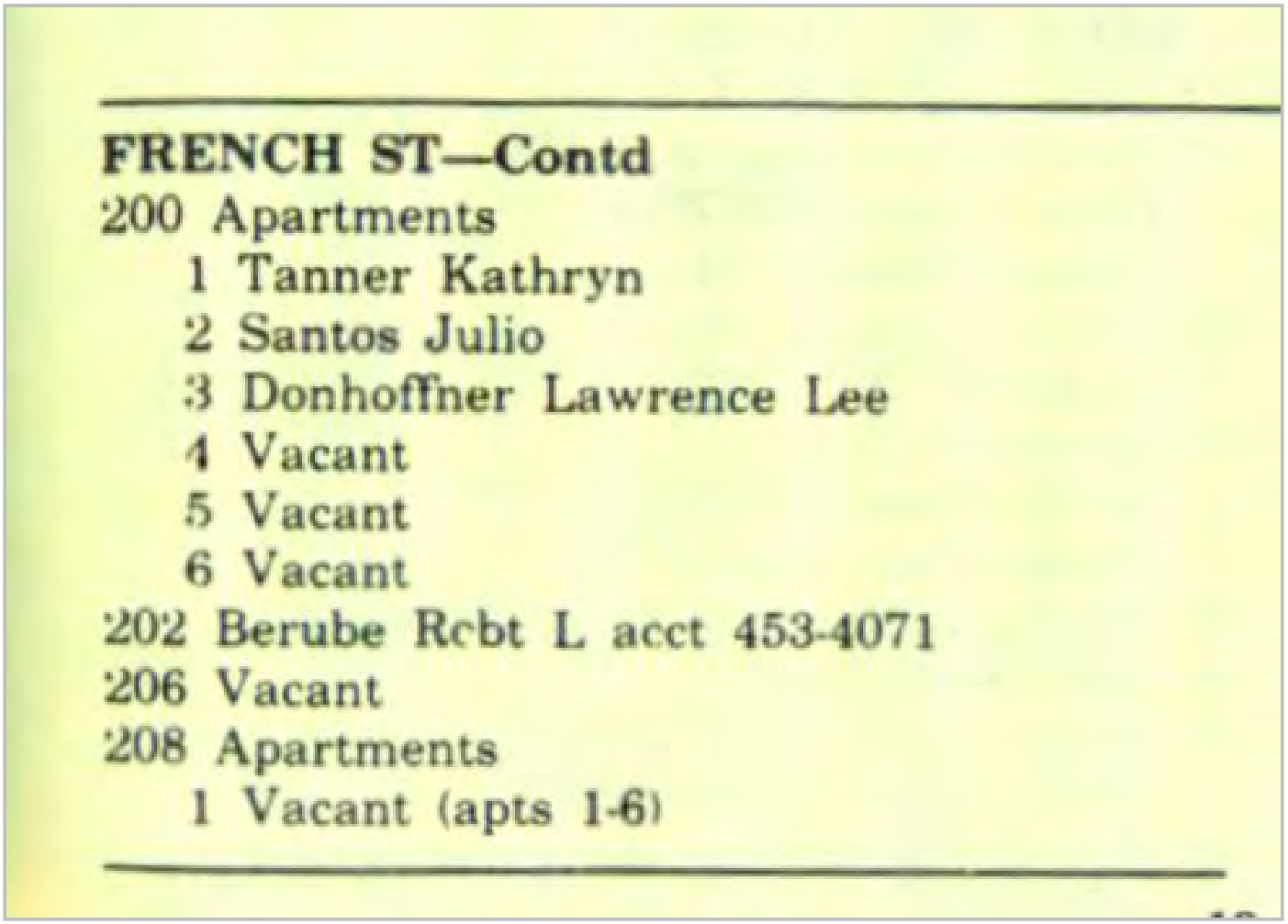
BROOKINGS BEGINS

190 Wigs By Pavlo 454-8462

198 Vacant

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1971



FRENCH ST—Contd

200 Apartments
- 1 Tanner Kathryn
- 2 Santos Julio
- 3 Donhoffner Lawrence Lee
- 4 Vacant
- 5 Vacant
- 6 Vacant

202 Berube Rcbt L acct 453-4071

206 Vacant

208 Apartments
- 1 Vacant (apts 1-6)

Target Street	Cross Street	Source
-	✓	Polk's City Directory

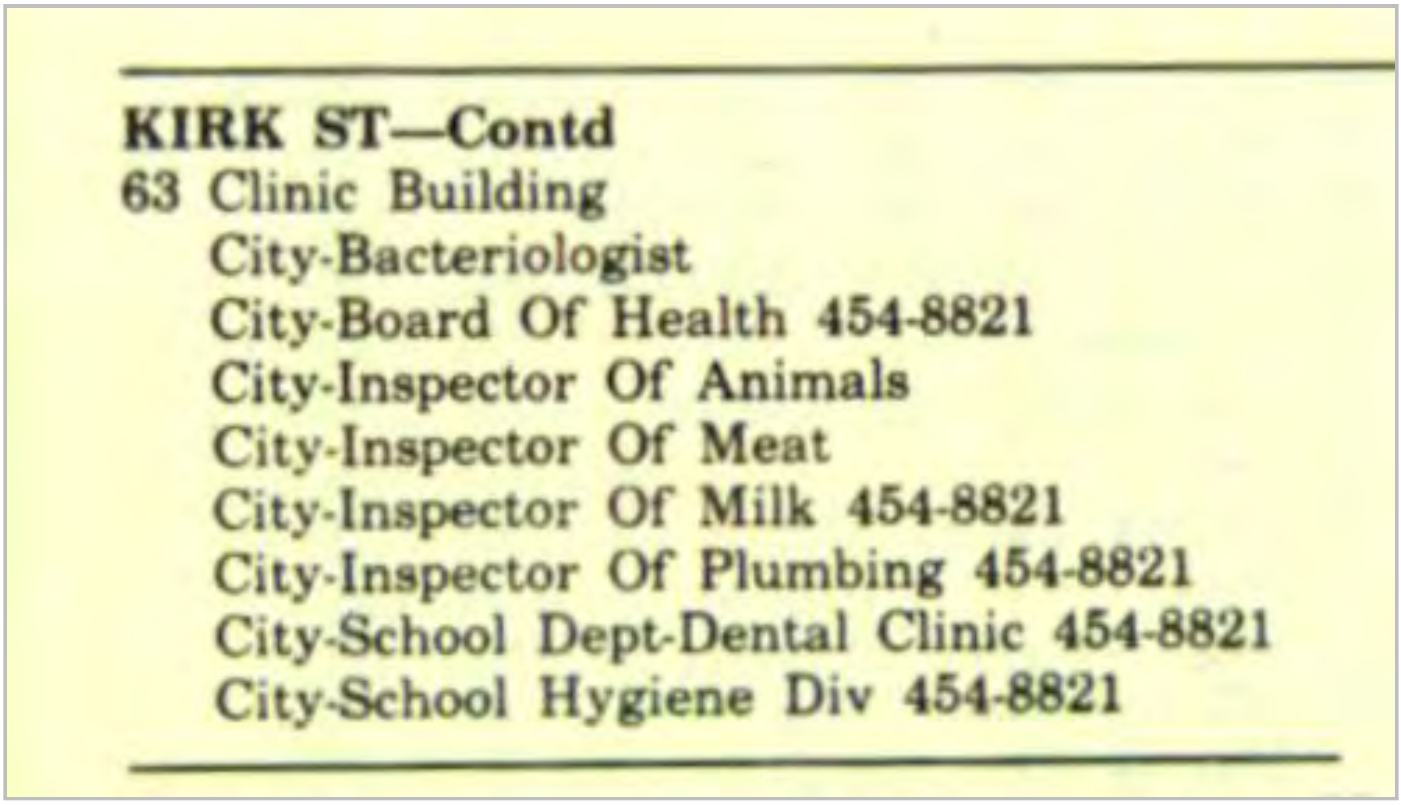
KIRK ST 1971

KIRK ST —FROM 181 MERRIMACK TO OPP 40 FRENCH

ZIP CODE 01852
8 Saint Anne's Rectory
Hunt Marshall W Rev 452-1096
10 Lambert Michl 452-0258
Saint Anne's Parish House 452-2150
15 Bon Marche Inc The (Side Ent)
KIRK AV BEGINS
29 Apartments
1 Vacant
2 Mc Elroy Helen E Mrs
3 Taylor Janice L 457-7651
4 Hildreth Realty Trust 457-7651
5 Mc Anneny Mary
6 Vacant
LEE BEGINS
KOUMANTIZELIS SQ
30 Lowell High School 455-5431
High Sch Placement Bureau
31 Ahepa Center hall 452-8070
JOHN STREET AV ENDS
45 Associated Electronics Inc 454-4206
Provencher Raymond
Aharonian Margareos
47 Vacant
49 Boy Scouts Of Am Greater Lowell Council 458-6836
PAIGE BEGINS
BOY SCOUT SQ

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1971

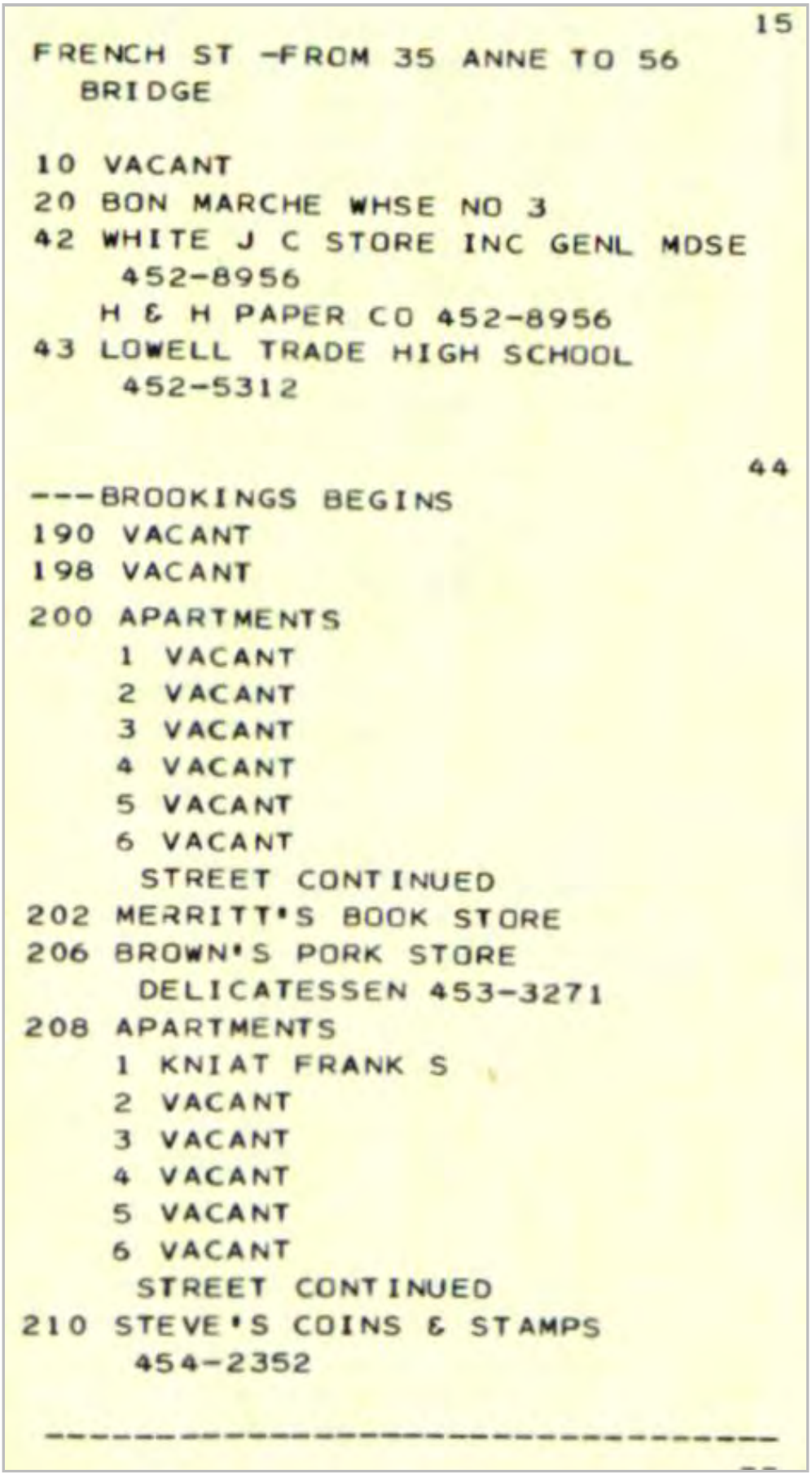


KIRK ST—Contd

63 Clinic Building
City-Bacteriologist
City-Board Of Health 454-8821
City-Inspector Of Animals
City-Inspector Of Meat
City-Inspector Of Milk 454-8821
City-Inspector Of Plumbing 454-8821
City-School Dept-Dental Clinic 454-8821
City-School Hygiene Div 454-8821

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1966



15

FRENCH ST -FROM 35 ANNE TO 56
BRIDGE

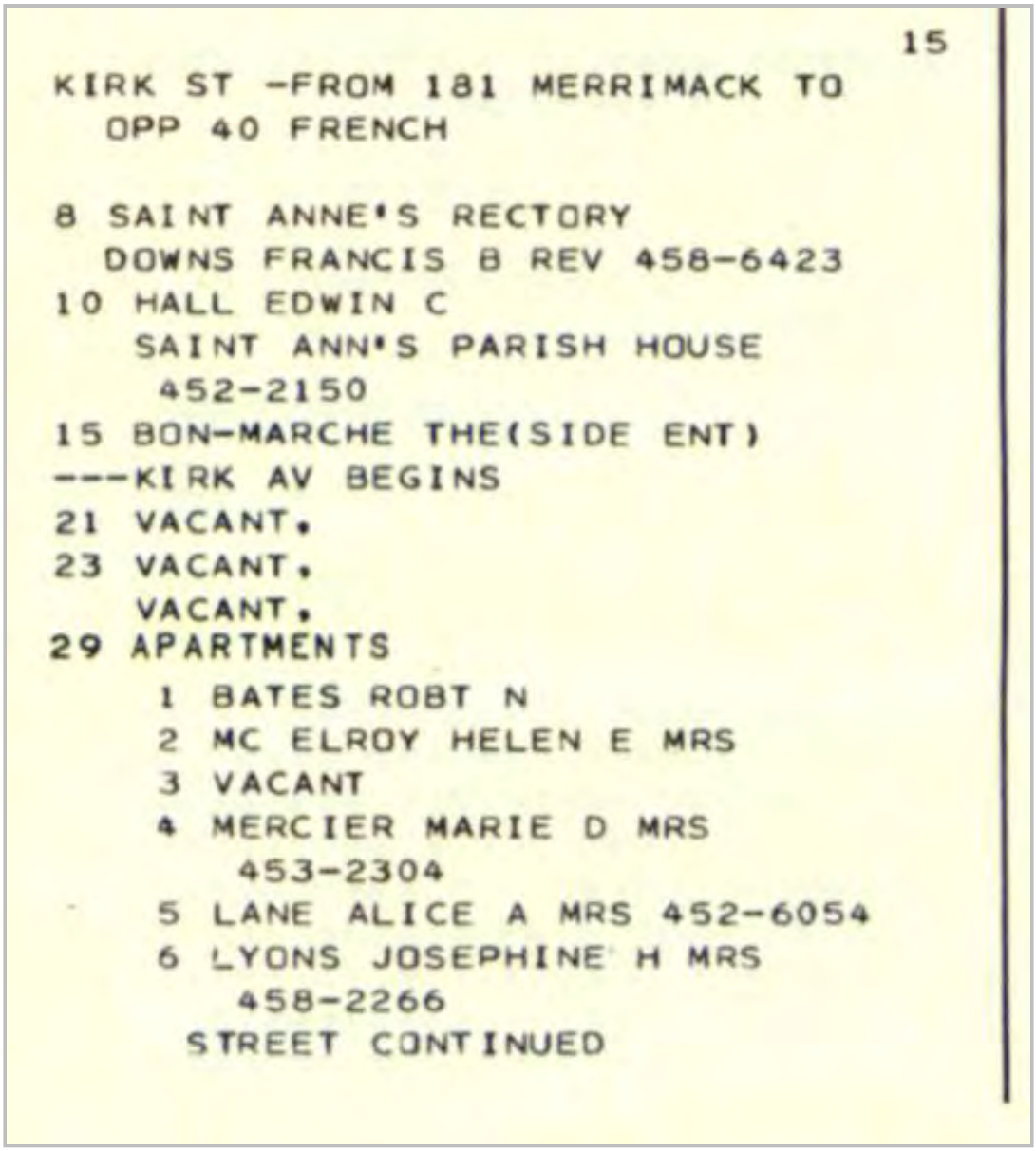
10 VACANT
20 BON MARCHE WHSE NO 3
42 WHITE J C STORE INC GENL MDSE
452-8956
H & H PAPER CO 452-8956
43 LOWELL TRADE HIGH SCHOOL
452-5312

44

---BROOKINGS BEGINS
190 VACANT
198 VACANT
200 APARTMENTS
1 VACANT
2 VACANT
3 VACANT
4 VACANT
5 VACANT
6 VACANT
STREET CONTINUED
202 MERRITT'S BOOK STORE
206 BROWN'S PORK STORE
DELICATESSEN 453-3271
208 APARTMENTS
1 KNIAT FRANK S
2 VACANT
3 VACANT
4 VACANT
5 VACANT
6 VACANT
STREET CONTINUED
210 STEVE'S COINS & STAMPS
454-2352

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1966



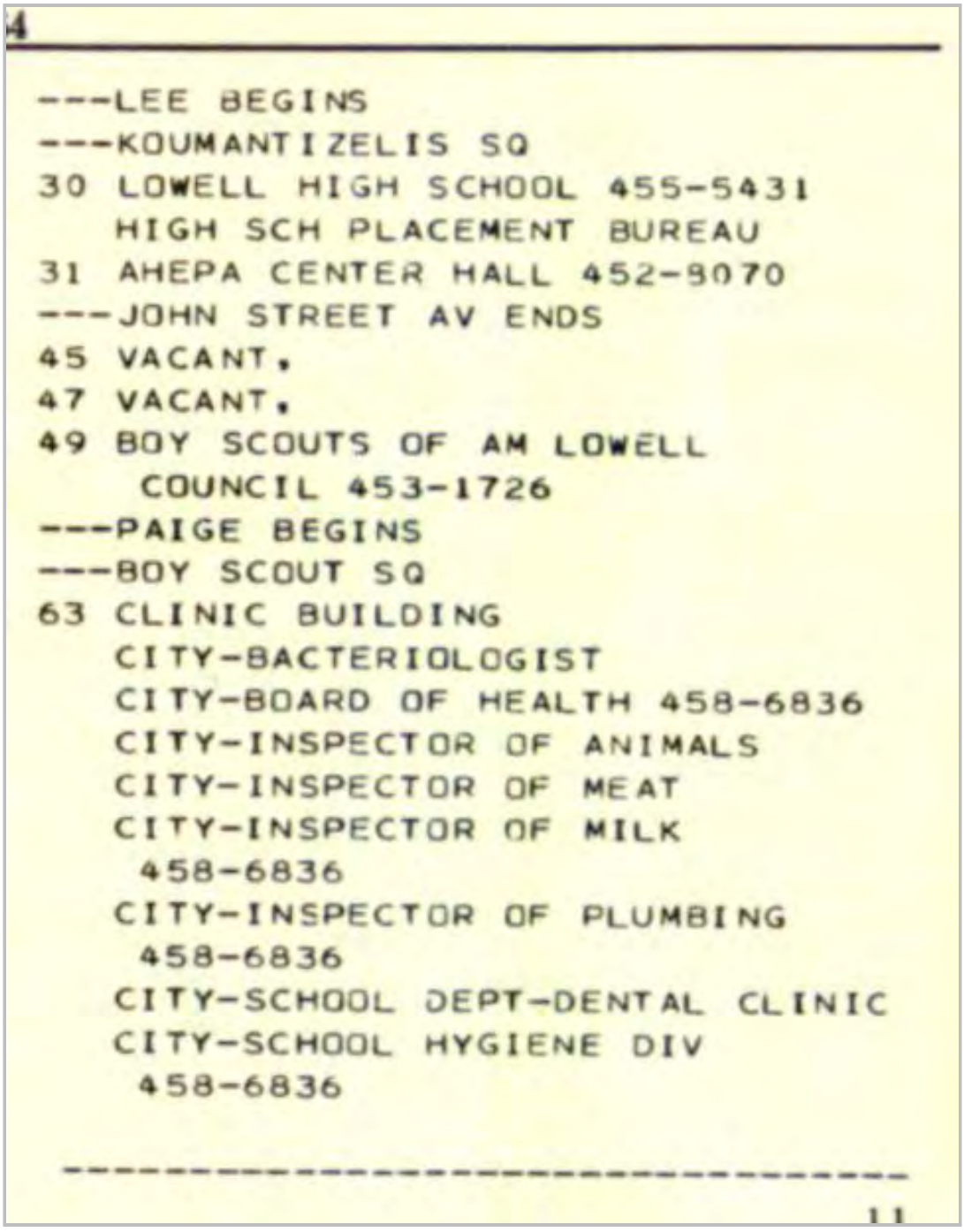
15

KIRK ST -FROM 181 MERRIMACK TO
OPP 40 FRENCH

8 SAINT ANNE'S RECTORY
DOWNS FRANCIS B REV 458-6423
10 HALL EDWIN C
SAINT ANN'S PARISH HOUSE
452-2150
15 BON-MARCHE THE(SIDE ENT)
---KIRK AV BEGINS
21 VACANT.
23 VACANT.
VACANT.
29 APARTMENTS
1 BATES ROBT N
2 MC ELROY HELEN E MRS
3 VACANT
4 MERCIER MARIE D MRS
453-2304
5 LANE ALICE A MRS 452-6054
6 LYONS JOSEPHINE H MRS
458-2266
STREET CONTINUED

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1966



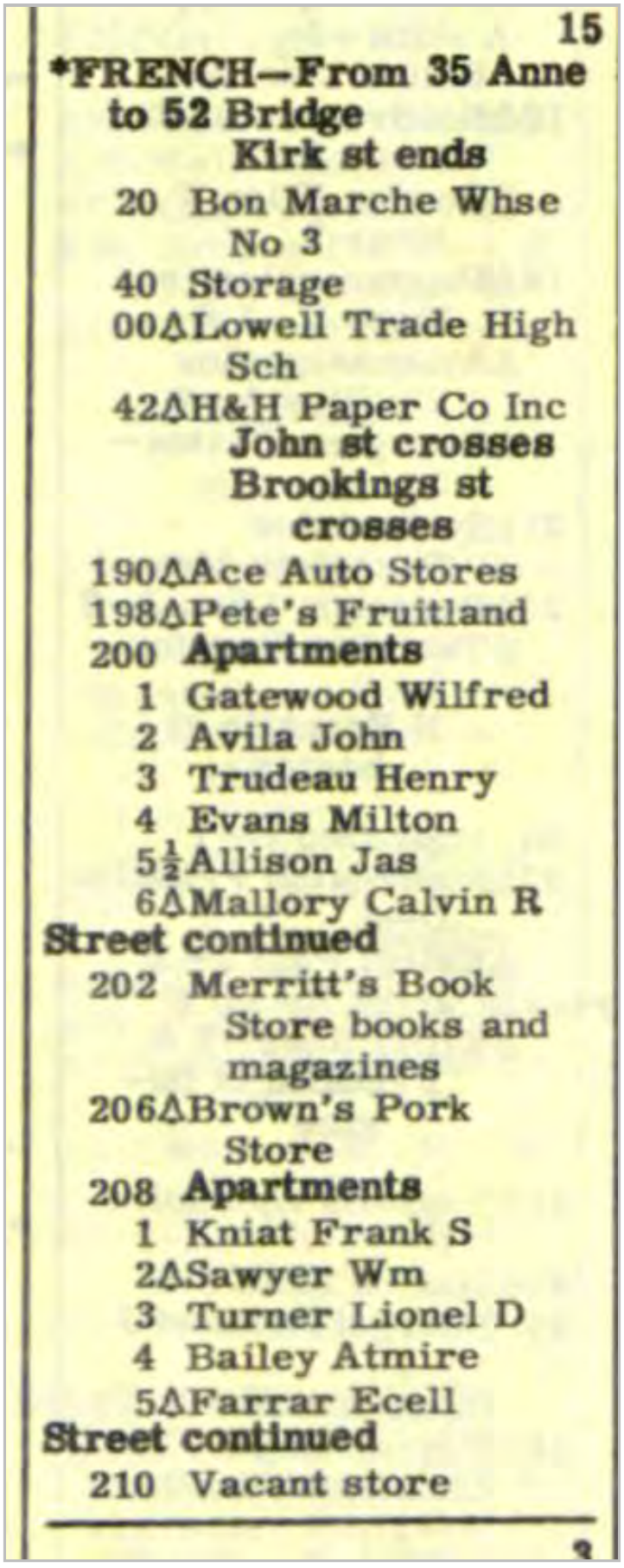
4

---LEE BEGINS
---KOUMANTIZELIS SQ
30 LOWELL HIGH SCHOOL 455-5431
HIGH SCH PLACEMENT BUREAU
31 AHEPA CENTER HALL 452-9070
---JOHN STREET AV ENDS
45 VACANT.
47 VACANT.
49 BOY SCOUTS OF AM LOWELL
COUNCIL 453-1726
---PAIGE BEGINS
---BOY SCOUT SQ
63 CLINIC BUILDING
CITY-BACTERIOLOGIST
CITY-BOARD OF HEALTH 458-6836
CITY-INSPECTOR OF ANIMALS
CITY-INSPECTOR OF MEAT
CITY-INSPECTOR OF MILK
458-6836
CITY-INSPECTOR OF PLUMBING
458-6836
CITY-SCHOOL DEPT-DENTAL CLINIC
CITY-SCHOOL HYGIENE DIV
458-6836

11

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1960



15

*FRENCH—From 35 Anne to 52 Bridge

Kirk st ends

20 Bon Marche Whse No 3

40 Storage

00ΔLowell Trade High Sch

42ΔH&H Paper Co Inc

John st crosses

Brookings st crosses

190ΔAce Auto Stores

198ΔPete's Fruitland

200 Apartments

1 Gatewood Wilfred

2 Avila John

3 Trudeau Henry

4 Evans Milton

5½Allison Jas

6ΔMallory Calvin R

Street continued

202 Merritt's Book Store books and magazines

206ΔBrown's Pork Store

208 Apartments

1 Kniat Frank S

2ΔSawyer Wm

3 Turner Lionel D

4 Bailey Atmire

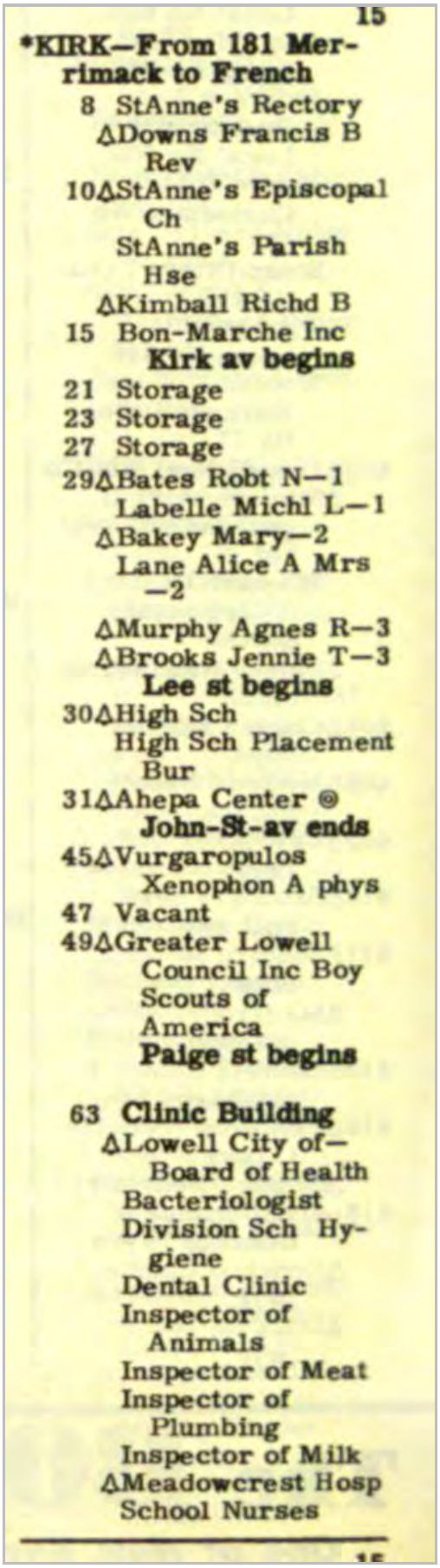
5ΔFarrar Ecell

Street continued

210 Vacant store

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1960



15

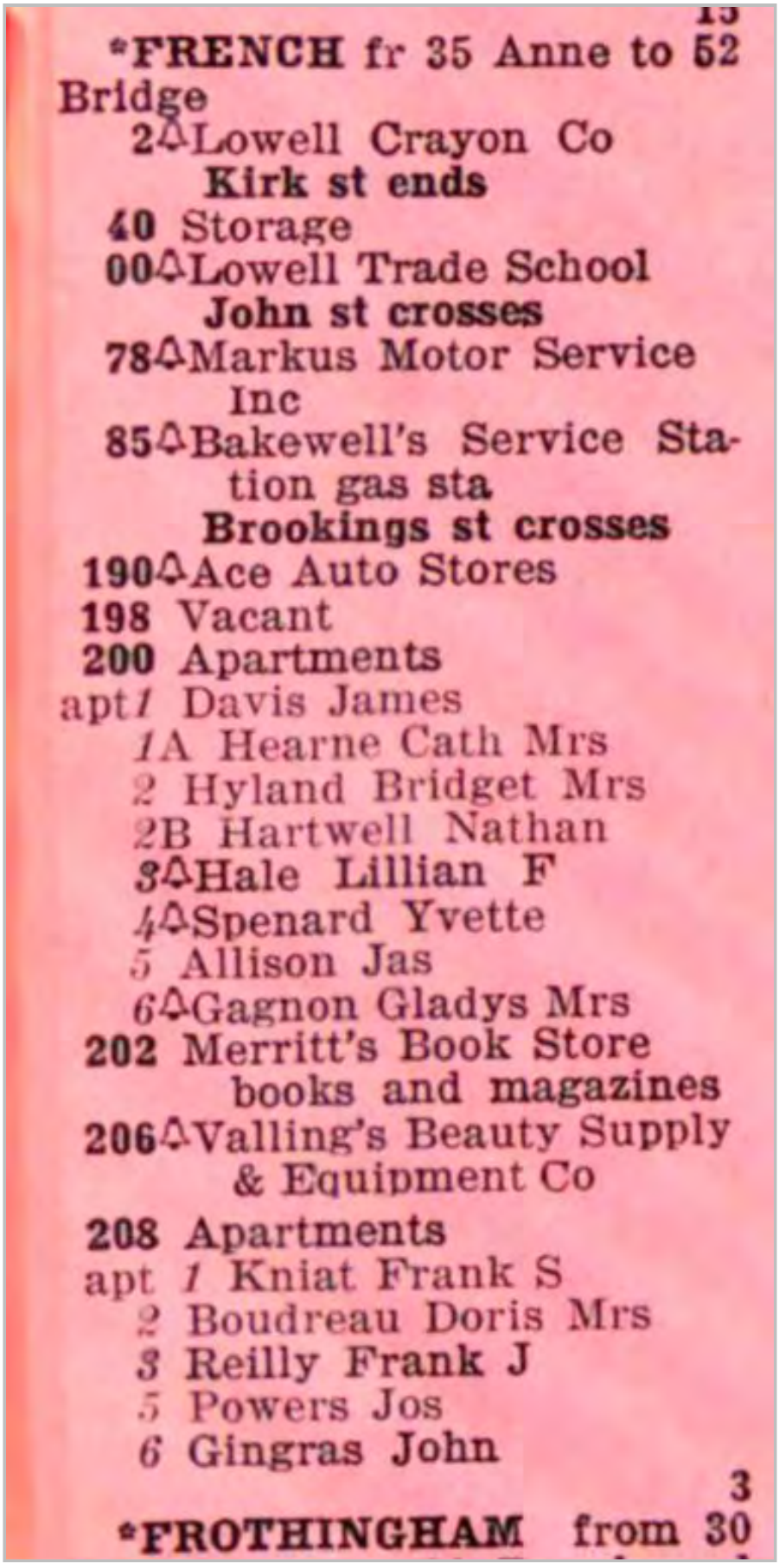
*KIRK—From 181 Merrimack to French

8 StAnne's Rectory
ΔDowns Francis B Rev
10ΔStAnne's Episcopal Ch
StAnne's Parish Hse
ΔKimball Richd B
15 Bon-Marche Inc
Kirk av begins
21 Storage
23 Storage
27 Storage
29ΔBates Robt N—1
Labelle Michl L—1
ΔBakey Mary—2
Lane Alice A Mrs —2
ΔMurphy Agnes R—3
ΔBrooks Jennie T—3
Lee st begins
30ΔHigh Sch
High Sch Placement Bur
31ΔAhepa Center ◎
John-St-av ends
45ΔVurgaropulos Xenophon A phys
47 Vacant
49ΔGreater Lowell Council Inc Boy Scouts of America
Paige st begins

63 **Clinic Building**
ΔLowell City of—
Board of Health
Bacteriologist
Division Sch Hygiene
Dental Clinic
Inspector of Animals
Inspector of Meat
Inspector of Plumbing
Inspector of Milk
ΔMeadowcrest Hosp
School Nurses

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1954



*FRENCH fr 35 Anne to 52 Bridge

2 Lowell Crayon Co
Kirk st ends

40 Storage

00 Lowell Trade School
John st crosses

78 Markus Motor Service Inc

85 Bakewell's Service Station gas sta
Brookings st crosses

190 Ace Auto Stores

198 Vacant

200 Apartments

apt 1 Davis James
1A Hearne Cath Mrs
2 Hyland Bridget Mrs
2B Hartwell Nathan
3 Hale Lillian F
4 Spenard Yvette
5 Allison Jas
6 Gagnon Gladys Mrs

202 Merritt's Book Store books and magazines

206 Valling's Beauty Supply & Equipment Co

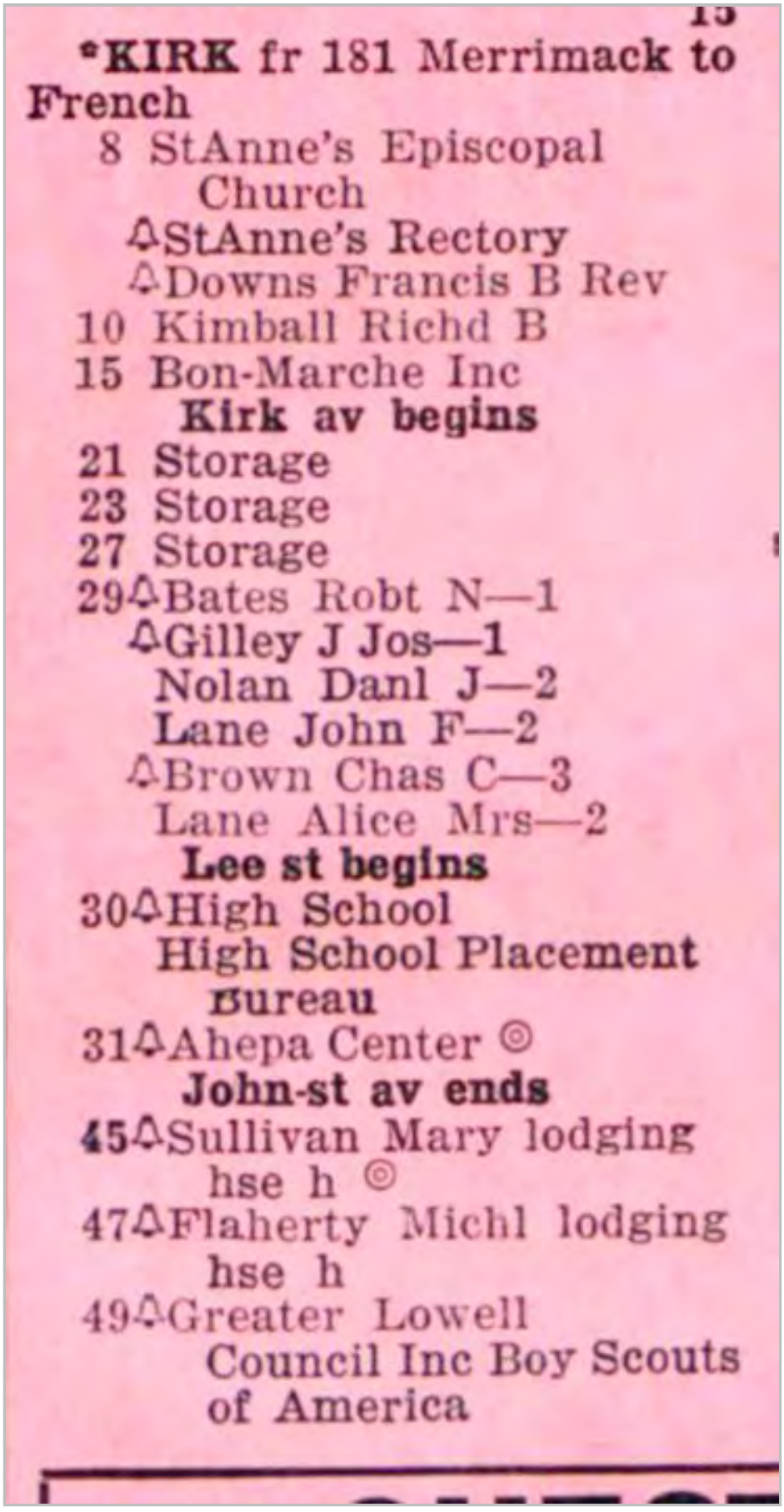
208 Apartments

apt 1 Kniat Frank S
2 Boudreau Doris Mrs
3 Reilly Frank J
5 Powers Jos
6 Gingras John

*FROTHINGHAM from 30

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1954



*KIRK fr 181 Merrimack to French

8 StAnne's Episcopal Church
StAnne's Rectory
Downs Francis B Rev
10 Kimball Richd B
15 Bon-Marche Inc
Kirk av begins
21 Storage
23 Storage
27 Storage
29 Bates Robt N—1
Gilley J Jos—1
Nolan Danl J—2
Lane John F—2
Brown Chas C—3
Lane Alice Mrs—2
Lee st begins
30 High School
High School Placement Bureau
31 Ahepa Center ◎
John-st av ends
45 Sullivan Mary lodging hse h ◎
47 Flaherty Michl lodging hse h
49 Greater Lowell Council Inc Boy Scouts of America

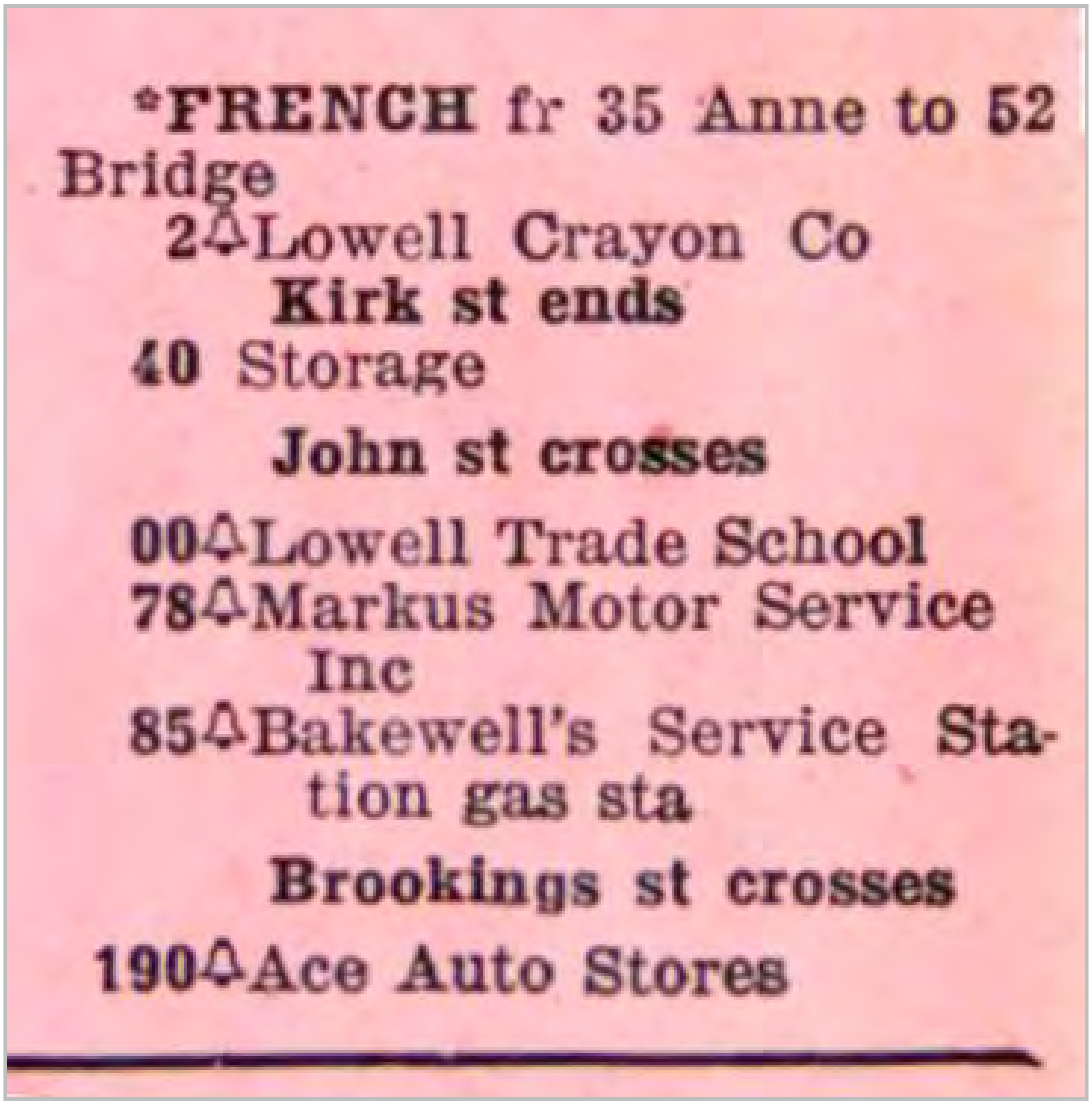
Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1954



Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1948



*FRENCH fr 35 Anne to 52 Bridge

2 Lowell Crayon Co

Kirk st ends

40 Storage

John st crosses

00 Lowell Trade School

78 Markus Motor Service Inc

85 Bakewell's Service Station gas sta

Brookings st crosses

190 Ace Auto Stores

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1948

198 Merrimack Roofing Co
200 Apartments
apt 1 Spenard Yvette
2 Charest Alice Mrs
3 Hale Lillian F
4 Scotland Wm R
5 Burdick Irene C Mrs
5½ Lavalle Willis
6 Gagnon Gladys Mrs
202 Merritt's Book Store
books and magazines
206 Jay's Radio Service Dept
208 Apartments
apt 1 Kniate Frank
2 Buckley John W
3 Reilly Frank J
4 Bernard Arth J
5 Sokolow Jos A
6 Gingras John
210 Sousa Manuel restr

**FRONT fr 44 Lake View

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1948



*KIRK fr 181 Merrimack to French

8 Blackburn Lawrence H Rev

10 Sanger Clarence F

15 Bon Marche Inc

Kirk av begins

21 Storage

23 Storage

27 Storage

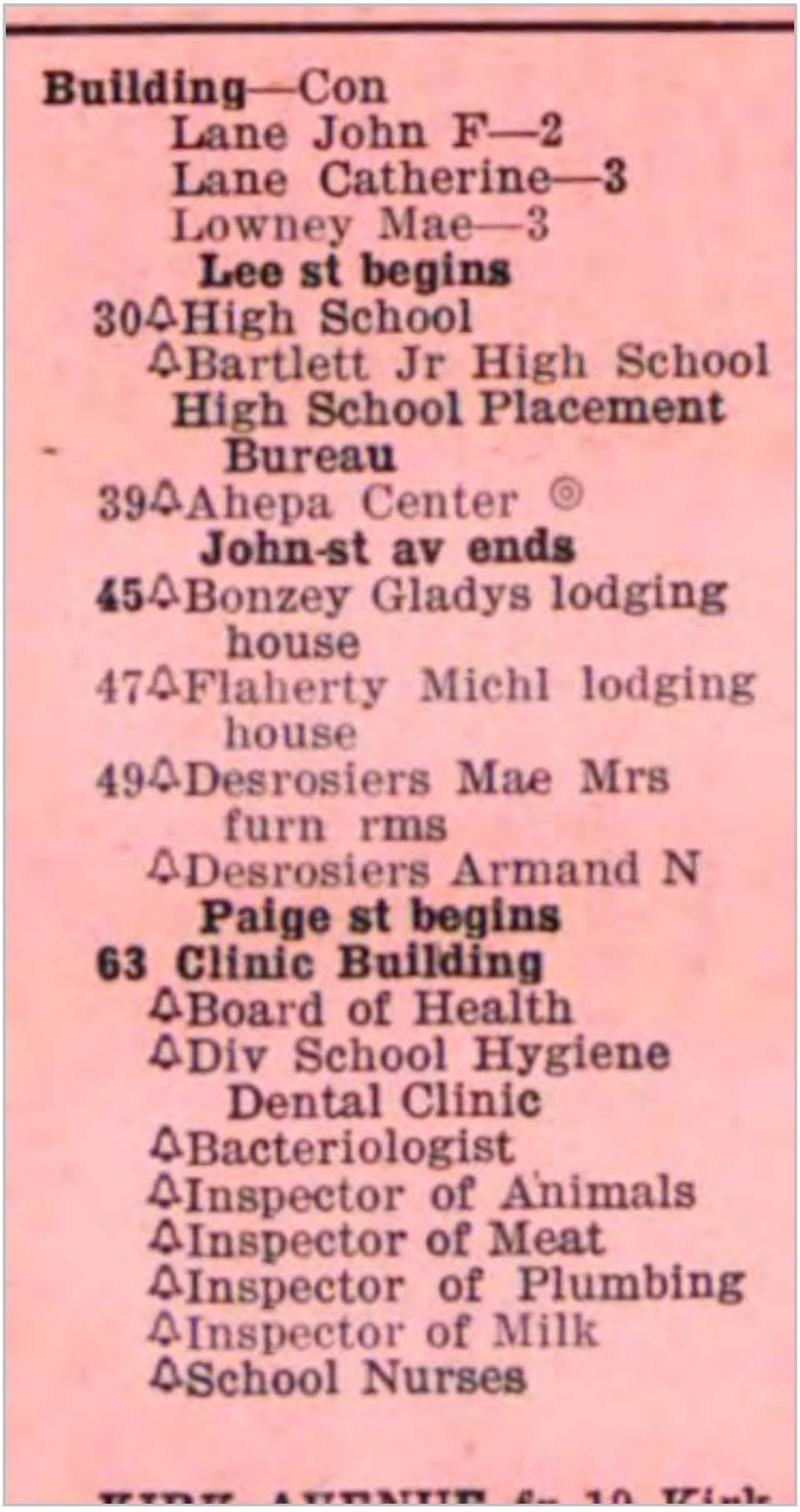
29 Bates Robt N—1

Gilley J Jos—1

Nolan Danl J—2

Target Street	Cross Street	Source
-	✓	Polk's City Directory

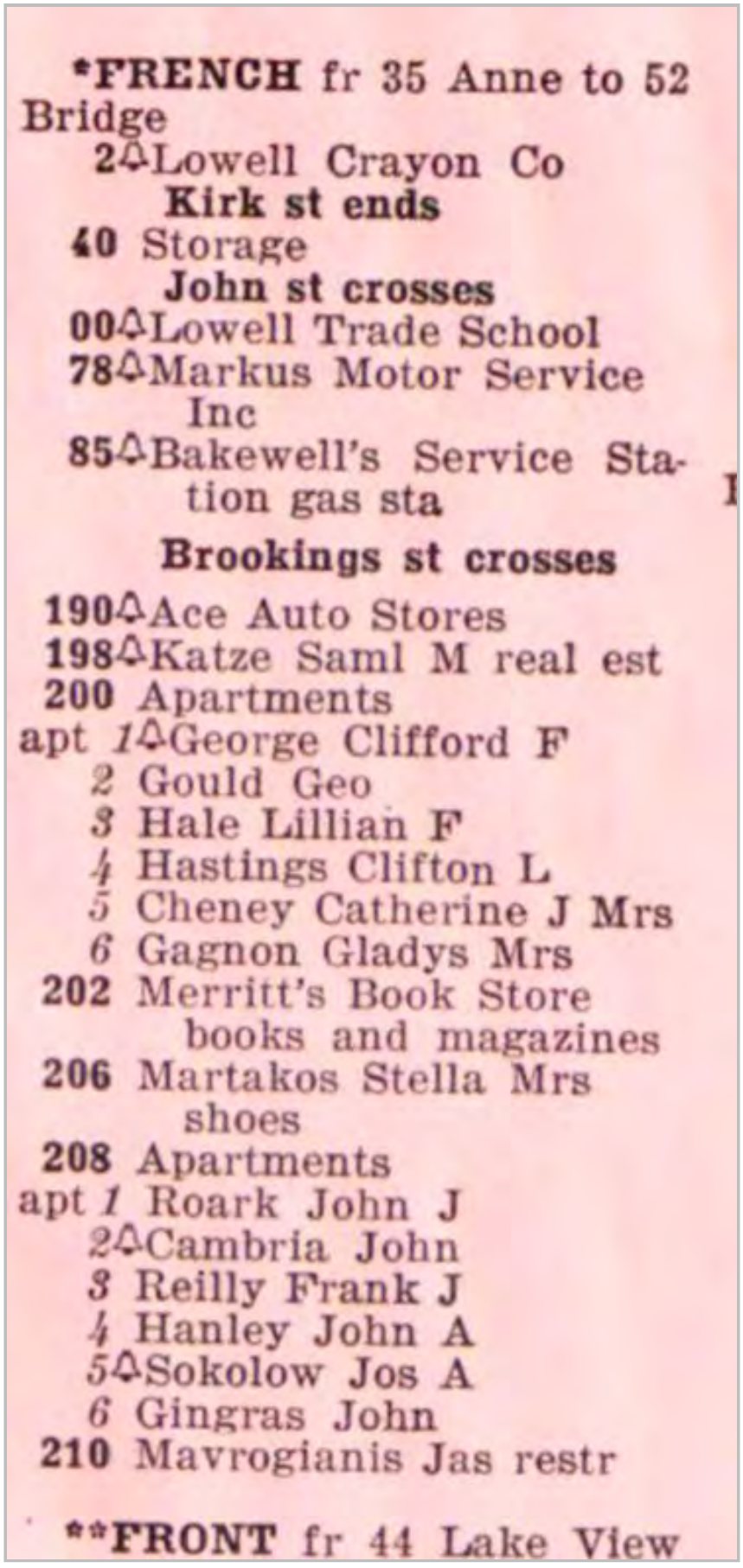
KIRK ST 1948



Building—Con
Lane John F—2
Lane Catherine—3
Lowney Mae—3
Lee st begins
30 High School
Bartlett Jr High School
High School Placement Bureau
39 Ahepa Center
John-st av ends
45 Bonzey Gladys lodging house
47 Flaherty Michl lodging house
49 Desrosiers Mae Mrs furn rms
Desrosiers Armand N
Paige st begins
63 Clinic Building
Board of Health
Div School Hygiene
Dental Clinic
Bacteriologist
Inspector of Animals
Inspector of Meat
Inspector of Plumbing
Inspector of Milk
School Nurses

Target Street	Cross Street	Source
-	✓	Polk's City Directory

FRENCH ST 1942



***FRENCH** fr 35 Anne to 52 Bridge

2 Lowell Crayon Co

Kirk st ends

40 Storage

John st crosses

00 Lowell Trade School

78 Markus Motor Service Inc

85 Bakewell's Service Station gas sta

Brookings st crosses

190 Ace Auto Stores

198 Katze Saml M real est

200 Apartments

apt *1* George Clifford F

2 Gould Geo

3 Hale Lillian F

4 Hastings Clifton L

5 Cheney Catherine J Mrs

6 Gagnon Gladys Mrs

202 Merritt's Book Store books and magazines

206 Martakos Stella Mrs shoes

208 Apartments

apt *1* Roark John J

2 Cambria John

3 Reilly Frank J

4 Hanley John A

5 Sokolow Jos A

6 Gingras John

210 Mavrogianis Jas restr

****FRONT** fr 44 Lake View

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1942

***KIRK** fr 181 Merrimack to French

8 Blackburn Lawrence H Rev

10 Caddell Wm J

15 Bon Marche Dry Goods Co

Kirk av begins

21 Storage

23 Storage

27 Storage

29 Laroche Margt Mrs—1

Gilley J Jos—1

Nolan Danl J—2

Lane John F—2

Lane Catherine—3

McCann Wm L—3

Lee st begins

30 High School

High School Placement Bureau

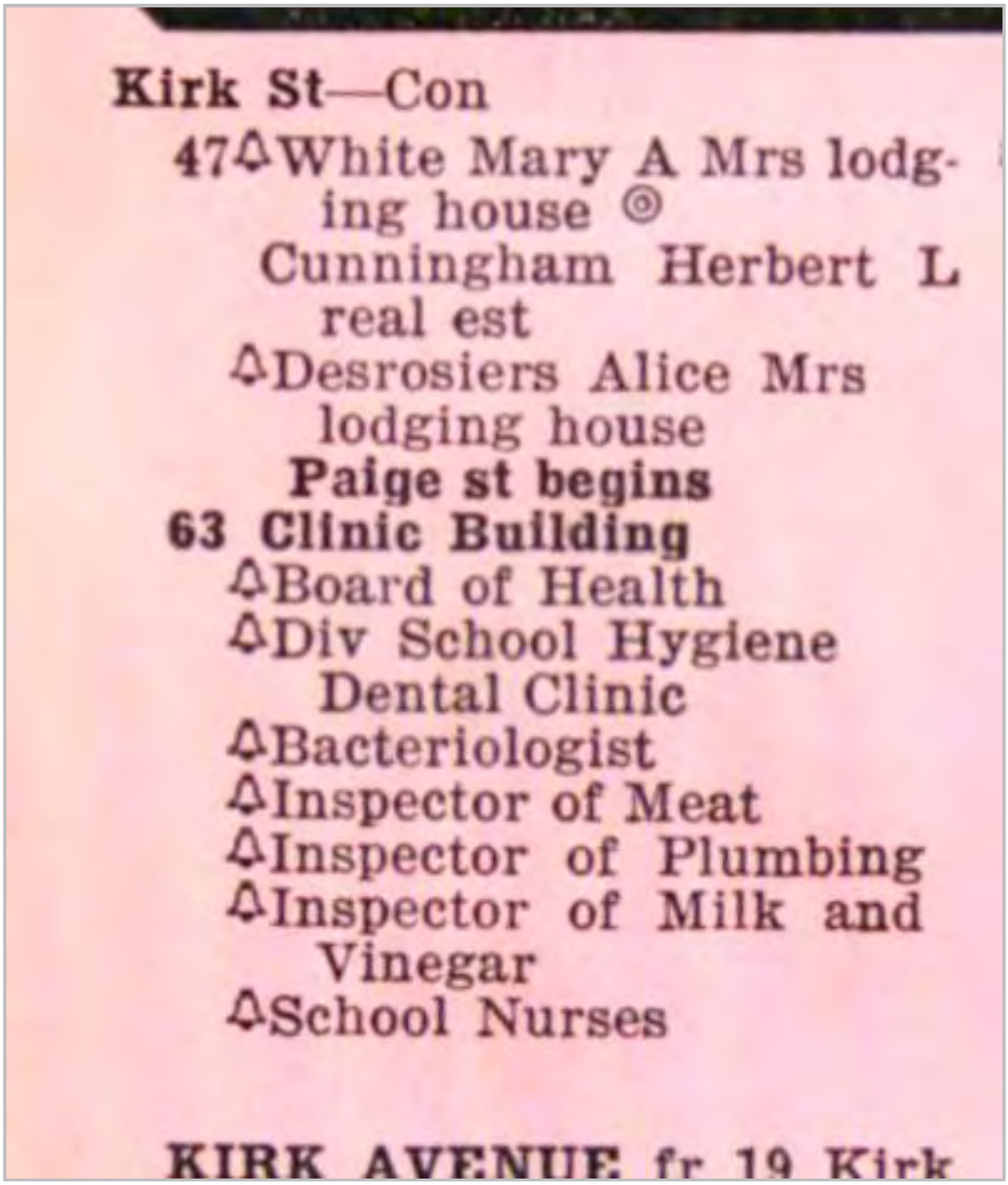
39 Vacant

John-st av ends

45 Scarlett Hattie E Mrs lodging house

Target Street	Cross Street	Source
-	✓	Polk's City Directory

KIRK ST 1942



Kirk St—Con

47 △White Mary A Mrs lodging house ◎
Cunningham Herbert L real est
△Desrosiers Alice Mrs lodging house

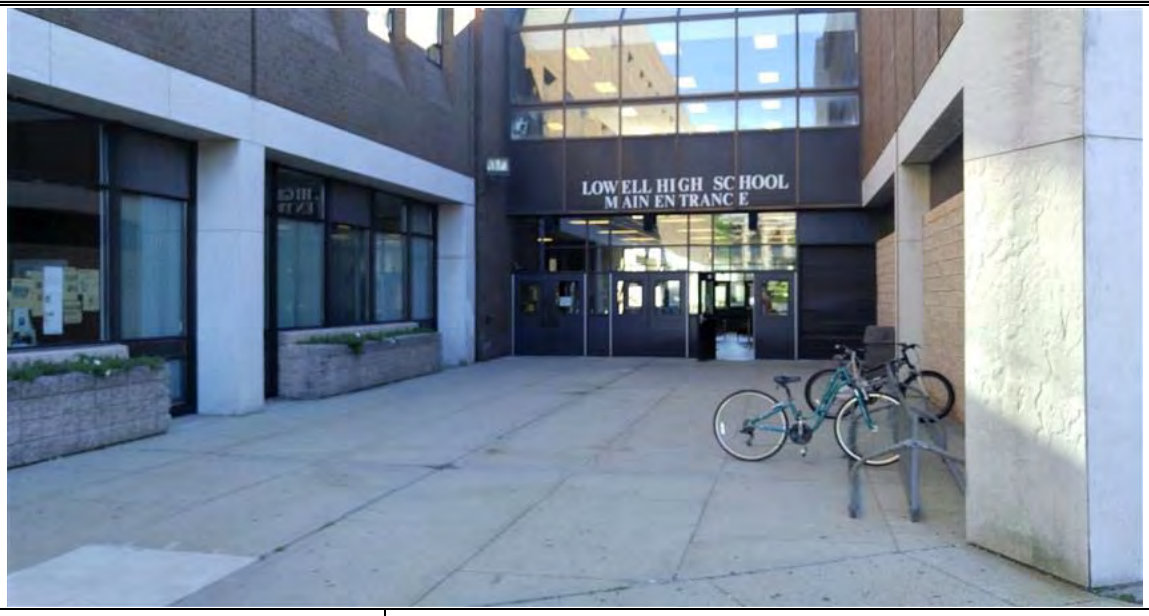
Paige st begins

63 Clinic Building
△Board of Health
△Div School Hygiene Dental Clinic
△Bacteriologist
△Inspector of Meat
△Inspector of Plumbing
△Inspector of Milk and Vinegar
△School Nurses

KIRK AVENUE fr 19 Kirk

APPENDIX G

Appendix G
Site Inspection Photographs
Phase I ESA – Lowell High School
Lowell, Massachusetts



Date: 8/29/2016	**Location:** 50 Father Morissette Boulevard

Description: View of the entrance to the Lord Building (left) and Field House (right) facing south.



Date: 8/29/2016	**Location:** 50 Father Morissette Boulevard

Description: View of the rear (northern) side of the Lord Building and access road facing east. A truck can be seen unloading at the loading dock in the background of the image. The Conex box used for storage is on the right.



Date: 8/29/2016	**Location:** 50 Father Morissette Boulevard

Description: Backup generator (right) and transformer (left) on south side of the Lord Building. There is no evidence of a release from either unit.



Date: 8/29/2016	**Location:** Canal between Kouloheras and Lord Buildings

Description: View of the Merrimack Canal separating the Kouloheras Building (left) and the Lord Building (right) facing south. The two pedestrian bridges used by students and staff can be seen in the center background and foreground of the image. Lucy Larcom Park is on the left side of the image.



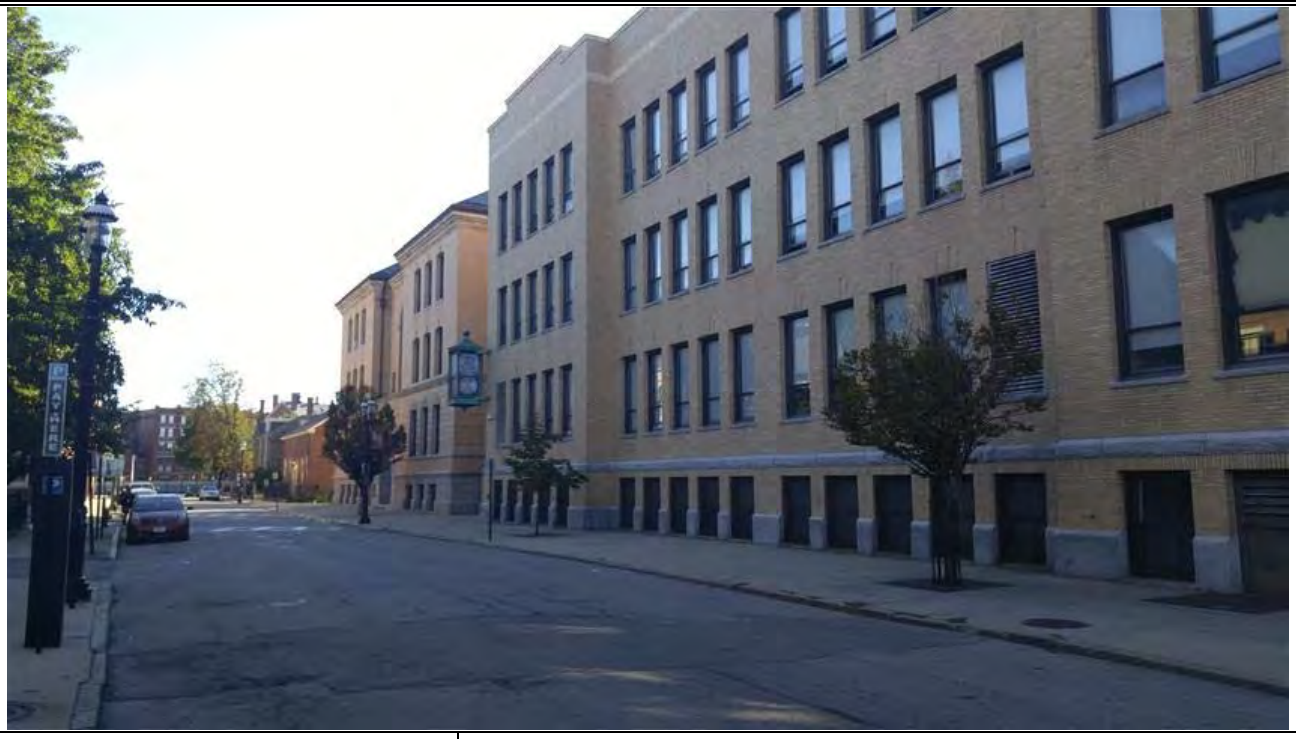
Date: 8/29/2016	**Location:** 50 Father Morisette Boulevard

Description: View of the Lord Building (left) and active trolley rail line facing north. The Kouloheras Building can be seen on the right side of the image.



Date: 8/29/2016	**Location:** 38 Kirk Street

Description: A view of the Kouloheras Building from Father Morissette Boulevard, facing south.



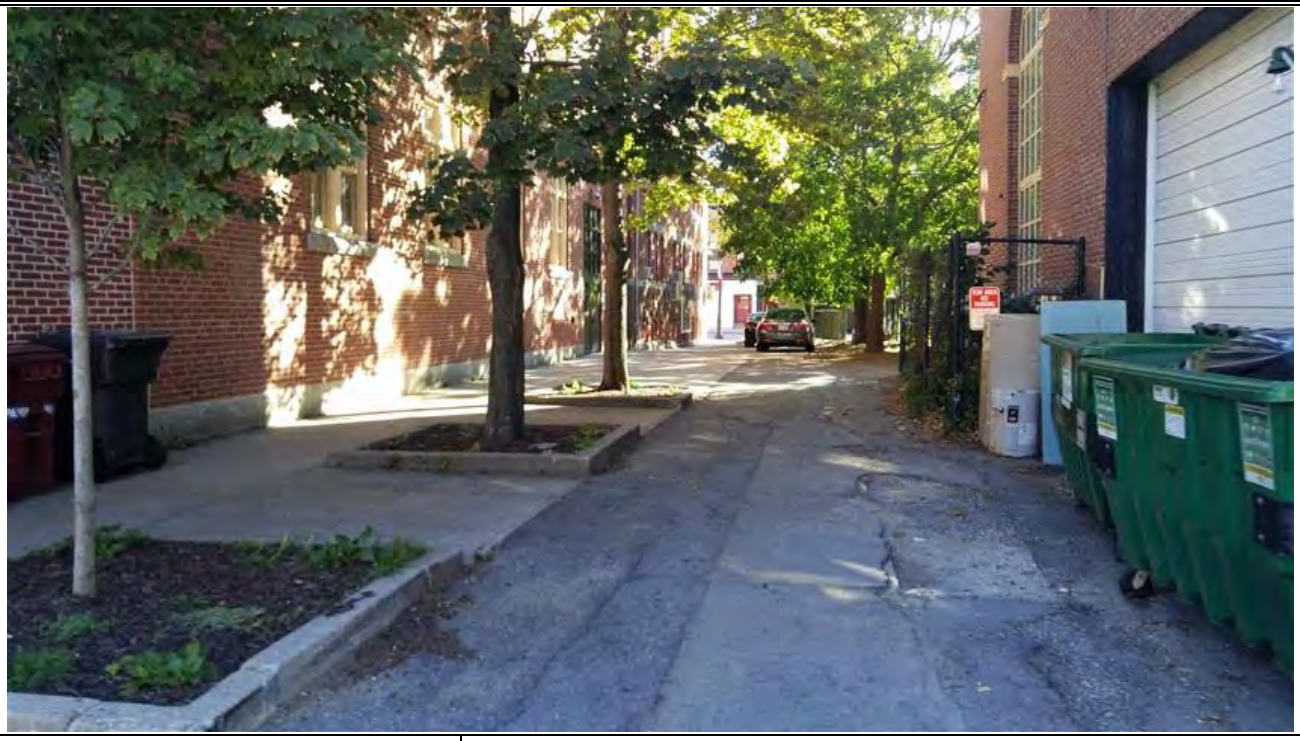
Date: 8/29/2016	**Location:** 38 Kirk Street

Description: A view of the east side of the Kouloheras Building from Kirk Street facing southeast.



Date: 8/29/2016	**Location:** 35 and 55 French Street

Description: A view of the steam plant (center) and Freshman Academy (left) from French Street facing southeast. The abutting Lowell National Historical Park Headquarters is on the right.



Date: 8/29/2016	**Location:** Alley between 35 and 55 French Street

Description: A view of the alley between the steam plant (right) and the Freshman Academy (left). This area formerly contained the “coal bin” as shown by historical Sanborn maps.



Date: 8/29/2016	**Location:** Freshman Academy from Paige Street

Description: A view of the Freshman Academy from Paige Street facing east.



Date: 8/29/2016	**Location:** Steam Plant

Description: A view of one of the boilers within the Steam Plant building.



Date: 8/29/2016	**Location:** Lord Building

Description: An example of administrative space within the Lord Building.



Date: 8/29/2016	**Location:** Cafeteria in Lord Building

Description: A view of the cafeteria within the Lord Building. The Freshman Academy also contains a similar looking cafeteria.



Date: 8/29/2016	**Location:** Lord Building

Description: A view of a typical classroom in all school buildings.



Date: 8/29/2016	**Location:** Kouloheras Building

Description: Paint storage in the basement art room of the Kouloheras Building.



Date: 8/29/2016	**Location:** Lord Building

Description: Typical laboratory classroom space found at the Lowell High School.



Date: 8/29/2016	**Location:** Lord Building

Description: Typical storage of chemicals used for classroom laboratory experiments. Chemicals are containerized, labeled, and show no evidence of a release.



Date: 8/29/2016	**Location:** Lord Building

Description: Typical storage of chemicals used for classroom laboratory experiments. Chemicals are containerized, labeled, and show no evidence of a release.



Date: 8/29/2016	**Location:** Lord Building

Description: Typical chemical/cleaning product storage found in janitorial closets and storage space throughout Lowell High School. Products are containerized, labeled, and show no evidence of a release.



Date: 8/29/2016	**Location:** Kouloheras Building

Description: Typical chemical/cleaning product storage found in janitorial closets and storage space throughout Lowell High School. Products are containerized, labeled, and show no evidence of a release.



Date: 8/29/2016	**Location:** Steam piping tunnel

Description: A view of the tunnel under Kirk Street, connecting the Kouloheras Building and the Steam Plant.



Date: 8/29/2016	**Location:** Kouloheras Building

Description: 5-gallon buckets of floor stripper stored in the basement of the Kouloheras Building. Product is containerized, labeled, and shows no sign of a release.



Date: 8/29/2016	**Location:** Kouloheras Building

Description: Rectangular concrete pit with floor drain in switchboard room in the basement of the Kouloheras building. The original use of this room is not known.



Date: 8/29/2016	**Location:** Basement of Field House

Description: A view of chlorine storage and other equipment for the pool. Products are all containerized, labeled, and show no signs of a release.



Date: 8/29/2016	**Location:** Basement of Field House

Description: Liquid carbon dioxide canisters used to regulate the pH of the pool. Products are all containerized, labeled, and show no signs of a release.



Date: 8/29/2016	**Location:** Basement of Field House

Description: Sodium hypochlorite storage. Products are all containerized, labeled, and show no signs of a release.



Date: 8/29/2016	**Location:** Conex Box

Description: De minimis oil, lubricant, and gasoline storage. Products are all containerized, labeled, and show no signs of a release.

FINAL REPORT
FOR
LOWELL HIGH SCHOOL EXISTING CONDITIONS EVALUATION
HAZARDOUS MATERIALS IDENTIFICATION
STUDY
PERKINS EASTMAN PROJECT # 67150

PROJECT NO: 216 332.00

Survey Dates:
September 19 – October 12, 2016

CONDUCTED BY:

UNIVERSAL ENVIRONMENTAL CONSULTANTS
12 Brewster Road
Framingham, MA 01702

UEC universal environmental consultants

October 27, 2016

Ms. Alicia Caritano, Senior Associate
Perkins Eastman
50 Franklin Street, Suite 203
Boston, MA 02110

Reference: Report for Hazardous Materials Identification Study
Lowell High School, Lowell, MA - PE# 67150

Dear Ms. Caritano:

Thank you for the opportunity for Universal Environmental Consultants (UEC) to provide professional services.

Enclosed please find the report for the hazardous materials identification study at the Lowell High School, Lowell, MA.

Please do not hesitate to call should you have any questions.

Very truly yours,

Universal Environmental Consultants



_____
Ammar M. Dieb
President

UEC:\216 332.00\Report.DOC

Enclosure

1.0 INTRODUCTION:

Universal Environmental Consultants (UEC) has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of twenty five years of experience.

UEC was contracted by Perkins Eastman to conduct the following services at the Lowell High School, Lowell, MA:

- Asbestos Containing Materials (ACM) determination inspection and sampling;
- Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures inspection;
- PCB's Caulking Inspection;
- Lead Based Paint (LBP) inspection;
- Mercury in Rubber Flooring inspection and sampling;
- Airborne Mold inspection and sampling;
- Radon sampling;

The high school consists of several buildings/wings as follows:

- Kouloheras/Coburn/1997 Addition;
- Lord Building /Field House;
- Freshman Academy;
- Steam Plant.

The scope of work included the inspection of accessible ACM, collection of bulk samples from materials suspected to contain asbestos, determination and quantities of types of ACM found and cost estimates for remediation. A comprehensive survey per the Environmental Protection Agency (EPA) NESHAP regulation would be required prior to any renovation or demolition activities.

Bulk samples analyses for asbestos were performed using the standard Polarized Light Microscopy (PLM) Method in accordance with EPA standard. Bulk samples were collected by a Massachusetts licensed asbestos inspector Mr. Leonard J. Busa (AI-030673) and analyzed by a Massachusetts licensed laboratory Asbestos Identification Laboratory, Woburn, MA.

Mercury in rubber flooring sample was analyzed by an EPA approved laboratory EMSL, Cinnaminson, NJ.

Airborne mold samples were analyzed by an EPA approved laboratory EMSL, Woburn, MA.

Radon samples were analyzed by an EPA licensed laboratory AccuStar, Medway, MA.

Samples results are attached.

2.0 FINDINGS:

Asbestos Containing Materials (ACM):
The regulations for asbestos inspection are based on representative sampling. It would be impractical and costly to sample all materials in all areas. Therefore, representative samples of each homogenous area were collected and analyzed or assumed.

All suspect materials were grouped into homogenous areas. By definition a homogenous area is one in which the materials are evenly mixed and similar in appearance and texture throughout. A homogeneous area shall be determined to contain asbestos based on findings that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than 1 percent in accordance with EPA regulations. Per the

Department of Environmental Protection (DEP) any amount of asbestos found must be disposed as asbestos. No additional suspect and accessible ACM were found during this survey. However, hidden ACM may be found during the renovation and demolition activities.

Number of Samples Collected:

Kouloheras/Coburn/1997 Addition:

Ninety eight (98) bulk samples were collected from materials suspected of containing asbestos, including:

Type and Location of Suspect Material

1. Bedding/adhesive for ceramic floor at basement custodian room
2. Cementitious painted floor at basement main corridor
3. Lab table at classroom 314
4. Adhesive for tectum wall panel at basement heating room 23
5. Adhesive for tectum wall panel at basement heating room 23
6. White fire block above ceiling at basement heating room 23
7. Grey duct sealant at teacher's center attic
8. Lime/grey duct sealant at attic
9. Insulation inside wood fire door type I at basement stairwell
10. Insulation inside wood fire door type II at second floor auditorium lobby
11. White brick mortar at teacher's center attic
12. Fireproofing at auditorium lobby
13. Fireproofing at auditorium lobby
14. Hard tan glazing caulking for vision lite in wood door at classroom 133
15. Soft black glazing caulking for borrowed lite at second floor
16. Hard grey glazing caulking for borrowed lite at second floor
17. Hard grey glazing caulking for borrowed lite at second floor
18. Soft black glazing caulking for borrowed lite at first floor
19. 2' x 2' Suspended acoustical ceiling tile at band storage room
20. 2' x 2' Suspended acoustical ceiling tile at auditorium lobby
21. 2' x 2' Suspended acoustical ceiling tile at teacher's center
22. Blue/dark grey spot linoleum floor covering at classroom 017
23. Grey spot linoleum floor covering at bridge I
24. Light grey spot linoleum floor covering at bridge II (new bridge)
25. Adhesive for grey spot linoleum floor covering at bridge I
26. Joint compound at classroom 12
27. Joint compound at heating room 23
28. Ceiling joint compound at basement custodian area
29. Joint compound at first floor by room 139
30. Joint compound at basement small mechanical room
31. Joint compound at teacher's center hall
32. Joint compound at hallway outside lockers by room 136
33. Joint compound at custodian closet by room 223
34. Joint compound behind ceramic wall tile at second floor elevator
35. Grey/brown grey/white vinyl floor tile at upper level above teacher's center
36. Adhesive for grey/brown grey/white vinyl floor tile at upper level above teacher's center
37. Grey/brown grey/white vinyl floor tile at upper level above teacher's center
38. Adhesive for grey/brown grey/white vinyl floor tile at upper level above teacher's center
39. Dark blue vinyl floor tile at classroom 105 closet
40. Adhesive for dark blue vinyl floor tile at classroom 105 closet
41. Dark blue vinyl floor tile at teacher's center kitchen
42. Adhesive for dark blue vinyl floor tile at teacher's center kitchen
43. Dark blue vinyl floor tile at classroom 28

44. Light blue vinyl floor tile at ROTC storage room
45. Caramel vinyl floor tile at third floor plant room top of stairwell I
46. Adhesive for caramel vinyl floor tile at third floor plant room top of stairwell I
47. White/black grey vinyl floor tile at end of bridge
48. White/blue spots vinyl floor tile at hallway outside teacher's center
49. Mastic for white/blue spots vinyl floor tile at hallway outside teacher's center
50. Sea green vinyl floor tile at hallway outside teacher's center
51. Mastic for sea green vinyl floor tile at hallway outside teacher's center
52. White/blue spots vinyl floor tile at classroom 314
53. White/blue spots vinyl floor tile at basement ROTC hall
54. Mastic for white/blue spots vinyl floor tile at basement ROTC hall
55. Mastic for white/blue spots vinyl floor tile at basement ROTC hall
56. Light grey/white vinyl floor tile at basement stairwell
57. Mastic for light grey/white vinyl floor tile at basement stairwell
58. Vinyl floor tile under plywood/carpet at classroom 117
59. Mastic for vinyl floor tile under plywood/carpet at classroom 117
60. Vinyl floor tile under plywood/carpet at storage room 126-A
61. Mastic for vinyl floor tile under plywood/carpet at storage room 126-A
62. Ceiling plaster at third floor custodian closet
63. Ceiling plaster at basement band room
64. Glue daub for ceiling plaster at basement band room
65. Wall plaster at teacher's center
66. Wall plaster at auditorium
67. Wall plaster at third floor stairwell
68. Wall plaster at classroom 105
69. Wall plaster at classroom 110
70. Wall plaster at classroom 223
71. Wall plaster at main corridor by classroom 220
72. Wall plaster at main corridor by classroom 321
73. Fireproofing at hallway by classroom 352
74. Hard tan glazing caulking for vision lite in wood door at classroom 323
75. Joint compound behind ceramic wall tile at boy's room by room 203
76. Hard black lab table at classroom 304
77. Slate chalkboard at classroom 329
78. White residue on slate chalkboard at classroom 329
79. Wall plaster at classroom 304
80. Concrete slab under hardwood floor at rear hallway of room 220-C
81. Hard tan glazing caulking for vision lite in wood door at classroom 131
82. Hard grey glazing caulking for vision lite in metal door at first floor stairwell
83. Hard grey glazing caulking for vision lite in metal door at second floor stairwell
84. Hard grey glazing caulking for vision lite in metal door at rear hallway
85. Exterior window framing caulking
86. Exterior window framing caulking
87. Exterior window framing caulking
88. Exterior window framing caulking
89. Exterior window framing caulking
90. Exterior window framing caulking
91. Exterior door framing caulking
92. Exterior residue door framing caulking on brick
93. Exterior door framing caulking
94. Exterior horizontal white caulking in sill
95. Exterior horizontal white caulking in sill
96. Blue/dark grey spot linoleum floor covering at Coburn basement stairwell
97. Adhesive for blue/dark grey spot linoleum floor covering at Coburn basement stairwell
98. Grey spot linoleum floor covering at bridge I

Sample Results:

Type and Location of Suspect Material	Sample Result
1. Bedding/adhesive for ceramic floor at basement custodian room	No Asbestos Detected
2. Cementitious painted floor at basement main corridor	No Asbestos Detected
3. Lab table at classroom 314	20% Asbestos
4. Adhesive for tectum wall panel at basement heating room 23	No Asbestos Detected
5. Adhesive for tectum wall panel at basement heating room 23	No Asbestos Detected
6. White fire block above ceiling at basement heating room 23	No Asbestos Detected
7. Grey duct sealant at teacher's center attic	No Asbestos Detected
8. Lime/grey duct sealant at attic	No Asbestos Detected
9. Insulation inside wood fire door type I at basement stairwell	No Asbestos Detected
10. Insulation inside wood fire door type II at second floor auditorium lobby	No Asbestos Detected
11. White brick mortar at teacher's center attic	No Asbestos Detected
12. Fireproofing at auditorium lobby	No Asbestos Detected
13. Fireproofing at auditorium lobby	No Asbestos Detected
14. Hard tan glazing caulking for vision lite in wood door at classroom 133	No Asbestos Detected
15. Soft black glazing caulking for borrowed lite at second floor	3% Asbestos
16. Hard grey glazing caulking for borrowed lite at second floor	2% Asbestos
17. Hard grey glazing caulking for borrowed lite at second floor	No Asbestos Detected
18. Soft black glazing caulking for borrowed lite at first floor	No Asbestos Detected
19. 2' x 2' Suspended acoustical ceiling tile at band storage room	No Asbestos Detected
20. 2' x 2' Suspended acoustical ceiling tile at auditorium lobby	No Asbestos Detected
21. 2' x 2' Suspended acoustical ceiling tile at teacher's center	No Asbestos Detected
22. Blue/dark grey spot linoleum floor covering at classroom 017	No Asbestos Detected
23. Grey spot linoleum floor covering at bridge I	No Asbestos Detected
24. Light grey spot linoleum floor covering at bridge II (new bridge)	No Asbestos Detected
25. Adhesive for grey spot linoleum floor covering at bridge I	No Asbestos Detected
26. Joint compound at classroom 12	No Asbestos Detected
27. Joint compound at heating room 23	No Asbestos Detected
28. Ceiling joint compound at basement custodian area	No Asbestos Detected
29. Joint compound at first floor by room 139	No Asbestos Detected
30. Joint compound at basement small mechanical room	No Asbestos Detected
31. Joint compound at teacher's center hall	No Asbestos Detected
32. Joint compound at hallway outside lockers by room 136	No Asbestos Detected
33. Joint compound at custodian closet by room 223	No Asbestos Detected
34. Joint compound behind ceramic wall tile at second floor elevator	No Asbestos Detected
35. Grey/brown grey/white vinyl floor tile at upper level above teacher's center	No Asbestos Detected
36. Adhesive for grey/brown grey/white vinyl floor tile at upper level above teacher's center	No Asbestos Detected
37. Grey/brown grey/white vinyl floor tile at upper level above teacher's center	No Asbestos Detected
38. Adhesive for grey/brown grey/white vinyl floor tile at upper level above teacher's center	No Asbestos Detected
39. Dark blue vinyl floor tile at classroom 105 closet	No Asbestos Detected
40. Adhesive for dark blue vinyl floor tile at classroom 105 closet	No Asbestos Detected
41. Dark blue vinyl floor tile at teacher's center kitchen	No Asbestos Detected
42. Adhesive for dark blue vinyl floor tile at teacher's center kitchen	No Asbestos Detected
43. Dark blue vinyl floor tile at classroom 28	No Asbestos Detected
44. Light blue vinyl floor tile at ROTC storage room	No Asbestos Detected
45. Caramel vinyl floor tile at third floor plant room top of stairwell I	No Asbestos Detected
46. Adhesive for caramel vinyl floor tile at third floor plant room top of stairwell I	No Asbestos Detected
47. White/black grey vinyl floor tile at end of bridge	No Asbestos Detected
48. White/blue spots vinyl floor tile at hallway outside teacher's center	No Asbestos Detected
49. Mastic for white/blue spots vinyl floor tile at hallway outside teacher's center	No Asbestos Detected
50. Sea green vinyl floor tile at hallway outside teacher's center	No Asbestos Detected
51. Mastic for sea green vinyl floor tile at hallway outside teacher's center	No Asbestos Detected

52.	White/blue spots vinyl floor tile at classroom 314	No Asbestos Detected
53.	White/blue spots vinyl floor tile at basement ROTC hall	No Asbestos Detected
54.	Mastic for white/blue spots vinyl floor tile at basement ROTC hall	No Asbestos Detected
55.	Mastic for white/blue spots vinyl floor tile at basement ROTC hall	No Asbestos Detected
56.	Light grey/white vinyl floor tile at basement stairwell	2% Asbestos
57.	Mastic for light grey/white vinyl floor tile at basement stairwell	No Asbestos Detected
58.	Vinyl floor tile under plywood/carpet at classroom 117	No Asbestos Detected
59.	Mastic for vinyl floor tile under plywood/carpet at classroom 117	5% Asbestos
60.	Vinyl floor tile under plywood/carpet at storage room 126-A	No Asbestos Detected
61.	Mastic for vinyl floor tile under plywood/carpet at storage room 126-A	3% Asbestos
62.	Ceiling plaster at third floor custodian closet	No Asbestos Detected
63.	Ceiling plaster at basement band room	No Asbestos Detected
64.	Glue daub for ceiling plaster at basement band room	3% Asbestos
65.	Wall plaster at teacher's center	No Asbestos Detected
66.	Wall plaster at auditorium	No Asbestos Detected
67.	Wall plaster at third floor stairwell	No Asbestos Detected
68.	Wall plaster at classroom 105	No Asbestos Detected
69.	Wall plaster at classroom 110	No Asbestos Detected
70.	Wall plaster at classroom 223	No Asbestos Detected
71.	Wall plaster at main corridor by classroom 220	No Asbestos Detected
72.	Wall plaster at main corridor by classroom 321	No Asbestos Detected
73.	Fireproofing at hallway by classroom 352	No Asbestos Detected
74.	Hard tan glazing caulking for vision lite in wood door at classroom 323	No Asbestos Detected
75.	Joint compound behind ceramic wall tile at boy's room by room 203	No Asbestos Detected
76.	Hard black lab table at classroom 304	No Asbestos Detected
77.	Slate chalkboard at classroom 329	No Asbestos Detected
78.	White residue on slate chalkboard at classroom 329	No Asbestos Detected
79.	Wall plaster at classroom 304	No Asbestos Detected
80.	Concrete slab under hardwood floor at rear hallway of room 220-C	No Asbestos Detected
81.	Hard tan glazing caulking for vision lite in wood door at classroom 131	No Asbestos Detected
82.	Hard grey glazing caulking for vision lite in metal door at first floor stairwell	2% Asbestos
83.	Hard grey glazing caulking for vision lite in metal door at second floor stairwell	No Asbestos Detected
84.	Hard grey glazing caulking for vision lite in metal door at rear hallway	2% Asbestos
85.	Exterior window framing caulking	No Asbestos Detected
86.	Exterior window framing caulking	No Asbestos Detected
87.	Exterior window framing caulking	No Asbestos Detected
88.	Exterior window framing caulking	No Asbestos Detected
89.	Exterior window framing caulking	No Asbestos Detected
90.	Exterior window framing caulking	No Asbestos Detected
91.	Exterior door framing caulking	2% Asbestos
92.	Exterior residue door framing caulking on brick	2% Asbestos
93.	Exterior door framing caulking	2% Asbestos
94.	Exterior horizontal white caulking in sill	No Asbestos Detected
95.	Exterior horizontal white caulking in sill	No Asbestos Detected
96.	Blue/dark grey spot linoleum floor covering at Coburn basement stairwell	No Asbestos Detected
97.	Adhesive for blue/dark grey spot linoleum floor covering at Coburn basement stairwell	No Asbestos Detected
98.	Grey spot linoleum floor covering at bridge I	No Asbestos Detected

Observations and Conclusions:

The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Lab table was found to contain asbestos.
2. Soft black glazing caulking for borrowed lite was found to contain asbestos.
3. Hard grey glazing caulking for borrowed lite was found to contain asbestos.
4. Light grey/white vinyl floor tile was found to contain asbestos.
5. Mastic for vinyl floor tile under plywood/carpet was found to contain asbestos.
6. Glue daub for ceiling plaster was found to contain asbestos.
7. Hard grey glazing caulking for vision lite in metal door was found to contain asbestos.
8. Exterior door framing caulking was found to contain asbestos.
9. Exterior residue door framing caulking on brick was found to contain asbestos.
10. Glue holding blackboard was assumed to contain asbestos.
11. Pipe insulation was assumed to contain asbestos.
12. Stage fire curtain was assumed to contain asbestos.
13. Transite panels were assumed to contain asbestos and assumed to exist under windows on both bridges.
14. Underground sewer pipes were assumed to contain asbestos.
15. Damproofing on exterior and foundation walls was assumed to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
16. Testing was not performed of the roof to avoid damage. Therefore, roofing was assumed to contain asbestos. However, roofing does not have to be removed by a licensed asbestos abatement contractor. Roofing material does not have to be removed by a licensed asbestos contractor. However, the General Contractor must comply with OSHA regulation during demolition and with state regulations for proper disposal. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
17. All other suspect materials were found not to contain asbestos. Hidden ACM may be found during renovation and demolition activities.

Lord Building/Field House:

Sixty (60) bulk samples were collected from materials suspected of containing asbestos, including:

Type and Location of Suspect Material

1. Grey sink damproofing at teacher's room
2. Soft black glazing caulking for borrowed lite at main lobby
3. Vertical white caulking in CMU wall at administrative conference room
4. Dark blue vinyl floor tile at cafeteria
5. Mastic for dark blue vinyl floor tile at cafeteria
6. White with light blue vinyl floor tile at cafeteria
7. Mastic for white with light blue vinyl floor tile at cafeteria
8. White with black/grey vinyl floor tile at exit hall by administrative conference room
9. Mastic for white with black/grey vinyl floor tile at exit hall by administrative conference room
10. White with black/grey vinyl floor tile at exit hall by kitchen
11. Mastic for white with black/grey vinyl floor tile at exit hall by kitchen
12. Exterior window framing caulking at receiving
13. Exterior window soft brown glazing caulking at receiving
14. Exterior window framing caulking at kitchen
15. Exterior window soft brown glazing caulking at kitchen
16. Exterior window framing caulking for transite panel by main entrance II
17. Exterior transite panel by main entrance II
18. Exterior transite panel covering vertical steel column
19. Exterior transite panel covering vertical steel column
20. Exterior transite panel covering vertical steel column
21. Exterior window glazing caulking for transite panel by main entrance II
22. Exterior black damproofing behind brick at foundation by kitchen
23. Exterior black damproofing behind brick at foundation by kitchen

24. Joint compound at column hall by room 620
25. Joint compound at hall outside library
26. Joint compound at column by gymnasium
27. 2’ x 2’ Suspended acoustical ceiling tile at library computer lab
28. 2’ x 2’ Suspended acoustical ceiling tile at third floor copy room
29. 2’ x 2’ Suspended acoustical ceiling tile at library conference room
30. Fireproofing at library
31. Fireproofing at library
32. Fireproofing at library
33. Blown-in insulation in CMU wall at gymnasium
34. Older caramel vinyl floor tile at little theater storage room
35. Mastic for older caramel vinyl floor tile at little theater storage room
36. Older caramel vinyl floor tile at kitchen storage room
37. Mastic for older caramel vinyl floor tile at kitchen storage room
38. Soft black glazing caulking for vision lite in metal door at room 610
39. White with black/grey vinyl floor tile at hall outside room 610-B
40. Mastic for white with black/grey vinyl floor tile at hall outside room 610-B
41. White with black/grey vinyl floor tile at second floor hall by stairwell 6
42. Mastic for white with black/grey vinyl floor tile at second floor hall by stairwell 6
43. Adhesive for white with black/grey vinyl floor tile at hall outside library
44. Black sink damproofing at nurse
45. Exterior damproofing under brick on foundation at pool building
46. Exterior flashing protruding from brick at pool building
47. Exterior unit vent grille caulking at pool building
48. Exterior hidden caulking for transite panel encasing vertical steel column
49. Exterior hidden caulking for transite panel encasing vertical steel column
50. Transite panel encasing vertical steel column at pool building
51. Damproofing on CMU at flower bed at Trolley side
52. Exterior window framing caulking at Trolley side
53. Soft black glazing caulking for vision lite in metal door at first floor stairwell door
54. Joint compound on ceiling soffit at second floor gymnasium lobby
55. Finish on CMU wall at pool
56. Adhesive for ceramic baseboard at boy’s locker room
57. Adhesive for ceramic baseboard at pool
58. Glue tab for fiberglass insulated duct at sub-basement of pool
59. Glue tab for fiberglass insulated duct at sub-basement of pool
60. Grey sealant on metal duct at sub-basement of pool

Sample Results:

Type and Location of Suspect Material	Sample Result
1. Grey sink damproofing at teacher’s room	No Asbestos Detected
2. Soft black glazing caulking for borrowed lite at main lobby	3% Asbestos
3. Vertical white caulking in CMU wall at administrative conference room	2% Asbestos
4. Dark blue vinyl floor tile at cafeteria	No Asbestos Detected
5. Mastic for dark blue vinyl floor tile at cafeteria	No Asbestos Detected
6. White with light blue vinyl floor tile at cafeteria	No Asbestos Detected
7. Mastic for white with light blue vinyl floor tile at cafeteria	No Asbestos Detected
8. White with black/grey vinyl floor tile at exit hall by administrative conference room	No Asbestos Detected
9. Mastic for white/black/grey vinyl floor tile at exit hall by administrative conference room	5% Asbestos
10. White with black/grey vinyl floor tile at exit hall by kitchen	No Asbestos Detected
11. Mastic for white/black/grey vinyl floor tile at exit hall by kitchen	5% Asbestos
12. Exterior window framing caulking at receiving	No Asbestos Detected
13. Exterior window soft brown glazing caulking at receiving	5% Asbestos

14. Exterior window framing caulking at kitchen	No Asbestos Detected
15. Exterior window soft brown glazing caulking at kitchen	2% Asbestos
16. Exterior window framing caulking for transite panel by main entrance II	No Asbestos Detected
17. Exterior transite panel by main entrance II	20% Asbestos
18. Exterior transite panel covering vertical steel column	20% Asbestos
19. Exterior transite panel covering vertical steel column	20% Asbestos
20. Exterior transite panel covering vertical steel column	20% Asbestos
21. Exterior window glazing caulking for transite panel by main entrance II	2% Asbestos
22. Exterior black damproofing behind brick at foundation by kitchen	10% Asbestos
23. Exterior black damproofing behind brick at foundation by kitchen	10% Asbestos
24. Joint compound at column hall by room 620	No Asbestos Detected
25. Joint compound at hall outside library	No Asbestos Detected
26. Joint compound at column by gymnasium	No Asbestos Detected
27. 2' x 2' Suspended acoustical ceiling tile at library computer lab	No Asbestos Detected
28. 2' x 2' Suspended acoustical ceiling tile at third floor copy room	No Asbestos Detected
29. 2' x 2' Suspended acoustical ceiling tile at library conference room	No Asbestos Detected
30. Fireproofing at library	No Asbestos Detected
31. Fireproofing at library	No Asbestos Detected
32. Fireproofing at library	No Asbestos Detected
33. Blown-in insulation in CMU wall at gymnasium	No Asbestos Detected
34. Older caramel vinyl floor tile at little theater storage room	No Asbestos Detected
35. Mastic for older caramel vinyl floor tile at little theater storage room	10% Asbestos
36. Older caramel vinyl floor tile at kitchen storage room	No Asbestos Detected
37. Mastic for older caramel vinyl floor tile at kitchen storage room	10% Asbestos
38. Soft black glazing caulking for vision lite in metal door at room 610	No Asbestos Detected
39. White with black/grey vinyl floor tile at hall outside room 610-B	No Asbestos Detected
40. Mastic for white with black/grey vinyl floor tile at hall outside room 610-B	5% Asbestos
41. White with black/grey vinyl floor tile at second floor hall by stairwell 6	No Asbestos Detected
42. Mastic for white with black/grey vinyl floor tile at second floor hall by stairwell 6	No Asbestos Detected
43. Adhesive for white with black/grey vinyl floor tile at hall outside library	5% Asbestos
44. Black sink damproofing at nurse	No Asbestos Detected
45. Exterior damproofing under brick on foundation at pool building	10% Asbestos
46. Exterior flashing protruding from brick at pool building	10% Asbestos
47. Exterior unit vent grille caulking at pool building	No Asbestos Detected
48. Exterior hidden caulking for transite panel encasing vertical steel column	2% Asbestos
49. Exterior hidden caulking for transite panel encasing vertical steel column	2% Asbestos
50. Transite panel encasing vertical steel column at pool building	20% Asbestos
51. Damproofing on CMU at flower bed at Trolley side	No Asbestos Detected
52. Exterior window framing caulking at Trolley side	No Asbestos Detected
53. Soft black glazing caulking for vision lite in metal door at first floor stairwell door	No Asbestos Detected
54. Joint compound on ceiling soffit at second floor gymnasium lobby	No Asbestos Detected
55. Finish on CMU wall at pool	No Asbestos Detected
56. Adhesive for ceramic baseboard at boy's locker room	No Asbestos Detected
57. Adhesive for ceramic baseboard at pool	No Asbestos Detected
58. Glue tab for fiberglass insulated duct at sub-basement of pool	No Asbestos Detected
59. Glue tab for fiberglass insulated duct at sub-basement of pool	No Asbestos Detected
60. Grey sealant on metal duct at sub-basement of pool	No Asbestos Detected

Observations and Conclusions:

The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Soft black glazing caulking for borrowed lite was found to contain asbestos.
2. Vertical white caulking in CMU wall was found to contain asbestos.
3. Mastic for white with black/grey vinyl floor tile was found to contain asbestos.
4. Mastic for older caramel vinyl floor tile was found to contain asbestos.
5. Exterior window soft brown glazing caulking was found to contain asbestos.
6. Exterior transite panel was found to contain asbestos.
7. Exterior transite panel covering vertical steel column was found to contain asbestos.
8. Exterior window glazing caulking for transite panel was found to contain asbestos.
9. Glue holding tectum deck at the pool building was assumed to contain asbestos.
10. Exterior black damproofing behind brick at foundation was found to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
11. Exterior flashing protruding from brick was found to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
12. Exterior hidden caulking for transite panel encasing vertical steel column was found to contain asbestos.
13. Glue holding blackboard was assumed to contain asbestos.
14. Underground sewer pipes were assumed to contain asbestos.
15. Testing was not performed of the roof to avoid damage/warranty. Therefore, roofing was assumed to contain asbestos. Roofing material does not have to be removed by a licensed asbestos abatement contractor. However, the Contractor must comply with OSHA regulation during demolition and with state regulations for proper disposal. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
16. All other suspect materials were found not to contain asbestos. Hidden ACM may be found during renovation and demolition activities.

Freshmen Academy:

Sixty six (66) bulk samples were collected from materials suspected of containing asbestos, including:

Type and Location of Suspect Material

1. Joint compound at loft above stage
2. Joint compound at hallway by room 712
3. Joint compound at stairwell by room 701
4. Joint compound at classroom 902
5. Joint compound at hallway by room 851
6. Joint compound at classroom 851
7. Swirl joint compound at custodian room by room 703
8. Swirl joint compound at fire panel room
9. 1 ‘ x 1’ Acoustical ceiling tile at basement main corridor
10. 1 ‘ x 1’ Acoustical ceiling tile at basement main corridor
11. 2 ‘ x 2’ Suspended acoustical ceiling tile at hallway by room 851
12. Soft black glazing caulking for vision lite in metal door at rear exit door
13. Soft black glazing caulking for vision lite in metal door at stairwell by elevator
14. Soft black glazing caulking for borrowed lite at classroom 854
15. Soft black glazing caulking for borrowed lite at classroom 704
16. Soft black glazing caulking for vision lite in metal door at stairwell by room 701
17. Wood fire door insulation at hallway storage room
18. Wood fire door insulation at loft above stage
19. Purple sink damproofing at classroom 700
20. Grey sink damproofing at main office kitchen
21. Grey sink damproofing at classroom 720
22. Joint compound at classroom 902

23. Adhesive for rubber flooring at stairwell
24. Adhesive for rubber flooring at stairs up to security
25. Tan duct sealant at third floor HVAC room
26. Tan duct sealant at third floor HVAC room
27. Grey duct sealant at loft above stage
28. Tan sealant around sink drain at classroom 851
29. Black mastic in speaker box at loft above stage
30. Ceiling plaster at custodian room by room 703
31. Ceiling plaster at classroom 851
32. Grey sink damproofing at classroom 851
33. Adhesive on gypsum for green glazed wall tile at basement hallway
34. Light brown vinyl floor tile at kitchen storage room
35. Black mastic for light brown vinyl floor tile at kitchen storage room
36. Light grey/blue vinyl floor tile at stairwell by room 810
37. Light grey/blue vinyl floor tile at classroom 816
38. Light grey vinyl floor tile at hallway by room 810
39. Black mastic for light grey vinyl floor tile at hallway by room 810
40. Light grey vinyl floor tile at classroom 859
41. Black mastic for light grey vinyl floor tile at classroom 859
42. Light grey vinyl floor tile at main corridor by room 813
43. Black mastic for light grey vinyl floor tile at main corridor by room 813
44. Golden brown vinyl floor tile intermixed with light grey tile at classroom 901
45. Black mastic for golden brown vinyl floor tile intermixed with light grey tile at classroom 901
46. Red vinyl floor tile at classroom 856
47. Old tan vinyl floor tile at storage in room 852
48. Black mastic for old tan vinyl floor tile at storage in room 852
49. Leveler for old tan vinyl floor tile at storage in room 852
50. New white/green/red vinyl floor tile at room 717
51. Mastic for new white/green/red vinyl floor tile at room 717
52. Leveler for new white/green/red vinyl floor tile at room 717
53. New white/green/red vinyl floor tile at room 700
54. Mastic for new white/green/red vinyl floor tile at room 700
55. Leveler for new white/green/red vinyl floor tile at room 700
56. Exterior window framing caulking
57. Exterior window framing caulking
58. Exterior window framing caulking
59. Exterior residue door framing caulking
60. Exterior window framing caulking
61. Hard wall plaster at room 717
62. Ceiling plaster at room 717
63. Ceiling plaster at stairwell by room 701
64. Paint on stone foundation under stairs by room 701
65. 2’ x 4’ Suspended acoustical ceiling tile at main corridor by lounge
66. Exposed adhesive on wall for white board at nurse

Sample Results:

Type and Location of Suspect Material	Sample Result
1. Joint compound at loft above stage	No Asbestos Detected
2. Joint compound at hallway by room 712	No Asbestos Detected
3. Joint compound at stairwell by room 701	No Asbestos Detected
4. Joint compound at classroom 902	No Asbestos Detected
5. Joint compound at hallway by room 851	No Asbestos Detected
6. Joint compound at classroom 851	No Asbestos Detected

7. Swirl joint compound at custodian room by room 703	No Asbestos Detected
8. Swirl joint compound at fire panel room	No Asbestos Detected
9. 1 ‘ x 1’ Acoustical ceiling tile at basement main corridor	No Asbestos Detected
10. 1 ‘ x 1’ Acoustical ceiling tile at basement main corridor	No Asbestos Detected
11. 2 ‘ x 2’ Suspended acoustical ceiling tile at hallway by room 851	No Asbestos Detected
12. Soft black glazing caulking for vision lite in metal door at rear exit door	5% Asbestos
13. Soft black glazing caulking for vision lite in metal door at stairwell by elevator	5% Asbestos
14. Soft black glazing caulking for borrowed lite at classroom 854	5% Asbestos
15. Soft black glazing caulking for borrowed lite at classroom 704	5% Asbestos
16. Soft black glazing caulking for vision lite in metal door at stairwell by room 701	5% Asbestos
17. Wood fire door insulation at hallway storage room	No Asbestos Detected
18. Wood fire door insulation at loft above stage	No Asbestos Detected
19. Purple sink damproofing at classroom 700	10% Asbestos
20. Grey sink damproofing at main office kitchen	No Asbestos Detected
21. Grey sink damproofing at classroom 720	No Asbestos Detected
22. Joint compound at classroom 902	No Asbestos Detected
23. Adhesive for rubber flooring at stairwell	No Asbestos Detected
24. Adhesive for rubber flooring at stairs up to security	No Asbestos Detected
25. Tan duct sealant at third floor HVAC room	No Asbestos Detected
26. Tan duct sealant at third floor HVAC room	No Asbestos Detected
27. Grey duct sealant at loft above stage	No Asbestos Detected
28. Tan sealant around sink drain at classroom 851	2% Asbestos
29. Black mastic in speaker box at loft above stage	10% Asbestos
30. Ceiling plaster at custodian room by room 703	No Asbestos Detected
31. Ceiling plaster at classroom 851	No Asbestos Detected
32. Grey sink damproofing at classroom 851	No Asbestos Detected
33. Adhesive on gypsum for green glazed wall tile at basement hallway	No Asbestos Detected
34. Light brown vinyl floor tile at kitchen storage room	No Asbestos Detected
35. Black mastic for light brown vinyl floor tile at kitchen storage room	No Asbestos Detected
36. Light grey/blue vinyl floor tile at stairwell by room 810	No Asbestos Detected
37. Light grey/blue vinyl floor tile at classroom 816	No Asbestos Detected
38. Light grey vinyl floor tile at hallway by room 810	No Asbestos Detected
39. Black mastic for light grey vinyl floor tile at hallway by room 810	No Asbestos Detected
40. Light grey vinyl floor tile at classroom 859	No Asbestos Detected
41. Black mastic for light grey vinyl floor tile at classroom 859	No Asbestos Detected
42. Light grey vinyl floor tile at main corridor by room 813	No Asbestos Detected
43. Black mastic for light grey vinyl floor tile at main corridor by room 813	No Asbestos Detected
44. Golden brown vinyl floor tile intermixed with light grey tile at classroom 901	No Asbestos Detected
45. Mastic for golden brown vinyl floor tile intermixed with light grey tile at classroom 901	No Asbestos Detected
46. Red vinyl floor tile at classroom 856	No Asbestos Detected
47. Old tan vinyl floor tile at storage in room 852	No Asbestos Detected
48. Black mastic for old tan vinyl floor tile at storage in room 852	No Asbestos Detected
49. Leveler for old tan vinyl floor tile at storage in room 852	No Asbestos Detected
50. New white/green/red vinyl floor tile at room 717	No Asbestos Detected
51. Mastic for new white/green/red vinyl floor tile at room 717	No Asbestos Detected
52. Leveler for new white/green/red vinyl floor tile at room 717	No Asbestos Detected
53. New white/green/red vinyl floor tile at room 700	No Asbestos Detected
54. Mastic for new white/green/red vinyl floor tile at room 700	No Asbestos Detected
55. Leveler for new white/green/red vinyl floor tile at room 700	No Asbestos Detected
56. Exterior window framing caulking	No Asbestos Detected
57. Exterior window framing caulking	No Asbestos Detected
58. Exterior window framing caulking	No Asbestos Detected
59. Exterior residue door framing caulking	No Asbestos Detected
60. Exterior window framing caulking	No Asbestos Detected
61. Hard wall plaster at room 717	No Asbestos Detected

62. Ceiling plaster at room 717 — No Asbestos Detected
63. Ceiling plaster at stairwell by room 701 — No Asbestos Detected
64. Paint on stone foundation under stairs by room 701 — No Asbestos Detected
65. 2' x 4' Suspended acoustical ceiling tile at main corridor by lounge — No Asbestos Detected
66. Exposed adhesive on wall for white board at nurse — No Asbestos Detected

Observations and Conclusions:
The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Soft black glazing caulking for vision lite in metal door was found to contain asbestos.
2. Soft black glazing caulking for borrowed lite was found to contain asbestos.
3. Purple sink damproofing was found to contain asbestos.
4. Tan sealant around sink drain was found to contain asbestos.
5. Black mastic in speaker box was found to contain asbestos.
6. Underground sewer pipes were assumed to contain asbestos.
7. Damproofing on exterior and foundation walls was assumed to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
8. Testing was not performed of the roof to avoid damage. Therefore, roofing was assumed to contain asbestos. However, roofing does not have to be removed by a licensed asbestos abatement contractor. Roofing material does not have to be removed by a licensed asbestos contractor. However, the General Contractor must comply with OSHA regulation during demolition and with state regulations for proper disposal. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
9. All other suspect materials were found not to contain asbestos. Hidden ACM may be found during renovation and demolition activities.

Steam Plant:

Sixteen (16) bulk samples were collected from materials suspected of containing asbestos, including:

Type and Location of Suspect Material

1. Interior door framing caulking at entrance to generator room
2. Interior door framing caulking at entrance to generator room
3. Generator exhaust insulation
4. Generator exhaust insulation
5. Generator exhaust insulation
6. Tan cement in boiler end section
7. Tan cement in boiler end section
8. Paint on brick wall
9. Paint on brick wall
10. Paint on concrete floor
11. Exterior window framing caulking
12. Exterior window framing caulking
13. Exterior unit vent grille caulking
14. Glazing caulking for small window in old wood door
15. Glazing caulking for small window in old wood door
16. Old brick floor in front on boilers

Sample Results:

Type and Location of Suspect Material	Sample Result
1. Interior door framing caulking at entrance to generator room	No Asbestos Detected
2. Interior door framing caulking at entrance to generator room	No Asbestos Detected
3. Generator exhaust insulation	No Asbestos Detected
4. Generator exhaust insulation	No Asbestos Detected
5. Generator exhaust insulation	No Asbestos Detected
6. Tan cement in boiler end section	No Asbestos Detected
7. Tan cement in boiler end section	No Asbestos Detected
8. Paint on brick wall	No Asbestos Detected
9. Paint on brick wall	No Asbestos Detected
10. Paint on concrete floor	No Asbestos Detected
11. Exterior window framing caulking	No Asbestos Detected
12. Exterior window framing caulking	No Asbestos Detected
13. Exterior unit vent grille caulking	No Asbestos Detected
14. Glazing caulking for small window in old wood door	No Asbestos Detected
15. Glazing caulking for small window in old wood door	No Asbestos Detected
16. Old brick floor in front on boilers	No Asbestos Detected

1. Pipe insulation was assumed to contain asbestos. The insulation was found in metal elevated enclosure leaving the plant to Freshmen Academy.
2. Exterior flashing protruding from foundation was found to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
3. Underground sewer pipes were assumed to contain asbestos.
4. Damproofing on exterior and foundation walls was assumed to contain asbestos. The demolition contractor will have to segregate the ACM from non-ACM building surfaces for proper disposal in an EPA approved landfill that does not recycle. A non-traditional abatement plan would have to be prepared and submitted to the DEP for approval.
5. All other suspect materials were found not to contain asbestos. Hidden ACM may be found during renovation and demolition activities.

Polychlorinated Biphenyls (PCB's)-Electrical Equipment and Light Fixtures:

Observations and Conclusions:

Visual inspection of various equipments such as light fixtures, thermostats, exit signs and switches was performed for the presence of PCB's and mercury. Ballasts in light fixtures were assumed not to contain PCB's since there were labels indicating that "No PCB's" was found. Tubes in light fixtures, thermostats, signs and switches were assumed to contain mercury. It would be very costly to test those equipments and dismantling would be required to access. Therefore, the above mentioned equipments should be considered to contain PCB's and mercury and disposed in an EPA approved landfill as part of the demolition project.

PCB's in Caulking:

PCB's are manmade chemicals that were widely produced and distributed across the country from the 1950s to 1977 until the production of PCB's was banned by the US Environmental Protection Agency (EPA) law which became effective in 1978. PCB's are a class of chemicals made up of more than 200 different compounds. PCB's are non-flammable, stable, and good insulators so they were widely used in a variety of products including: electrical transformers and capacitors, cable and wire coverings, sealants and caulking, and household products such as television sets and fluorescent light fixtures. Because of their chemical properties, PCB's are not very soluble in water and they do not break down easily in the environment. PCB's also do not readily evaporate into air but tend to remain as solids or thick liquids. Even though PCB's have not been produced or used in the country for more than

30 years, they are still present in the environment in the air, soil, and water and in our food. EPA requires that all construction waste including caulking be disposed as PCB's if PCB's level exceed 50 mg/kg (ppm). An abatement plan might also be required.

Observations and Conclusions:
Building materials and caulking were assumed to contain PCB's.

Lead Based Paint (LBP):
Observations and Conclusions:
LBP was assumed to exist on painted surfaces in all areas constructed prior to 1978. A school is not considered a regulated facility. All LBP activities performed, including waste disposal, should be in accordance with applicable Federal, State, or local laws, ordinances, codes or regulations governing evaluation and hazard reduction. In the event of discrepancies, the most protective requirements prevail. These requirements can be found in OSHA 29 CFR 1926-Construction Industry Standards, 29 CFR 1926.62-Construction Industry Lead Standards, 29 CFR 1910.1200-Hazards Communication, 40 CFR 261-EPA Regulations. According to OSHA, any amount of LBP triggers compliance.

Mercury in Rubber Flooring:

Lord Building/Field House:

Number of Samples Collected:

Two (2) bulk samples were collected from the rubber flooring:

Type and Location of Suspect Material

1. Rubber floor at gymnasium
2. Rubber floor at gymnasium ramp down to pool

Sample Results:

Type and Location of Suspect Material	Sample Result
1. Rubber floor at gymnasium	90 mg/kg
2. Rubber floor at gymnasium ramp down to pool	60 mg/kg

Observations and Conclusions:
Samples results of the rubber flooring indicated the presence of high level of mercury. Mercury was assumed to have leached into the concrete slab. Sampling would be required to determine extent of contamination/leaching.

Airborne Mold:
Airborne mold testing was performed utilizing Zefon International Incorporated's Air-O-Cell® sampling device following all manufacturer supplied recommended sampling procedures. Air-O-Cell® is a direct read total particulate air sampling device. It works using the inertial impaction principle similar to other spore trap devices. It is designed for the rapid collection and analysis of airborne particulate including bioaerosols. The particulate includes fibers (e.g. asbestos, fiberglass, cellulose, clothing fibers) opaque particles (e.g. fly ash, combustion particles, copy toner, oil droplets, paint), and bioaerosols (e.g. mold spores, pollen, insect parts, skin cell fragments).[1]

[1] Zefon International Inc. <www.zefon.com>

The method involves drawing a known quantity of air through a sterile sampling cassette. Subsequent to sampling, the cassette is sealed and transferred to a microbiology laboratory under chain of custody protocol for microscopic analysis. This method counts both viable and nonviable mold spores.

There are currently no guidelines or standards promulgated by a government agency or widely recognized scientific organizations for the interpretation of airborne mold spore levels. The most commonly employed tool used to assess if mold growth is occurring and there is amplification in a structure is to evaluate the indoor levels and species as well as to compare levels and species of mold outdoors to indoors. Typically, if there were more molds indoors, and/or if species were present indoors which were not present outdoors, then growth and amplification is likely occurring and further evaluation and perhaps remediation is recommended.

Kouloheras/Coburn/1997 Addition:

AIRBORNE MOLD and PARTICULATE

Lab ID #	Location	Total Mold Counts/M^3	Pollen	Insect Fragment	Hyphal Fragments
131604602-0001	Classroom 014	4,470	ND	ND	ND
131604602-0002	Custodian Room by Stairwell C	14,197	20	7	40
131604602-0003	Band Storage Room	4,671	20	ND	ND
131604602-0004	Classroom 029	8,520	10	ND	20
131604602-0005	Classroom 028	11,287	10	ND	20
131604602-0006	Classroom 012	11,387	10	ND	ND
131600829-0007	Outside of Building	17,807	70	ND	20

AIRBORNE MOLD and PARTICULATE
(Subjective Scales)

Lab ID #	Location	Skin Fragment Density (SFD)	Fibrous Particulates (FP)	Total Background Particulate (TBP)
131604602-0001	Classroom 014	2	1	1
131604602-0002	Custodian Room by Stairwell C	2	1	3
131604602-0003	Band Storage Room	2	1	2
131604602-0004	Classroom 029	2	1	3
131604602-0005	Classroom 028	2	1	2
131604602-0006	Classroom 012	2	1	2
131604602-0007	Outside of Building	1	1	3

Observations and Conclusions:
The indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered high. Indoor mold spore counts in early fall are typically in the 4,500-6,500-spores/cubic meter range.

Breathing zone indoor samples indicated the presence of several common types of mold which are not considered to be hazardous and were also found outside. Levels inside are most likely being migrated from outside, which might indicate the higher levels of certain types of mold.

Pollen, insect fragments and Hyphal fragments were either not present or low in the samples. Hyphal fragment is a non-reproductive part of the mold.

Total background particulate on all samples was assessed as "1-3" on a scale of 1-5 where 1 is low and 5 is high. Skin fragment density on all samples was assessed as "1-2" on a scale of 1-4 where 1 is low and 4 is high. The total background levels are measured to determine airborne dust not related to airborne mold. Skin fragments are measured to determine proper housing cleaning.

Lord Building/Field House:

AIRBORNE MOLD and PARTICULATE

Lab ID #	Location	Total Mold Counts/M^3	Pollen	Insect Fragment	Hyphal Fragments
131604500-0001	Hallway by Room 432-A	1,797	ND	ND	ND
131604500-0002	Cafeteria	3,374	ND	ND	ND
131604500-0003	Hallway by Nurse	1,300	10	ND	ND
131604500-0004	Administrative Conference Room	3,361	ND	7	ND
131604500-0005	Hallway by Security	1,304	ND	ND	ND
131604500-0006	Hallway by Receiving	8,227	10	ND	ND
131604500-0007	Outside of Building	10,170	ND	ND	ND

AIRBORNE MOLD and PARTICULATE
(Subjective Scales)

Lab ID #	Location	Skin Fragment Density (SFD)	Fibrous Particulates (FP)	Total Background Particulate (TBP)
131604500-0001	Hallway by Room 432-A	2	1	2
131604500-0002	Cafeteria	3	1	3
131604500-0003	Hallway by Nurse	2	1	2
131604500-0004	Administrative Conference Room	2	1	1
131604500-0005	Hallway by Security	1	1	1
131604500-0006	Hallway by Receiving	3	1	2
131604500-0007	Outside of Building	1	1	1

Legend:
ND - Not Detected

Observations and Conclusions:
The indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne

levels are considered low. Indoor mold spore counts in late summer are typically in the 6,500-9,500-spores/cubic meter range.

Breathing zone indoor samples indicated the presence of several common types of mold which are not considered to be hazardous and were also found outside.

Pollen, insect fragments and Hyphal fragments were either not present or low in the samples. Hyphal fragment is a non-reproductive part of the mold.

Total background particulate on all samples was assessed as "1-2" on a scale of 1-5 where 1 is low and 5 is high. Skin fragment density on all samples was assessed as "1" on a scale of 1-4 where 1 is low and 4 is high. The total background levels are measured to determine airborne dust not related to airborne mold. Skin fragments are measured to determine proper housing cleaning.

Freshmen Academy:

AIRBORNE MOLD and PARTICULATE

Lab ID #	Location	Total Mold Counts/M^3	Pollen	Insect Fragment	Hyphal Fragments
131604840-0001	Classroom 702	1,920	ND	ND	ND
131604840-0002	Classroom 703	3,337	ND	ND	ND
131604840-0003	Hallway by Classroom 704	2,764	7	ND	ND
131604840-0004	Classroom 701	1,580	ND	ND	ND
131604840-0005	Classroom 704	2,267	ND	ND	ND
131604840-0006	Theater	2,257	ND	ND	ND
131600829-0007	Outside Building	5,640	10	ND	ND

AIRBORNE MOLD and PARTICULATE
(Subjective Scales)

Lab ID #	Location	Skin Fragment Density (SFD)	Fibrous Particulates (FP)	Total Background Particulate (TBP)
131604840-0001	Classroom 702	3	1	3
131604840-0002	Classroom 703	3	1	2
131604840-0003	Hallway by Classroom 704	3	1	4
131604840-0004	Classroom 701	3	1	3
131604840-0005	Classroom 704	2	1	2
131604840-0006	Theater	2	1	1
131600829-0007	Outside Building	1	1	2

Observations and Conclusions:
The indoor airborne mold spore concentrations were lower than the outside sample. Based on comparisons with historical data from projects of similar type, building utilization, geographic location and season, the indoor airborne levels are considered low. Indoor mold spore counts in early fall are typically in the 4,500-6,500-spores/cubic meter range.

Breathing zone indoor samples indicated the presence of several common types of mold which are not considered to be hazardous and were also found outside.

Pollen, insect fragments and Hyphal fragments were either not present or low in the samples. Hyphal fragment is a non-reproductive part of the mold.

Total background particulate on all samples was assessed as "1-3" on a scale of 1-5 where 1 is low and 5 is high. Skin fragment density on all samples was assessed as "1-3" on a scale of 1-4 where 1 is low and 4 is high. The total background levels are measured to determine airborne dust not related to airborne mold. Skin fragments are measured to determine proper housing cleaning.

Radon:

Number of Samples Collected

Kouloheras/Coburn/1997 Addition:

Number of Samples Collected

Seven (7) air samples were collected at the following locations:

Location of Material

1. Basement room 014
2. Basement custodian stairwell
3. Basement band storage room
4. Basement room 029
5. Basement room 028
6. Basement fan room
7. Basement room 012

Sample Results:

Location of Material	Sample Result
1. Basement room 014	0.7 pCi/L
2. Basement custodian stairwell	<0.4 pCi/L
3. Basement band storage room	0.5 pCi/L
4. Basement room 029	0.5 pCi/L
5. Basement room 028	0.4 pCi/L
6. Basement fan room	0.5 pCi/L
7. Basement room 012	<0.4 pCi/L

Observations and Conclusions:
The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

Lord Building/Field House:

Six (6) air samples were collected at the following locations:

Location of Material

1. First floor main office

2. First floor student postings storage room
3. First floor custodial room
4. First floor administrative conference room
5. First floor athletic director office
6. First floor teacher's room

Sample Results:

Location of Material	Sample Result
1. First floor main office	<0.4 pCi/L
2. First floor student postings storage room	<0.4 pCi/L
3. First floor custodial room	<0.4 pCi/L
4. First floor administrative conference room	<0.4 pCi/L
5. First floor athletic director office	<0.4 pCi/L
6. First floor teacher's room	<0.4 pCi/L

Observations and Conclusions:
The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L). No further action is required.

Freshmen Academy:

Number of Samples Collected

Seven (7) air samples were collected at the following locations:

Location of Material

1. Basement room 702
2. Basement room 703
3. Basement storage room 703/704
4. Basement storage room 701/702
5. Basement room 704
6. Basement room 705
7. Basement small hall rear of stage

Sample Results:

Location of Material	Sample Result
1. Basement room 702	1.3 pCi/L
2. Basement room 703	1.4 pCi/L
3. Basement storage room 703/704	2.2 pCi/L
4. Basement storage room 701/702	6.2 pCi/L
5. Basement room 704	0.9 pCi/L
6. Basement room 705	0.7 pCi/L
7. Basement small hall rear of stage	1.1 pCi/L

Observations and Conclusions:
The measured radon concentrations of the samples were found to be lower than the EPA guideline of 4 picoCuris of radon per liter of air (pCi/L) with the exception of one sample collected Basement storage room 701/702 (6.2 pCi/L). A mitigation system is recommended. No further action is required at other areas.

3.0 COST ESTIMATES:

The cost includes removal and disposal of all accessible ACM, other hazardous material and an allowance for removal of inaccessible or hidden ACM that may be found during renovation or demolition project. No additional suspect and accessible ACM were found during this survey. Hidden ACM may be found during renovation or demolition activities. Quantities listed below were based on actual field measurement and should be within 5% +/-.

Location	Material	Approximate Quantity	Cost Estimate ($)
Kouloheras/Coburn/1997 Addition:			
	Glue Daub on Ceiling Plaster	4,000 SF	20,000.00
	Borrowed lite	500 Total	50,000.00
	Vision Lite Windows in Doors	125 Total	25,000.00
	Flooring Materials and Mastic	43,000 SF	172,000.00
	Chalkboards	500 Total	75,000.00
	Miscellaneous Hazardous Materials and Hidden ACM	Unknown	25,000.00
	Light Fixtures Tubes	6,500 Total	65,000.00
Bridges	Transite Panels	1,600 SF	16,000.00
Stage	Fire Curtain	1 Total	7,500.00
Science Rooms	Transite Tables	25 Total	12,500.00
Basement Fan Room	Pipe Insulation	50 LF	2,500.00
Exterior	Doors	30 Total	6,000.00
	Roofing Materials	58,900 SF	176,700.00
	Transite Sewer Pipes	Unknown[1]	25,000.00
	Thru-Wall Flashing	Unknown[1]	25,000.00
	Damproofing on Exterior and Foundation Walls	2,000 Tons[1]	250,000.00
PCB's Remediation[2]			50,000.00
Estimated costs for PCB's Testing and Abatement Plans Services[2]			10,000.00
Estimated costs for NESHAP Inspection and Testing Services			12,500.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			99,300.00
		TOTAL:	**$ 1,125,000.00**
Lord Building/Field House:			
	Borrowed lite	425 Total	63,750.00
	Interior Vertical Caulking in CMU	3,500 LF	35,000.00
	Various Types of Flooring Materials and Mastic	95,000 SF	380,000.00
	Tectum Deck and Glue	7,500 SF	35,000.00
	Chalkboards	125 Total	25,000.00
	Miscellaneous Hazardous Materials	Unknown	25,000.00
	Hidden ACM	Unknown	25,000.00
	Light Fixtures Tubes	6,500 Total	65,000.00
Gymnasium/Ramp	Rubber Flooring/Cement	25,000 SF	250,000.00
Exterior	Windows	550 Total	137,500.00
	Transite Panels	8,000 SF	80,000.00
	Caulking on Transite Panels	5,000 LF	25,000.00

Location	Material	Approximate Quantity	Cost Estimate ($)
	Roofing Materials	51,720 SF	155,160.00
	Transite Sewer Pipes	Unknown[1]	25,000.00
	Thru-Wall Flashing	1,250 LF[1]	25,000.00
	Damproofing on Exterior and Foundation Walls	4,500 Tons[1]	562,500.00
PCB's Remediation[2]			250,000.00
Estimated costs for PCB's Testing and Abatement Plans Services[2]			50,000.00
Estimated costs for NESHAP Inspection and Testing Services			12,500.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			198,590.00
		TOTAL:	**$ 2,425,000.00**
Freshmen Academy:			
	Borrowed lite	230 Total	46,000.00
	Vision Lite Windows in Doors	27 Total	2,700.00
	Mastic on Speaker Boxes	70 Total	3,500.00
	Sinks	25 Total	2,500.00
	Sinks Drains	35 Total	3,500.00
	Miscellaneous Hazardous Materials and Hidden ACM	Unknown	5,000.00
	Light Fixtures Tubes	3,500 Total	35,000.00
Exterior	Roofing Materials	31,970 SF	95,910.00
	Transite Sewer Pipes	Unknown[1]	25,000.00
	Thru-Wall Flashing	Unknown[1]	25,000.00
	Damproofing on Exterior and Foundation Walls	1,000 Tons[1]	125,000.00
PCB's Remediation[2]			25,000.00
Estimated costs for PCB's Testing and Abatement Plans Services[2]			10,000.00
Estimated costs for NESHAP Inspection and Testing Services			8,500.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			47,390.00
		TOTAL:	**$ 460,000.00**
Steam Plant:			
	Pipe Insulation	90 LF	6,500.00
	Miscellaneous Hazardous Materials and Hidden ACM	Unknown	2,000.00
	Light Fixtures Tubes	250 Total	2,500.00
Exterior	Roofing Materials	2,111 SF	6,333.00
	Thru-Wall Flashing	Unknown[1]	5,000.00
	Damproofing on Foundation Walls	Unknown[1]	25,000.00
Estimated costs for Design, Construction Monitoring and Air Sampling Services			9,667.00
Multiple Phasing cost			123,000.00
		TOTAL:	**$ 57,000.00**
		GRAND TOTAL:	**$ 4,200,000.00**

[1]: Part of total demolition/Site Work.

[2]: Should results exceed EPA limit.

4.0 DESCRIPTION OF SURVEY METHODS AND LABORATORY ANALYSES:

Asbestos:
Asbestos samples were collected using a method that prevents fiber release. Homogeneous sample areas were determined by criteria outlined in EPA document 560/5-85-030a. Bulk material samples were analyzed using PLM and dispersion staining techniques with EPA method 600/M4-82-020 by an EPA licensed laboratory Asbestos Identification Laboratory, Woburn, MA..

Mercury in Rubber Flooring:
Bulk sample was analyzed in accordance with EPA method 7471B by an EPA approved laboratory EMSL, Cinnaminson, NJ.

Airborne Mold:
The samples were analyzed by an EPA approved laboratory EMSL, Woburn, MA.

Radon:
Radon samples were analyzed by an EPA licensed laboratory AccuStar, Medway, MA.

5.0 LIMITATIONS AND CONDITIONS:

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.

Inspected By:



Leonard J. Busa
Asbestos Inspector (AI-030673)

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
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Batch: 16650

NVLAP®
Lab Code: 200919-0

October 07, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Koulcheras/Coburn
Date Sampled: 2016-10-04
Work Received: 2016-10-05
Work Analyzed: 2016-10-06

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning
Owner/Director

October 07, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Koulcheras/Coburn
Date Sampled: 2016-10-04
Work Received: 2016-10-05
Work Analyzed: 2016-10-06

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1 / 183694	Bedding/Adh for 2" Ceramic Floor	Bsmt Cust Rm by SW 'C'	gray	Non-Fibrous 100	None Detected
2 / 183695	Cementitious Painted Floor	Bsmt Main Corridor	gray	Non-Fibrous 100	None Detected
3 / 183696	Suspect Lab Table	C'rm #314	gray	Non-Fibrous 80	**Detected** Chrysotile 20
4 / 183697	Adhesive for Tectum Wall Panel	Bsmt Htg Rm-23	brown	Non-Fibrous 100	None Detected
5 / 183698	Adh for Tectum Wall Panel	Bsmt Htg Rm-23	brown	Non-Fibrous 100	None Detected
6 / 183699	White Fire Block	Bsmt Htg Rm-23, Above Door	gray	Cellulose 2 Non-Fibrous 98	None Detected
7 / 183700	Grey Duct Sealant	Teacher's Center Attic	gray	Non-Fibrous 100	None Detected
8 / 183701	Lime-Grey Duct Sealant	Attic Above Cust Closet by SW 'F"	gray	Non-Fibrous 100	None Detected
9 / 183702	Wood Fire Door-I	Bsmt SW- A	white	Cellulose 40 Non-Fibrous 60	None Detected
10 / 183703	Wood Fire Door-II	2nd FL Auditorium Lobby (By Rm 147)	white	Cellulose 50 Non-Fibrous 50	None Detected
11 / 183704	White Brick Mortar	Teache's Center Attic	gray	Non-Fibrous 100	None Detected
12 / 183705	Fire Proofing	Auditorium Lobby	gray	Cellulose 50 Non-Fibrous 50	None Detected
13 / 183706	Fire Proofing	Auditorium Lobby	gray	Cellulose 50 Non-Fibrous 50	None Detected
14 / 183707	Hard Tan Glazing for Mesh Window in Wood Door	C'rm 133	tan	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15 / 183708	Soft Black Glazing for Interior (Square Mesh) Window	2nd FL SW- D	black	Non-Fibrous 97	**Detected** Chrysotile 3
16 / 183709	Hard Grey GL for Interior (Square Mesh) Window	2nd FL SW- D	gray	Non-Fibrous 98	**Detected** Chrysotile 2
17 / 183710	Hd Grey GL for Interior (Square Mesh) Window	Bsmt SW-H	gray	Non-Fibrous 100	None Detected
18 / 183711	Soft Black FL for Interior (Square Mesh) Window	1st FL SW-H	black	Cellulose 15 Non-Fibrous 85	None Detected
19 / 183712	2x2 SAT-I	Band Storage- Bsmt	gray	Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
20 / 183713	2x2 SAT-I	Auditorium Lobby	gray	Mineral Wool 20 Cellulose 70 Non-Fibrous 10	None Detected
21 / 183714	2x2 SAT-I	Teacher's Center	gray	Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
22 / 183715	Blue Spot-Dark Grey Lino	C'rm 017	gray	Non-Fibrous 100	None Detected
23 / 183716	Grey Spot Lino	Bridge-I	gray	Cellulose 5 Non-Fibrous 95	None Detected
24 / 183717	Grey Spot-Light Grey Lino	Bridge-II (New Bridge)	gray	Non-Fibrous 100	None Detected
25 / 183718	Adhesive #23	Bridge-I	yellow	Cellulose 5 Non-Fibrous 95	None Detected
26 / 183719	Joint Compound (JC)	C'rm #12	white	Non-Fibrous 100	None Detected
27 / 183720	JC	Htg Rm- 23	white	Non-Fibrous 100	None Detected
28 / 183721	JC (Clg)	Cust Area, Bsmt by SW- C	white	Non-Fibrous 100	None Detected
29 / 183722	JC	1st FL by 139, @ Column-Fusebox	white	Non-Fibrous 100	None Detected
30 / 183723	JC	Sm Mech Rm, Bsmt by SW- A	white	Non-Fibrous 100	None Detected
31 / 183724	JC	Teacher's Center, Hall	white	Non-Fibrous 100	None Detected
32 / 183725	JC	Hall Outside Lockers by 136	white	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
33 / 183726	JC	Cust Closet by 223	white	Non-Fibrous 100	None Detected
34 / 183727	JC Behind Ceramic Wall @ Edge	@ Bubbler by 2nd FL Elevator	white	Non-Fibrous 100	None Detected
35 / 183728	Grey w/ Brown Grey White VT	Upper Level Above Teacher's Ctr, Main Floor	gray	Non-Fibrous 100	None Detected
36 / 183729	Adhesive #35	Upper Level Above Teacher's Ctr, Main Floor	tan	Non-Fibrous 100	None Detected
37 / 183730	Grey w/ Brown Grey White VT	Upper Level Above Teacher's Ctr, Book Rm	gray	Non-Fibrous 100	None Detected
38 / 183731	Adh #37	Upper Level Above Teacher's Ctr, Book Rm	tan	Non-Fibrous 100	None Detected
39 / 183732	Dk Blue VT	C'rm 105 Closet	gray	Non-Fibrous 100	None Detected
40 / 183733	Adhesive #39	C'rm 105 Closet	yellow	Non-Fibrous 100	None Detected
41 / 183734	Dark Blue VT	Teacher's Ctr- Kitchen	blue	Non-Fibrous 100	None Detected
42 / 183735	Adh/BL M #41	Teacher's Ctr- Kitchen	black	Non-Fibrous 100	None Detected
43 / 183736	Dark Blue VT	C'rm 28	blue	Non-Fibrous 100	None Detected
44 / 183737	Light Blue VT	ROTC Storage	blue	Non-Fibrous 100	None Detected
45 / 183738	Carmel VT	Top of SW-I (Eye) 3rd FL Plant Room	tan	Non-Fibrous 100	None Detected
46 / 183739	Adh #45	Top of SW-I (Eye) 3rd FL Plant Room	yellow	Non-Fibrous 100	None Detected
47 / 183740	White w/ Black Grey VT	End of Bridge, SW	multi	Non-Fibrous 100	None Detected
48 / 183741	White w/ Blue Spots VT	Hall Outside Teacher's Ctr (By 305)	multi	Non-Fibrous 100	None Detected
49 / 183742	BL M #48	Hall Outside Teacher's Ctr (By 305)	black	Non-Fibrous 100	None Detected
50 / 183743	Sea Green VT Inter Mixed w/ #48	Hall Outside Teacher's Ctr (By 305)	black	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
51 / 183744	BL M #50	Hall Outside Teacher's Ctr (By 305)	black	Non-Fibrous 100	None Detected
52 / 183745	White w/ Blue Spots VT	C'rm 314	multi	Non-Fibrous 100	None Detected
53 / 183746	White w/ Blue Spots VT	Bsmt- ROTC Hall	multi	Non-Fibrous 100	None Detected
54 / 183747	BL M #53	Bsmt- ROTC Hall	black	Non-Fibrous 100	None Detected
55 / 183748	BL M for White w/ Blue Spots VT	Bsmt- ROTC Hall	black	Cellulose 5 Non-Fibrous 95	None Detected
56 / 183749	Light Grey w/ White VT	SW-I Bsmt	tan	Non-Fibrous 98	**Detected** **Chrysotile 2**
57 / 183750	BL M #56	SW-I Bsmt	black	Non-Fibrous 100	None Detected
58 / 183751	VT Under Plywood Under Carpet	C'rm 117	green	Non-Fibrous 100	None Detected
59 / 183752	BL M #58	C'rm 117	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
60 / 183753	VT Under Plywood Under Carpet	Storage Rm 126-A	white	Non-Fibrous 100	None Detected
61 / 183754	BL M #60	Storage Rm 126-A	black	Non-Fibrous 97	**Detected** **Chrysotile 3**
62 / 183755	Ceiling Plaster (CP)	Cust CL, 3rd FL by SW- F	white	Hair 5 Non-Fibrous 95	None Detected
63 / 183756	CP	Bsmt- Band Storage	gray	Non-Fibrous 100	None Detected
64 / 183757	Glue Daub #63	Bsmt- Band Storage	brown	Non-Fibrous 97	**Detected** **Chrysotile 3**
65 / 183758	Wall Plaster (WP)	Teacher's Ctr- Teach Out Room	gray	Non-Fibrous 100	None Detected
66 / 183759	WP	Auditorium @ Balcony	gray	Non-Fibrous 100	None Detected
67 / 183760	WP	3rd FL SW-I (Eye)	gray	Non-Fibrous 100	None Detected
68 / 183761	WP	C'rm 105 Closet	gray	Hair 2 Non-Fibrous 98	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
69 / 183762	WP	C'rm 110	gray	Hair 3 Non-Fibrous 97	None Detected
70 / 183763	WP	C'rm 323	white	Non-Fibrous 100	None Detected
71 / 183764	CP	MC by C'rm 220	gray	Non-Fibrous 100	None Detected
72 / 183765	CP	MC by C'rm 321	gray	Hair 3 Non-Fibrous 97	None Detected
73 / 183766	Fire Proofing	Hall by 352	gray	Cellulose 40 Non-Fibrous 60	None Detected
74 / 183767	Hard Tan GL for Mesh Window in Wood Door	C'rm 323	tan	Non-Fibrous 100	None Detected
75 / 183768	JC Behind Ceramic Wall @ Edge	Boy's Rm by 203	white	Non-Fibrous 100	None Detected
76 / 183769	Hard Black Lab Table (Non-Susp)	C'rm 304	black	Non-Fibrous 100	None Detected
77 / 183770	Slate Chalk-Board	C'rm 329	black	Non-Fibrous 100	None Detected
78 / 183771	White Residue on #77	C'rm 329	white	Non-Fibrous 100	None Detected
79 / 183772	WP	C'rm 304 Side Rm	gray	Non-Fibrous 100	None Detected
80 / 183773	Concrete Slab Under Hdwd Floor	Rear Hall of Rm 220-C	gray	Non-Fibrous 100	None Detected
81 / 183774	Hard Tan GL for Mesh Window in Wood Door	C'rm #131	tan	Cellulose 2 Non-Fibrous 98	None Detected
82 / 183775	Hard Grey GL for Square Mesh Window in Metal Door	1st FL SW- H	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
83 / 183776	Hd Grey GL for Square Mesh Window in Metal Door	2nd FL SW- H	gray	Non-Fibrous 100	None Detected
84 / 183777	Hd Grey GL for Diamond Mesh Window in Metal Door	Rear Hall of Room 220-C	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
85 / 183778	Window Frame Caulk	Bsmt, Canal Side, Exterior	gray	Non-Fibrous 100	None Detected
86 / 183779	Win Fr	Bsmt, Side Alley, Exterior	gray	Fiberglass 3 Non-Fibrous 97	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
87 / 183780	Win Fr	Bsmt, Kirk Street, Exterior	gray	Fiberglass 5 Non-Fibrous 95	None Detected
88 / 183781	Win Fr	Bsmt, Canal Side (By Coburn), Exterior	gray	Fiberglass 5 Non-Fibrous 95	None Detected
89 / 183782	Win Fr	2nd FL, C'rm 220, Exterior	gray	Fiberglass 5 Non-Fibrous 95	None Detected
90 / 183783	Win Fr	2nd FL SW by 210, Exterior	gray	Fiberglass 5 Non-Fibrous 95	None Detected
91 / 183784	Door Fr	Canal Side, Exterior	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
92 / 183785	Residue Door Fr on Brick Next to Door w/ New Caulking	Canal Side, Exterior	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
93 / 183786	Door Fr	Kirk Street, Exterior	gray	Non-Fibrous 98	**Detected** **Chrysotile 2**
94 / 183787	Horiz White Caulk in Sill	Coburn Hall @ Kirk St, Exterior	gray	Non-Fibrous 100	None Detected
95 / 183788	Verticle White Caulk-II	Coburn Hall @ Kirk St, Exterior	gray	Non-Fibrous 100	None Detected
96 / 183789	Dark Blue w/ Blue Spots Lino (Same as #22)	Coburn Bsmt SW	multi	Non-Fibrous 100	None Detected
97 / 183790	Adhesive #96	Coburn Bsmt SW	yellow	Non-Fibrous 100	None Detected
98 / 183791	Grey Spot Lino	Bridge-I	multi	Non-Fibrous 100	None Detected

Friday 07 October

Analyzed by: Michael Thomas

End of Report

Batch: 16650

1 of 5

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name Koulaheras / Coburn

Sample	Result	Description of Material	Sample Location
1		Bedding/adh. for 2" ceramic floor	Bsmt cust rm by s.w. 'C'
2		cementitious painted floor	Bsmt main corridor
3		SUSPECT LAB TABLE	c'rm #314
4		Adhesive for Tectum wall panel	Bsmt htg rm-23
5		Adh. for Tectum wall panel	Bsmt htg rm-23
6		white fire block	Bsmt htg rm-23, above door
7		grey duct sealant	Teacher's center attic
8		Lime-grey duct sealant	attic above cust closet by s.w. 'F'
9		wood fire door-I	Bsmt s.w.-A
10		wood fire door-II	2nd fl auditorium lobby (by rm 147)
11		white brick mortar	Teacher's center attic
12		Fireproofing	Auditorium lobby
13		Fireproofing	" " "
14		hard tan glazing for mesh window in wood door	c'rm 133
15		soft black glazing for interior (square mesh) window	2nd fl sw-D
16		hard grey gl for interior (square mesh) window same system	2nd fl sw-D
17		hd grey gl " " " " "	Bsmt sw-H
18		soft black gl " " " "	1st fl sw-H
19		2.2 SAT-I	Band storage - Bsmt
20		2.2 SAT-I	auditorium lobby

Reported By: [signature] Date: 10/4/16 Due Date: 48 hr

Received By: [signature] Date: 10/5/16

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, MA Building Name Kouloheras / Coburn

Sample	Result	Description of Material	Sample Location
21		22 SAT-I	Teachers Center
22		Blue spot-grey Dark Lino	crm 017
23		Grey spot Lino	Bridge-I
24		Grey spot-Light grey Lino	Bridge-II (new Bridge)
25		Adhesive # 23	Bridge-I
26		Joint Compound (JC)	crm #12
27		JC	htg rm-23
28		JC (clg)	cust area, bsmt by SW-C
29		JC	1st Fl by 139, @ column-Fusebox
30		JC	sm mech rm, bsmt by SW-A
31		JC	Teachers Center, hall
32		JC	hall outside Lockers by 136
33		JC	cust closet by 223
34		JC behind ceramic wall @ edge	@ RUBBLER by 2nd Fl elevat
35		Grey w/ Brown grey white VT	upper level above Teacher's Ctr ma Fl
36		adhesive #35	"
37		Grey w/ Brown grey white VT	Book
38		adh. #37	Book
39		DK Blue VT	crm 105 closet
40		adhesive #39	" " "

Reported By: [signature] Date: 10/4/16 Due Date: 48-hr

Received By: _____ Date: _____

305

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, MA Building Name Kouloheras / Coburn

Sample	Result	Description of Material	Sample Location
41		Dark Blue VT	Teachers Ctr - Kitchen
42		adh / BL (m) #41	" " " "
43		Dark Blue VT	crm 28
44		Light Blue VT	ROTC storage
45		Carmel VT	Top of SW - I (eye) 3rd FL Plant room
46		adh #45	" " " "
47		white w/ Black grey VT	end of Bridge, SW
48		white w/ Blue spots VT	hall outside Teachers Ctr (by 305)
49		BL (m) #48	" " " "
50		seagreen VT intermixed	w/ #48
51		BL (m) #50	
52		white w/ Blue spots VT	crm 314
53		white w/ Blue spots VT	Bsmt - ROTC hall
54		BL (m) #53	
55		BL (m) for white w/ Blue spots VT	
56		Light grey w/ white VT	SW-1 Bsmt
57		BL (m) #56	" " "
58		VT under plywood under carpet	crm 117
59		BL (m) #58	crm 117
60		VT under plywood under carpet	storage rm 126-A

Reported By: [signature] Date: 10/4/16 Due Date: 48-hr

Received By: _____ Date: _____

CHAIN OF CUSTODY

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Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Lowell, MA Building Name Lowell H.S. Kaulaberas / Coburn

Sample	Result	Description of Material	Sample Location
61		BL @ #60	storage rm 126-A
62		ceiling plaster (CP)	east cl, 3rd fl by s.w. - F
63		CP	Asst - Band storage
64		glue daub #63	" "
65		wall plaster (WP)	Teachers Ctr - TEACH room out
66		WP	auditorium @ Balcony
67		WP	3rd fl s.w. - I (eye)
68		WP	rm 105 closet
69		WP	rm 110
70		WP	rm 323
71		CP	mc by rm 220
72		CP	mc by rm 321
73		Fireproofing	hall by 352
74		hard lay gl for mesh window	in wood door rm 323
75		JC behind ceramic wall edge	Boy's rm by 203
76		hard BLACK lab-TABLE (non-susp)	rm 304
77		slate chalk-board	rm 329
78		white residue on #77	" "
79		WP	rm 304 side rm
80		concrete slab under hdwd floor	near hall of rm 220-C

Reported By: Lemuel Bass Date: 10/4/16 Due Date: 48-hr

Received By: _____ Date: _____

5 of 5

CHAIN OF CUSTODY

Universal Environmental Consultants
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Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, MA Building Name Koukkeras / Coburn

Sample	Result	Description of Material	Sample Location
81		hard tan gl for mesh window	in wood door Cim #131
82		hard grey gl for square mesh window	in metal door 1st Fl SW-H
83		hd grey gl for square mesh window	in metal door 2nd Fl SW-H
84		hd grey gl for diagonal mesh window	in metal door rear hall of room 220-C
85		window frame caulk	Bsmt, canal side Exterior
86		win fr	Bsmt, side alley
87		win fr	Bsmt, Kirk Street
88		win fr	Bsmt, canal side (by Coburn)
89		win fr	2nd Fl, Cim 220
90		win fr	2nd Fl SW by 210
91		door fr	CANAL SIDE
92		residue door fr on brick next	to door w/ new caulking - canal side
93		door fr	Kirk Street
94		horiz. white caulk in sill	Coburn Hall @ Kirk St.
95		vert. white caulk - II	Coburn Hall @ Kirk St.
96		Dark Blue same as #92 w/ Blue spots Lino	Coburn bsmt S.W.
97		adhesive #96	" " "
98		Grey spot Lino	Bridge - I

Reported By: [signature] Date: 10/4/16 Due Date: 48-hr

Received By: _____ Date: _____

OrderID: 131604602

131604602

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name COBURN Bldg

Sample	Result	Description of Material	Sample Location
		22906706	c'rm #014
		22101409	CUSTODIAN by STAIRWELL C
		22904826	BAND STORAGE
		22904799	rm 029
		22904835	c'rm 028
		22904855	c'rm 012
		22905033	outside Bldg, from c'rm 105
		All CASSETTS RUN	
		(10m)(15LPM)	
		150L	

Reported By: Samuel Burns Date: 9/24/16 Due Date: 48 hr

Received By: Date:

RECEIVED
SEP 26 2016
By 8:47 RB

FedEx
8071 5216 9973

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604602
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 09/26/2016
Analyzed: 09/28/2016

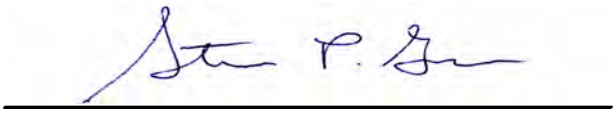
Project: Lowell High School - Coburn Bldg - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604602-0001			131604602-0002			131604602-0003		
Client Sample ID:	22906706			22101409			22904826		
Volume (L):	150			150			150		
Sample Location	C'rm #014			Custodian by Stairwell C			Band Storage		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	1*	7*	0	1*	7*	0.1
Ascospores	1	20	0.4	8	200	1.4	1	20	0.4
Aspergillus/Penicillium	8	200	4.5	16	350	2.5	10	220	4.7
Basidiospores	189	4120	92.2	567	12400	87.3	168	3670	78.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	4	90	2	49	1100	7.7	29	630	13.5
Curvularia	-	-	-	-	-	-	1*	7*	0.1
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	2	40	0.9	6	100	0.7	1	20	0.4
Myxomycetes++	-	-	-	1	20	0.1	4	90	1.9
Pithomyces	-	-	-	1	20	0.1	-	-	-
Rust	-	-	-	-	-	-	1*	7*	0.1
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Total Fungi	**204**	**4470**	**100**	**649**	**14197**	**100**	**216**	**4671**	**100**
Hyphal Fragment	-	-	-	2	40	-	-	-	-
Insect Fragment	-	-	-	1*	7*	-	-	-	-
Pollen	-	-	-	3*	20*	-	1	20	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	3	-	-	2	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 09/28/2016 09:29:11

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604602
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 09/26/2016
Analyzed: 09/28/2016

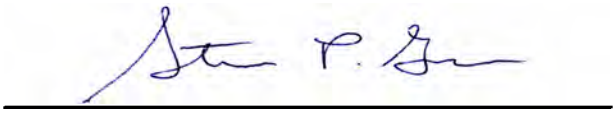
Project: Lowell High School - Coburn Bldg - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604602-0004			131604602-0005			131604602-0006		
Client Sample ID:	22904799			22904835			22904855		
Volume (L):	150			150			150		
Sample Location	Rm 029			C'rm 028			C'rm 012		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	1	20	0.2	-	-	-
Ascospores	2	40	0.5	10	220	1.9	5	100	0.9
Aspergillus/Penicillium	10	220	2.6	28	610	5.4	17	370	3.2
Basidiospores	330	7200	84.5	389	8490	75.2	436	9510	83.5
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	44	960	11.3	78	1700	15.1	50	1100	9.7
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	1*	7*	0.1	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	3	70	0.8	8	200	1.8	9	200	1.8
Myxomycetes++	3*	20*	0.2	1	20	0.2	5	100	0.9
Pithomyces	2*	10*	0.1	1	20	0.2	1*	7*	0.1
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Total Fungi	**394**	**8520**	**100**	**517**	**11287**	**100**	**523**	**11387**	**100**
Hyphal Fragment	1	20	-	1	20	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	2*	10*	-	2*	10*	-	2*	10*	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	2	-	-	2	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

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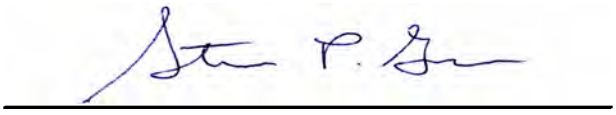
Project: Lowell High School - Coburn Bldg - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	**131604602-0007**		
Client Sample ID:	**22905033**		
Volume (L):	**150**		
Sample Location	**Outside Bldg, from C'rm 105**		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	15	330	1.9
Ascospores	9	200	1.1
Aspergillus/Penicillium	61	1300	7.3
Basidiospores	451	9840	55.3
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	251	5480	30.8
Curvularia	1	20	0.1
Epicoccum	6	100	0.6
Fusarium	-	-	-
Ganoderma	5	100	0.6
Myxomycetes++	16	350	2
Pithomyces	2	40	0.2
Rust	-	-	-
Scopulariopsis	-	-	-
Stachybotrys	-	-	-
Torula	-	-	-
Ulocladium	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Cercospora	2	40	0.2
Nigrospora	1*	7*	0
Total Fungi	**820**	**17807**	**100**
Hyphal Fragment	1	20	-
Insect Fragment	-	-	-
Pollen	3	70	-
Analyt. Sensitivity 600x	-	22	-
Analyt. Sensitivity 300x	-	7*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	3	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

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Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Universal Environmental Consultant
12 Brewster Road
Framingham MA 01702

Property Tested:

Lowell High School
Kouloheras Coburn

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
1990250	3243142	09/23/2016 8:17 am	09/26/2016 10:16 am	Basement Room 014	0.7
1990251	3243143	09/23/2016 8:22 am	09/26/2016 10:18 am	Basement Custodian SW C	< 0.4
1990252	3243133	09/23/2016 8:25 am	09/26/2016 10:24 am	Basement Band Storage	0.5
1990253	3243132	09/23/2016 8:31 am	09/26/2016 10:38 am	Basement Room 029	0.5
1990254	3243122	09/23/2016 8:34 am	09/26/2016 10:27 am	Basement Room 028	0.4
1990255	3243123	09/23/2016 8:40 am	09/26/2016 10:30 am	Basement Fan Room/Storage	0.5
1990256	3243105	09/23/2016 8:45 am	09/26/2016 10:32 am	Basement Room 012	< 0.4

Comment: Universal Environmental Consultant was emailed a copy of this report.

Test Performed By: Leonard J. Busa

Distributed by: Universal Environmental Consultant

Date Received: 09/27/2016 Date Logged: 09/27/2016 Date Analyzed: 09/28/2016 Date Reported: 09/28/2016

Report Reviewed By: _____ Report Approved By: _____

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

11 Awl Street Medway MA 02053 888-480-8812 FAX 508-533-8831

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 16469

NVLAP®
Lab Code: 200919-0

September 29, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Lord Bldg/Field House
Date Sampled: 2016-09-24
Work Received: 2016-09-27
Work Analyzed: 2016-09-29

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning
Owner/Director

September 29, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Lord Bldg/Field House
Date Sampled: 2016-09-24
Work Received: 2016-09-27
Work Analyzed: 2016-09-29

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1 / 181775	Grey Sink DP	Teacher's Rm	gray	Cellulose 10 Non-Fibrous 90	None Detected
2 / 181776	Soft Black GL for Interior Window	Main Lobby	black	Non-Fibrous 97	**Detected** **Chrysotile 3**
3 / 181777	Verticle White Caulk in CMU	Administrative Conference Rm	white	Non-Fibrous 98	**Detected** **Chrysotile 2**
4 / 181778	Dark Blue VT	Cafe	blue	Non-Fibrous 100	None Detected
5 / 181779	Mastic M #4	Cafe	yellow	Non-Fibrous 100	None Detected
6 / 181780	White w/ Light Blue Spots VT	Cafe	white	Non-Fibrous 100	None Detected
7 / 181781	M #6	Cafe	yellow	Non-Fibrous 100	None Detected
8 / 181782	White w/ Black-Grey VT	Exit Hall by Adm Conference Rm	white	Non-Fibrous 100	None Detected
9 / 181783	M #8	Exit Hall by Adm Conference Rm	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
10 / 181784	White w/ Black Grey VT	Exit Hall by Kitchen	white	Non-Fibrous 100	None Detected
11 / 181785	M #10	Exit Hall by Kitchen	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
12 / 181786	Window Fr	Receiving, Exterior	black	Non-Fibrous 100	None Detected
13 / 181787	Soft Brown GL #12	Receiving, Exterior	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
14 / 181788	Window Fr	Kitchen, Exterior	black	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15 / 181789	Soft Brown GL #14	Kitchen, Exterior	brown	Non-Fibrous 98	**Detected** Chrysotile 2
16 / 181790	Window Fr for T? Panel	By Main Entrance-II, Exterior	gray	Non-Fibrous 100	None Detected
17 / 181791	Smooth Brown T? Panel	By Main Entrance-II, Exterior	gray	Non-Fibrous 80	**Detected** Chrysotile 20
18 / 181792	Fancy T? Covering Verticle Steel Column	Trolley Side, Exterior	gray	Non-Fibrous 80	**Detected** Chrysotile 20
19 / 181793	Fancy T? Covering Verticle Steel Column	By Main Entrance, Exterior	gray	Non-Fibrous 80	**Detected** Chrysotile 20
20 / 181794	Fancy T? Covering Verticle Steel Column	By Main Entrance-II, Exterior	gray	Non-Fibrous 80	**Detected** Chrysotile 20
21 / 181795	Soft Brown Win GL	Main Entrance-II, Exterior	brown	Non-Fibrous 98	**Detected** Chrysotile 2
22 / 181796	Black DP Behind Brick @ Foundation	By Kitchen, Exterior	black	Non-Fibrous 90	**Detected** Chrysotile 10
23 / 181797	Black DP Behind Brick @ Foundation	Exterior	black	Non-Fibrous 90	**Detected** Chrysotile 10
24 / 181798	Joint Compound (JC)	@ Column, Hall by Rm #620 3rd FL	white	Non-Fibrous 100	None Detected
25 / 181799	JC	Hall Outside Library	white	Non-Fibrous 100	None Detected
26 / 181800	JC	@ Column- Gym	white	Non-Fibrous 100	None Detected
27 / 181801	2x2 SAT-I	Library Computer Lab	gray	Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
28 / 181802	SAT-I	3rd FL Copy Rm	gray	Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
29 / 181803	SAT-I	Library Conference Rm	gray	Mineral Wool 20 Cellulose 70 Non-Fibrous 10	None Detected
30 / 181804	Fire Proofing (FP)	Library- Just Beyond Computer Lab	gray	Cellulose 30 Non-Fibrous 70	None Detected
31 / 181805	FP	Library- Just Beyond Computer Lab	gray	Cellulose 30 Non-Fibrous 70	None Detected
32 / 181806	FP	Library- Just Beyond Computer Lab	gray	Cellulose 35 Non-Fibrous 65	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
33 / 181807	Blown-In Insulation	In CMU Wall, Gym	gray	Cellulose 90 Non-Fibrous 10	None Detected
34 / 181808	Older? Carmel VT	Little Theatre Storage	tan	Non-Fibrous 100	None Detected
35 / 181809	BL M #34	Little Theatre Storage	black	Non-Fibrous 90	Detected Chrysotile 10
36 / 181810	Older? Carmel VT	Kitchen Storage	tan	Non-Fibrous 100	None Detected
37 / 181811	BL M #36	Kitchen Storage	black	Non-Fibrous 90	Detected Chrysotile 10
38 / 181812	Soft Black GL in Window @ Metal Door	Rm 610	black	Non-Fibrous 100	None Detected
39 / 181813	White w/ Black-Grey VT	Hall Outside 610-B by Stairwell #4	white	Non-Fibrous 100	None Detected
40 / 181814	BL M #39	Hall Outside 610-B by Stairwell #4	black	Non-Fibrous 95	Detected Chrysotile 5
41 / 181815	White w/ Black Grey VT	2nd FL Hall by SW-6	white	Non-Fibrous 100	None Detected
42 / 181816	Adh? #41	2nd FL Hall by SW-6	yellow	Non-Fibrous 100	None Detected
43 / 181817	Adhesive for White w/ Black Grey VT	Hall Outside Library	black	Cellulose 5 Non-Fibrous 90	Detected Chrysotile 5
44 / 181818	Black Sink DP	Nurse	black	Other 5 Non-Fibrous 95	None Detected
45 / 181819	DP Under Brick on Foundation	Pool Bldg, Exterior	black	Non-Fibrous 90	Detected Chrysotile 10
46 / 181820	Flashing Protruding From Brick	Pool Bldg, Exterior	black	Non-Fibrous 90	Detected Chrysotile 10
47 / 181821	Grille Caulk	Pool Bldg, Exterior	brown	Non-Fibrous 100	None Detected
48 / 181822	Hidden Caulking for Fancy T Encasing Verticle Steel Columns	Trolley Side, Exterior	gray	Non-Fibrous 98	Detected Chrysotile 2
49 / 181823	Hidden Caulking for Fancy T Encasing Verticle Steel Columns	Trolley Side, Exterior	gray	Non-Fibrous 98	Detected Chrysotile 2
50 / 181824	Fancy T Enclosing Verticle Steel Columns	Pool Bldg, Exterior	gray	Non-Fibrous 80	Detected Chrysotile 20

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
51 / 181825	DP on CMU @ Floor Bid	Trolley Side, Exterior	black	Non-Fibrous 100	None Detected
52 / 181826	Win Fr	Trolley Side, Exterior	brown	Non-Fibrous 100	None Detected
53 / 181827	Soft BL GL for Window in Metal Door	1st FL SW Door #4	black	Non-Fibrous 100	None Detected
54 / 181828	JC	Clg Soffit 2nd FL Gym Lobby	white	Non-Fibrous 100	None Detected
55 / 181829	Finish on CMU Wall	Pool	white	Non-Fibrous 100	None Detected
56 / 181830	Adhesive for Ceramic Basebd	Boy's Locker	yellow	Non-Fibrous 100	None Detected
57 / 181831	Adh for Ceramic Bsbd	Pool	yellow	Non-Fibrous 100	None Detected
58 / 181832	Glue Tab for FG DI	Sub Bsmt of Pool	brown	Non-Fibrous 100	None Detected
59 / 181833	Glue Tab for FG DI	Sub Bsmt of Pool	brown	Non-Fibrous 100	None Detected
60 / 181834	Grey Sealant on Metal Duct	Sub Bsmt of Pool	gray	Non-Fibrous 100	None Detected
61 / 181835	Grey Sealant on Metal Duct	Pool Sub-Bsmt	gray	Fiberglass 2 Non-Fibrous 98	None Detected
62 / 181836	E Off FG (Small Roof Drain Run)	Pool Sub-Bsmt	gray	Fiberglass 20 Cellulose 20 Non-Fibrous 60	None Detected
63 / 181837	E Off FG (Small Roof Drain Run)	Pool Sub-Bsmt	gray	Fiberglass 40 Non-Fibrous 60	None Detected
64 / 181838	Red Leveler for Brick Floor	Main Lobby	red	Non-Fibrous 100	None Detected
65 / 181839	Red Leveler for Brick Floor	Main Lobby	red	Non-Fibrous 100	None Detected
66 / 181840	Adhesive for White w/ Black Grey VT	C'rm 542	multi	Non-Fibrous 100	None Detected

Thursday 29

Analyzed by: Michael Thomas

End of Report

Batch: 16469

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name Lord Bldg / Field House

Sample	Result	Description of Material	Sample Location
1		Grey sink dp	Teacher's rm
2		soft Black gl. for interior window	main Lobby
3		vertical white caulk in window	Administrative Conference Rm
4		Dark Blue VT	cafe
5		mastic @ #4	
6		white w/ light Blue spots VT	
7		@ #6	
8		white w/ Black-grey VT	exit hall by Adm. Conference Rm
9		@ #8	" " " "
10		white w/ Black grey VT	exit hall by Kitchen
11		@ #10	" " " "
12		window fr	receiving EXTERIOR
13		soft Brown gl. #12	" "
14		windows fr	Kitchen
15		soft Brown gl #14	" "
16		window fr for F? panel	by MAIN ENTRANCE - II
17		smooth Brown F? panel	" " "
18		fancy F? covering vertical	steel column Trolley Side
19		" " "	" " by MAIN ENTRANCE
20		" " "	" " by MAIN ENTRANCE - II

Reported By: _____ Date: 9/24/16 Due Date: 48-hr

Received By: _____ Date: 9/27/16

2
4

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name Lord Bldg / Field House

Sample	Result	Description of Material	Sample Location
21		soft Brown win gl	@ main entrance-II (EXTERIOR)
22		Black dp behind brick @ foundation	by Kitchen
23		Black dp behind Brick @ foundation	
24		Joint Compound (JC)	@ column, hall by rm #620 3rd Fl
25		JC	hall outside Library 2nd Fl
26		JC	@ column — Gym
27		2.2 SAT-I	Library Computer Lab
28		SAT-I	3rd Fl Copy rm
29		SAT-I	Library Conference rm
30		Fireproofing (FP)	Library — just Beyond Computer Lab
31		FP	
32		FP	
33		Blown-in insulation	in cmu wall Gym
34		older? carmel vt	Little Theatre storage
35		BL (m) #39	" " "
36		older? carmel vt	Kitchen storage
37		BL (m) #36	" "
38		soft Black gl in window	@ metal door rm 610
39		white w/Black-grey vt	hall outside 610-B by stairwell #4
40		BL (m) #39	" " " "

Reported By: [signature] Date: _____ Due Date: _____

Received By: _____ Date: _____

CHAIN OF CUSTODY

Universal Environmental Consultants
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Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lord Bldg / Field House

Town/City: Lowell, ma Building Name Lowell High School

Sample	Result	Description of Material	Sample Location
41		white w/ Black grey VT	2nd FL hall by SW-6
42		adh ? to #41	" " "
43		adhesive for white w/ Black grey VT	hall outside Library
44		Black sink dp	Nurse
45		dp under brick on foundation	Pool Bldg EXTERIOR
46		flashing protruding from Brick	
47		Grille caulk	
48		Bidder caulking for FARGO FT enclosing verticle steel columns	TROLLEY SIDE
49		" " "	" " "
50		Fargo FT enclosing verticle steel columns	Pool Bldg
51		dp on cmu @ Flower Bed	Trolley side
52		win fr	Trolley side
53		soft Blgl for window in metal door	1st FL SW door #4
54		UC	clg SOFFIT 2nd FL Gym Corr #
55		FINISH on cmu wall	Pool
56		adhesive for ceramic Base bd	Boys Locker
57		Adh for ceramic Bsdb	Pool
58		glue tab for FG (D1)	subbsmt of Pool
59		glue tab for FG (D1)	subbsmt of Pool
60		grey sealant on metal door	subbsmt of Pool

Reported By: [signature] Date: 9/24/16 Due Date: 48-hr

Received By: _____ Date: _____

CHAIN OF CUSTODY

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Framingham, MA 01702
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adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name Lord Bldg / Field House

Sample	Result	Description of Material	Sample Location
61		Grey sealant on metal door	Pool sub-bsmt
62		@ elec EG (small roof drain cvr)	↓
63		@ elec EG (" " ")	
64		red leveler for brick floor	main Lobby
65		red leveler for brick floor	main Lobby
66		adhesive for white w/black grey VT	Crm 542

Reported By: Leonard Buss Date: 9/24/16 Due Date: 48-hr

Received By: ---------- Date: ----------

OrderID: 011606205

011606205

CHAIN OF CUSTODY

MERC.

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Cowell High School

Town/City: Cowell, MA Building Name Lord Bldg Field House

Sample	Result	Description of Material	Sample Location
1		Grey rubber floor	Gym
2		red rubber floor	Gym ramp du to Pool

1
2

Reported By: [signature] Date: 9/22/16

Received By: [signature] Date: 9/23/16 9:25

Due Date: 2-week

RECEIVED
BOSTON
SEP 22 2016
By 14:52

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn: **Ammar Dieb** 10/6/2016
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Phone: (508) 628-5486
Fax: (508) 628-5488

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 9/23/2016. The results are tabulated on the attached data pages for the following client designated project:

Lowell High School, Lord Bldg Field House, Lowell, MA

The reference number for these samples is EMSL Order #011606205. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Chemistry Laboratory Manager

The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.
NELAP Certifications: NJ 03036, NY 10872, PA 68-00367

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856) 303-2500 / (856) 858-4571
http://www.EMSL.com EnvChemistry2@emsl.com

EMSL Order:	011606205
CustomerID:	UEC63
CustomerPO:	
ProjectID:	

Attn: **Ammar Dieb**
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (508) 628-5486
Fax: (508) 628-5488
Received: 09/23/16 9:25 AM

Project: **Lowell High School, Lord Bldg Field House, Lowell, MA**

Analytical Results

Client Sample Description 1
Grey Rubber Floor

Collected: 9/22/2016 ***Lab ID:*** *0001*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
7471B	Mercury	90	0.445	mg/Kg	10/5/2016	CM	10/5/2016	CM

Client Sample Description 2
Red Rubber Floor

Collected: 9/22/2016 ***Lab ID:*** *0002*

Method	*Parameter*	*Result*	*RL*	*Units*	*Prep Date*	*Analyst*	*Analysis Date*	*Analyst*
7471B	Mercury	60	0.397	mg/Kg	10/5/2016	CM	10/5/2016	CM

Definitions:

ND - indicates that the analyte was not detected at the reporting limit
RL - Reporting Limit (Analytical)

OrderID: 131604500

131604500

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Lowell, MA Building Name Lowell High School

Sample	Result	Description of Material	Sample Location
		22101460	hall by 432-A
		22101408	CAFE
		22101443	hall by Nurse
		22101407	Administrative Conference room
		22101416	hall by Security
		22101424	hall & receiving
		22101413	outside bldg @ receiving
		All cassetts run (10m)	(15LPM) = 150L

Reported By: [signature] Date: 9/19/16 Due Date: 48 hr

Received By: Date:

RECEIVED SEP 20 2016 By 9:12 RB

EMSL Fedex

8071 5216 9940

1131

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604500
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 09/20/2016
Analyzed: 09/22/2016

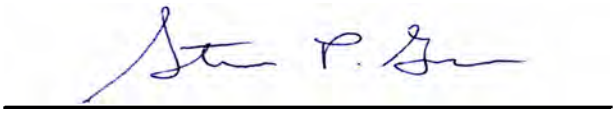
Project: Lowell High School - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604500-0001			131604500-0002			131604500-0003		
Client Sample ID:	22101460			22101408			22101443		
Volume (L):	150			150			150		
Sample Location	Hall by 432-A			Café			Hall by Nurse		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	-	-	-	-	-	-
Ascospores	-	-	-	-	-	-	-	-	-
Aspergillus/Penicillium	10	220	12.2	11	240	7.1	9	200	15.4
Basidiospores	70	1500	83.5	142	3100	91.9	47	1000	76.9
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	3	70	3.9	1	20	0.6	2	40	3.1
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	-	-	-	1*	7*	0.2	-	-	-
Myxomycetes++	-	-	-	1*	7*	0.2	1	20	1.5
Pithomyces	-	-	-	-	-	-	2	40	3.1
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Nigrospora	1*	7*	0.4	-	-	-	-	-	-
Total Fungi	**84**	**1797**	**100**	**156**	**3374**	**100**	**61**	**1300**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	2*	10*	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	3	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	1	-	-	1	-	-	2	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 09/22/2016 09:30:50

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

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http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604500
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 09/20/2016
Analyzed: 09/22/2016

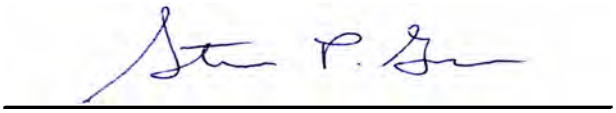
Project: Lowell High School - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604500-0004			131604500-0005			131604500-0006		
Client Sample ID:	22101407			22101416			22101424		
Volume (L):	150			150			150		
Sample Location	Administrative Conference Room			Hall by Security			Hall @ Receiving		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	1	20	1.5	1	20	0.2
Ascospores	2	40	1.2	-	-	-	12	260	3.2
Aspergillus/Penicillium	8	200	6	-	-	-	17	370	4.5
Basidiospores	125	2730	81.2	46	1000	76.7	333	7270	88.4
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	14	310	9.2	7	200	15.3	10	220	2.7
Curvularia	1*	7*	0.2	1*	7*	0.5	1	20	0.2
Epicoccum	1*	7*	0.2	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	2	40	1.2	-	-	-	2	40	0.5
Myxomycetes++	1*	7*	0.2	3	70	5.4	3*	20*	0.2
Pithomyces	-	-	-	1*	7*	0.5	1*	7*	0.1
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Nigrospora	1	20	0.6	-	-	-	-	-	-
Total Fungi	**155**	**3361**	**100**	**59**	**1304**	**100**	**380**	**8227**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	1*	7*	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	2*	10*	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	3	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	3	-	-	2	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 09/22/2016 09:30:50

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604500
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 09/20/2016
Analyzed: 09/22/2016

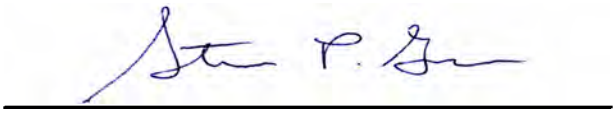
Project: Lowell High School - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	**131604500-0007**		
Client Sample ID:	**22101413**		
Volume (L):	**150**		
Sample Location	**Outside Bldg @ Receiving**		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-
Ascospores	46	1000	9.8
Aspergillus/Penicillium	16	350	3.4
Basidiospores	400	8730	85.8
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	3	70	0.7
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium	-	-	-
Ganoderma	1	20	0.2
Myxomycetes++	-	-	-
Pithomyces	-	-	-
Rust	-	-	-
Scopulariopsis	-	-	-
Stachybotrys	-	-	-
Torula	-	-	-
Ulocladium	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Nigrospora	-	-	-
Total Fungi	**466**	**10170**	**100**
Hyphal Fragment	-	-	-
Insect Fragment	-	-	-
Pollen	-	-	-
Analyt. Sensitivity 600x	-	22	-
Analyt. Sensitivity 300x	-	7*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	1	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 09/22/2016 09:30:50

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

A Dieb Universal Environmental Consultant
12 Brewster Road
Framingham MA 01702

Property Tested:

Lowell High School
Not Indicated 3238585 3219203

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
1988262	3238585	09/19/2016 9:22 am	09/21/2016 11:45 am	First Floor Main Office	< 0.4
1988263	3091639	09/19/2016 9:30 am	09/21/2016 11:52 am	First Floor Student Postings Storage	< 0.4
1988264	3238591	09/19/2016 9:27 am	09/21/2016 11:48 am	First Floor Custodial Room	< 0.4
1988265	3219209	09/19/2016 9:48 am	09/21/2016 11:47 am	First Floor Administrative Conference	< 0.4
1988266	3068945	09/19/2016 9:53 am	09/21/2016 11:55 am	First Floor Athletics Director	< 0.4
1988267	3219203	09/19/2016 10:01 am	09/21/2016 11:50 am	First Floor Teacher's Room	< 0.4

Comment: Device 3091649 not received. Universal Environmental Consultant was emailed a copy of this report.

Test Performed By: Leonard J. Busa

Distributed by: Universal Environmental Consultant

Date Received: 09/22/2016 Date Logged: 09/22/2016 Date Analyzed: 09/22/2016 Date Reported: 09/23/2016

Report Reviewed By: Michele Cleveland Report Approved By: Carolyn D. Koke

Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

11 Awl Street Medway MA 02053 888-480-8812 FAX 508-533-8831

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 16865

NVLAP®
Lab Code: 200919-0

October 17, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell HS, Lowell, MA- Freshman Academy
Date Sampled: 2016-10-11
Work Received: 2016-10-12
Work Analyzed: 2016-10-16

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning
Owner/Director

October 17, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell HS, Lowell, MA- Freshman Academy
Date Sampled: 2016-10-11
Work Received: 2016-10-12
Work Analyzed: 2016-10-16

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
1 / 186402	Joint Compound (JC)	Loft Above Stage (Security)	white	Non-Fibrous 100	None Detected
2 / 186403	JC	Hall by 712	white	Non-Fibrous 100	None Detected
3 / 186404	JC	SW 701	white	Non-Fibrous 100	None Detected
4 / 186405	JC	C'rm 902	white	Non-Fibrous 100	None Detected
5 / 186406	JC	Hall by 851	white	Non-Fibrous 100	None Detected
6 / 186407	JC	C'rm 823	white	Non-Fibrous 100	None Detected
7 / 186408	Swirl JC	Cust Rm by 703	white	Non-Fibrous 100	None Detected
8 / 186409	Swirl JC	Fire Panel Rm @ C'rm 700	white	Non-Fibrous 100	None Detected
9 / 186410	1x1 AT-I	Bsmt MC by Theater	white	Mineral Wool 80 Non-Fibrous 20	None Detected
10 / 186411	1x1 AT-I	Bsmt MC by Cage	white	Mineral Wool 80 Non-Fibrous 20	None Detected
11 / 186412	2x2 SAT (New)	Hall by 851	multi	Mineral Wool 30 Cellulose 60 Non-Fibrous 10	None Detected
12 / 186413	Soft Black GL for Mesh Win in Metal Door	Rear Exit Door 705-Burgoyne Theater	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
13 / 186414	Soft Black GL for Mesh Win in Metal Door	SW by Elevator-3	black	Non-Fibrous 95	**Detected** **Chrysotile 5**
14 / 186415	Soft Black GL for Interior Window	C'rm 854	black	Non-Fibrous 95	**Detected** **Chrysotile 5**

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15 / 186416	Soft Black GL for Interior Window	C'rm 704	black	Non-Fibrous 95	**Detected** Chrysotile 5
16 / 186417	Soft BL GL for Mesh Win in Metal Door	SW by 701	black	Non-Fibrous 95	**Detected** Chrysotile 5
17 / 186418	Wood Fire Door	Hall Storage Rm Between 703/704	white	Cellulose 35 Non-Fibrous 65	None Detected
18 / 186419	Wood Fire Door	Loft Above Stage- Security Office	white	Cellulose 35 Non-Fibrous 65	None Detected
19 / 186420	Purple Sink DP	C'rm 700	pink	Non-Fibrous 90	**Detected** Chrysotile 10
20 / 186421	Grey Sink DP	Main Office Kitchen	gray	Cellulose 20 Non-Fibrous 80	None Detected
21 / 186422	Grey Sink DP	C'rm 720	gray	Cellulose 20 Non-Fibrous 80	None Detected
22 / 186423	JC	C'rm 902	white	Non-Fibrous 100	None Detected
23 / 186424	Adhesive for Rubber Flooring	SW by Elevator-4	white	Non-Fibrous 100	None Detected
24 / 186425	Adhesive for Rubber Flooring	Stairs Up to Security	brown	Non-Fibrous 100	None Detected
25 / 186426	Tan Duct Sealant	HV Rm @ 3rd FL	tan	Non-Fibrous 100	None Detected
26 / 186427	Tan Duct Sealant	HV Rm @ 3rd FL	tan	Non-Fibrous 100	None Detected
27 / 186428	Grey Duct Sealant	Loft Above Stage by Security	gray	Non-Fibrous 100	None Detected
28 / 186429	Tan Sealant Around Sink Drain	C'rm 851	tan	Non-Fibrous 98	**Detected** Chrysotile 2
29 / 186430	Black M in Speaker Box	Loft Above Stage/Storage	black	Non-Fibrous 80	**Detected** Chrysotile 20
30 / 186431	Ceiling Plaster (CP)	Cust Rm by 703	multi	Cellulose < 1 Non-Fibrous 100	None Detected
31 / 186432	CP	C'rm 853	multi	Hair 2 Non-Fibrous 98	None Detected
32 / 186433	Grey Sink DP	C'rm 851	gray	Cellulose 20 Non-Fibrous 80	None Detected

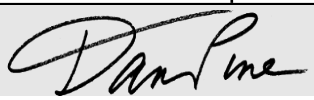
FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
33 / 186434	Adhesive? on Gyp for Green GL Wall Tile	Bsmt Hall	yellow	Non-Fibrous 100	None Detected
34 / 186435	VT-I (LT Brown~Flecks)	Kitchen Storage	tan	Non-Fibrous 100	None Detected
35 / 186436	Black Mastic #34	Kitchen Storage	black	Cellulose 2 Non-Fibrous 98	None Detected
36 / 186437	VT-II (LT Grey-Blue)	SW by 810	gray	Non-Fibrous 100	None Detected
37 / 186438	VT-II	C'rm 816	gray	Non-Fibrous 100	None Detected
38 / 186439	VT-III (LT Grey)	Hall by 810	tan	Non-Fibrous 100	None Detected
39 / 186440	BL M #38	Hall by 810	black	Cellulose 10 Non-Fibrous 90	None Detected
40 / 186441	VT-III	C'rm 859	tan	Non-Fibrous 100	None Detected
41 / 186442	BL M #40	C'rm 859	black	Cellulose 2 Non-Fibrous 98	None Detected
42 / 186443	VT-III	MC by 813	tan	Non-Fibrous 100	None Detected
43 / 186444	BL M #42	MC by 813	black	Cellulose 10 Non-Fibrous 90	None Detected
44 / 186445	Golden Brown VT Intermixed w/ VT-III	C'rm 901	tan	Non-Fibrous 100	None Detected
45 / 186446	BL M #44	C'rm 901	black	Cellulose 10 Non-Fibrous 90	None Detected
46 / 186447	VT-V (Red)	C'rm 856	red	Non-Fibrous 100	None Detected
47 / 186448	Old Tan VT	Storage in Rm 852	tan	Non-Fibrous 100	None Detected
48 / 186449	BL M #47	Storage in Rm 852	black	Cellulose 10 Non-Fibrous 90	None Detected
49 / 186450	Sandy Leveler #48/#47	Storage in Rm 852	tan	Non-Fibrous 100	None Detected
50 / 186451	New VT White w/ Green-Red	Rm 717	white	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
51 / 186452	New Adhesive #50	Rm 717	yellow	Non-Fibrous 100	None Detected
52 / 186453	Sandy Leveler #50	Rm 717	white	Non-Fibrous 100	None Detected
53 / 186454	New VT White w/ Green-Red	Rm 700 @ Fire Panel Closet	white	Non-Fibrous 100	None Detected
54 / 186455	Bl M? #53	Rm 700 @ Fire Panel Closet	black	Cellulose 10 Non-Fibrous 90	None Detected
55 / 186456	Brown? Leveler #53	Rm 700 @ Fire Panel Closet	brown	Cellulose 5 Non-Fibrous 95	None Detected
56 / 186457	Win Fr	French Street, Exterior	brown	Non-Fibrous 100	None Detected
57 / 186458	Win Fr	Paige Street, Exterior	brown	Non-Fibrous 100	None Detected
58 / 186459	Win Fr	John Street, Exterior	brown	Non-Fibrous 100	None Detected
59 / 186460	Residue Door Fr Beside New	John Street, Exterior	brown	Non-Fibrous 100	None Detected
60 / 186461	Win Fr	From C'rm 903, Exterior	brown	Non-Fibrous 100	None Detected
61 / 186462	Hard Wall Plaster (WP)	Rm 717	white	Non-Fibrous 100	None Detected
62 / 186463	CP	Rm 717	multi	Non-Fibrous 100	None Detected
63 / 186464	CP	Stairwell by 701	multi	Cellulose < 1 Non-Fibrous 100	None Detected
64 / 186465	Painted Stone Foundation	Under Stairs by 701	multi	Non-Fibrous 100	None Detected
65 / 186466	2x4 SAT (New)	Main Office- Lounge	tan	Mineral Wool 20 Cellulose 60 Non-Fibrous 20	None Detected
66 / 186467	Exposed Adhesive on Wall Assumed for White Board	Nurse's Areas	brown	Non-Fibrous 100	None Detected

Monday 17 October

End of Report

Analyzed by:



Batch: 16865

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, MA Building Name Freshman Academy

Sample	Result	Description of Material	Sample Location
1		Joint Compound (JC)	Loft above stage (Security)
2		JC	hall by 712
3		JC	s.w. by 701
4		JC	rm 902
5		JC	hall by 851
6		JC	rm 823
7		swirl JC	cust rm by 703
8		swirl JC	Fire Panel rm & rm 700
9		1x1 AT-1	Beat mc by Theatre
10		1x1 AT-I	Beat mc by Cafe
11		2x2 SAT (new)	hall by 851
12		soft Black gl for mesh wire in metal door	rear exit door 705-Burgoyne Theatre
13		" " " " "	" " s.w. by elevator-3
14		soft Black gl for interior window	rm 854
15		" " " "	" rm 704
16		soft BL gl for mesh wire in	metal door sw by 701
17		wood Fire door	hall storage rm between 703/704
18		wood Fire door	Loft above stage - Security office
19		Purple sink dp	rm 700
20		Grey sink dp	main office kitchen

Reported By: [signature] Date: 10/11/16 Due Date: ~~48 hr~~ 72 per Lenny

Received By: [signature] Date: 10/12/16

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, ma Building Name Freshman Academy

Sample	Result	Description of Material	Sample Location
21		Grey sink dp	c/rm 720
22		JC	c/rm 902
23		Adhesive for rubber flooring	sw by elevator - 4
24		Adhesive for rubber flooring	stairs up to Security
25		Tan duct sealant	H.V. rm @ 3rd fl
26		Tan duct sealant	H.V. rm " "
27		Grey duct sealant	Loft above stage by Security
28		Tan sealant around sink drain	c/rm 851
29		Black (m) in speaker box	Loft above stage / storage
30		ceiling plaster (CP)	cust rm by 703
31		(CP)	c/rm 853
32		Grey sink dp	c/rm 951
33		adhesive? on gyp for green gl wall tile	Bsmt hall
34		VT-I (Lt Brown - flecks)	Kitchen storage
35		Black mastic #34	~~sw by 810~~ " "
36		VT-II (Lt grey - blue)	sw by 810
37		VT-II	c/rm 816
38		VT-III (Lt grey)	hall by 810
39		BC (m) #38	" " "
40		VT-III	c/rm 859

Reported By: [signature] Date: 10/11/16 Due Date: 48-hr

Received By: _____ Date: _____

3.
4

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Town/City: Lowell, ma Building Name Lowell H.S. Freshman Academy

Sample	Result	Description of Material	Sample Location
41		BC (m) # 40	rm 859
42		VT-III	rm by 813
43		BC (m) # 42	" " "
44		GOLDEN BROWN VT INTERMIXED w/ VT-III	rm 901
45		BC (m) # 44	" "
46		VT-V (red)	rm 856
47		old Tan VT	STORAGE in rm 852
48		BC (m) # 47	↓ ↓
49		Sandy Leveler # 48/47	↓ ↓
50		new VT white w/ green-red	rm 717
51		new adhesive # 50	↓ ↓
52		Sandy Leveler # 50	↓ ↓
53		new VT white w/ green-red	rm 700 & Fire Panel Closet
54		BC (m) ? # 53	↓ ↓ ↓
55		Brown ? Leveler # 53	↓ ↓ ↓
56		win fr	French street EXTERIOR
57		win fr	Paige street ↓
58		win fr	John street
59		residue door fr beside new	John street
60		win fr	from rm 903

Reported By: [signature] Date: 10/11/16 Due Date: 48-hr

Received By: _____ Date: _____

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, ma Building Name Freshman Academy

Sample	Result	Description of Material	Sample Location
61		hard wall plaster (WP)	rm 717
62		(CP)	rm 717
63		(CP)	stairwell by 701
64		paint on stone foundation	under stair by 701
65		2x4 SAT (new)	main office - Lounge
66		Exposed adhesive on wall assumed for whitboard	Nurse's office

Reported By: Leon R Bass Date: 10/11/16 Due Date: 48-hr

Received By: _____ Date: _____

OrderID: 131604840

131604840

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell H.S.

Town/City: Lowell, MA Building Name Freshman Academy

Sample	Result	Description of Material	Sample Location
		22906754	cim 702
		22906682	cim 703
		22906664	hall by cim 704
		22906720	cim 701
		22906700	cim 704
		22904997	Burgoyne Theatre (705)
		22906709	outside Bldg, From 705, Paige Street
		all cassette sum	(.5 cm)(10m) = 150 c

Reported By: [signature] Date: 10/5/2016 Due Date: 48-hr

Received By: Date:

EMSL FedEx

8071 5217 0028

RECEIVED
OCT 07 2016
By MM 912

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801

Tel/Fax: (781) 933-8411 / (781) 933-8412

http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604840
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 10/07/2016
Analyzed: 10/11/2016

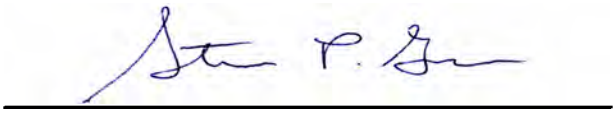
Project: Lowell H.S. Freshman Academy - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604840-0001			131604840-0002			131604840-0003		
Client Sample ID:	22906754			22906682			22906664		
Volume (L):	150			150			150		
Sample Location	C'rm 702			C'rm 703			Hall by C'rm 704		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	-	-	-	1	20	0.7
Ascospores	1	20	1	2	40	1.2	1	20	0.7
Aspergillus/Penicillium	11	240	12.5	11	240	7.2	21	460	16.6
Basidiospores	67	1500	78.1	139	3030	90.8	91	2000	72.4
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	100	5.2	1	20	0.6	7	200	7.2
Curvularia	-	-	-	-	-	-	1*	7*	0.3
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	1	20	1	-	-	-	1	20	0.7
Myxomycetes++	2	40	2.1	1*	7*	0.2	1	20	0.7
Pithomyces	-	-	-	-	-	-	2*	10*	0.4
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Botrytis	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	1*	7*	0.3
Total Fungi	**87**	**1920**	**100**	**154**	**3337**	**100**	**127**	**2764**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	1*	7*	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	3	-	-	3	-	-	3	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	2	-	-	4	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

High levels of background particulate can obscure spores and other particulates leading to underestimation. Background levels of 5 indicate an overloading of background particulates, prohibiting accurate detection and quantification. Present = Spores detected on overloaded samples. Results are not blank corrected unless otherwise noted. The detection limit is equal to one fungal spore, structure, pollen, fiber particle or insect fragment. "*" Denotes particles found at 300X. "-" Denotes not detected. Due to method stopping rules, raw counts in excess of 100 are extrapolated based on the percentage analyzed. EMSL maintains liability limited to cost of analysis. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. Woburn, MA AIHA-LAP, LLC --EMLAP Accredited #180179

Initial report from: 10/11/2016 11:53:52

For information on the fungi listed in this report, please visit the Resources section at www.emsl.com

EMSL Analytical, Inc.

7 Constitution Way, Suite 107 Woburn, MA 01801
Tel/Fax: (781) 933-8411 / (781) 933-8412
http://www.EMSL.com / bostonlab@emsl.com

EMSL Order: 131604840
Customer ID: UEC63
Customer PO:
Project ID:

Attn: Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Phone: (617) 984-9772
Fax: (508) 628-5488
Collected:
Received: 10/07/2016
Analyzed: 10/11/2016

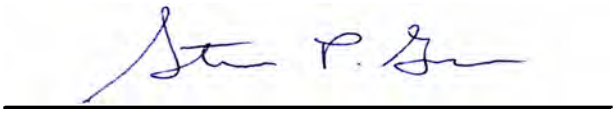
Project: Lowell H.S. Freshman Academy - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	131604840-0004			131604840-0005			131604840-0006		
Client Sample ID:	22906720			22906700			22904997		
Volume (L):	150			150			150		
Sample Location	C'rm 701			C'rm 704			Burgoyne Theatre (705)		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	-	-	-	1*	7*	0.3	-	-	-
Ascospores	1	20	1.3	1	20	0.9	3	70	3.1
Aspergillus/Penicillium	13	280	17.9	16	350	15.4	11	240	10.6
Basidiospores	54	1200	76.9	82	1800	79.4	86	1900	84.2
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	2	40	2.6	4	90	4	-	-	-
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	1	20	1.3	-	-	-	2	40	1.8
Myxomycetes++	-	-	-	-	-	-	-	-	-
Pithomyces	-	-	-	-	-	-	1*	7*	0.3
Rust	-	-	-	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Botrytis	-	-	-	-	-	-	-	-	-
Nigrospora	-	-	-	-	-	-	-	-	-
Total Fungi	**71**	**1560**	**100**	**104**	**2267**	**100**	**103**	**2257**	**100**
Hyphal Fragment	-	-	-	-	-	-	-	-	-
Insect Fragment	-	-	-	-	-	-	-	-	-
Pollen	-	-	-	-	-	-	-	-	-
Analyt. Sensitivity 600x	-	22	-	-	22	-	-	22	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	3	-	-	2	-	-	2	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	3	-	-	2	-	-	1	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

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Initial report from: 10/11/2016 11:53:52

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Fax: (508) 628-5488
Collected:
Received: 10/07/2016
Analyzed: 10/11/2016

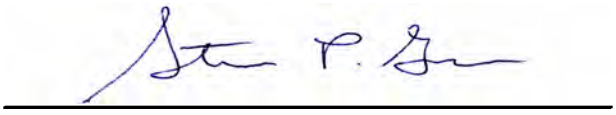
Project: Lowell H.S. Freshman Academy - Lowell, MA

Test Report: Air-O-Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (Methods EMSL 05-TP-003, ASTM D7391)

Lab Sample Number:	**131604840-0007**		
Client Sample ID:	**22906709**		
Volume (L):	**150**		
Sample Location	**Outside Bldg, from 705, Paige Street**		
Spore Types	**Raw Count**	**Count/m³**	**% of Total**
Alternaria	1	20	0.4
Ascospores	5	100	1.8
Aspergillus/Penicillium	12	260	4.6
Basidiospores	222	4840	85.8
Bipolaris++	-	-	-
Chaetomium	-	-	-
Cladosporium	13	280	5
Curvularia	-	-	-
Epicoccum	-	-	-
Fusarium	-	-	-
Ganoderma	3	70	1.2
Myxomycetes++	-	-	-
Pithomyces	-	-	-
Rust	-	-	-
Scopulariopsis	-	-	-
Stachybotrys	-	-	-
Torula	-	-	-
Ulocladium	-	-	-
Unidentifiable Spores	-	-	-
Zygomycetes	-	-	-
Botrytis	3	70	1.2
Nigrospora	-	-	-
Total Fungi	**259**	**5640**	**100**
Hyphal Fragment	-	-	-
Insect Fragment	-	-	-
Pollen	2*	10*	-
Analyt. Sensitivity 600x	-	22	-
Analyt. Sensitivity 300x	-	7*	-
Skin Fragments (1-4)	-	1	-
Fibrous Particulate (1-4)	-	1	-
Background (1-5)	-	2	-

Bipolaris++ = Bipolaris/Drechslera/Exserohilum
Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.



Steve Grise, Laboratory Manager
or other approved signatory

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AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Liquid Scintillation
NRPP Device Code 8088
NRSB Device Code 12193

Laboratory Report for:

Universal Environmental Consultant
12 Brewster Road
Framingham MA 01702

Property Tested:

Lowell High School
Freshman Academy

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
1994345	3243113	10/05/2016 10:49 am	10/07/2016 12:18 pm	Basement Room 702	1.3
1994346	3243124	10/05/2016 11:01 am	10/07/2016 12:22 pm	Basement Room 703	1.4
1994347	3243112	10/05/2016 11:03 am	10/07/2016 12:16 pm	Basement Storage 703/704	2.2
1994348	3243134	10/05/2016 11:35 am	10/07/2016 12:19 pm	Basement Storage 701/702	6.2
1994349	3243114	10/05/2016 11:41 am	10/07/2016 12:15 pm	Basement Room 704	0.9
1994350	3243144	10/05/2016 11:46 am	10/07/2016 12:14 pm	Basement Hall by 705	0.7
1994351	3243153	10/05/2016 12:02 pm	10/07/2016 12:13 pm	Basement Small Hall rear of Stage	1.1

Comment: Universal Environmental Consultant was emailed a copy of this report.

Test Performed By: Leonard J. Busa

Distributed by: Universal Environmental Consultant

Date Received: 10/11/2016 Date Logged: 10/11/2016 Date Analyzed: 10/12/2016 Date Reported: 10/12/2016

Report Reviewed By: _____ Report Approved By: _____
Carolyn D. Koke, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 10 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

11 Awl Street Medway MA 02053 888-480-8812 FAX 508-533-8831

Asbestos Identification Laboratory

165 New Boston St., Ste 227
Woburn, MA 01801
781-932-9600

Web: www.asbestosidentificationlab.com
Email: mikemanning@asbestosidentificationlab.com

Batch: 16866

NVLAP®
Lab Code: 200919-0

October 17, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Steam Plant
Date Sampled: 2016-10-12
Work Received: 2016-10-12
Work Analyzed: 2016-10-16

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

Dear Ammar Dieb,

Asbestos Identification Laboratory has completed the analysis of the samples from your office for the above referenced project .

The information and analysis contained in this report have been generated using the EPA /600/R-93/116 Method for the Determination of Asbestos in Bulk Building Materials. Materials or products that contain more than 1% of any kind or combination of asbestos are considered an asbestos containing building material as determined by the EPA. This Polarized Light Microscope (PLM) technique may be performed either by visual estimation or point counting. Point counting provides a determination of the area percentage of asbestos in a sample. If the asbestos is estimated to be less than 10% by visual estimation of friable material, the determination may be repeated using the point counting technique. The results of the point counting supersede visual PLM results. Results in this report only relate to the items tested. This report may not be used by the customer to claim product endorsement by NVLAP or any other U.S. Government Agency.

Laboratory results represent the analysis of samples as submitted by the customer. Information regarding sample location, description, area, volume, etc., was provided by the customer. Asbestos Identification Laboratory is not responsible for sample collection activities or analytical method limitations. Unless notified in writing to return samples, Asbestos Identification Laboratory discards customer samples after 30 days. Samples containing subsamples or layers will be analyzed separately when applicable. Reports are kept at Asbestos Identification Laboratory for three years. This report shall not be reproduced, except in full, without the written consent of Asbestos Identification Laboratory.

- NVLAP Lab Code: 200919-0
- Massachusetts Certification License: AA000208
- State of Connecticut, Department of Public Health Approved Environmental Laboratory Registration Number: PH-0142
- State of Maine, Department of Environmental Protection Asbestos Analytical Laboratory License Number: LB-0078(Bulk) LA-0087(Air)
- State of Rhode Island and Providence Plantations. Department of Health Certification: AAL-121
- State of Vermont, Department of Health Environmental Health License AL934461

Thank you Ammar Dieb for your business.

Michael Manning
Owner/Director

October 17, 2016

Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702

Project Number:
Project Name: Lowell High School, Lowell, MA- Steam Plant
Date Sampled: 2016-10-12
Work Received: 2016-10-12
Work Analyzed: 2016-10-16

Analysis Method: BULK PLM ANALYSIS EPA/600/R-93/116

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
01 / 186478	Interior Door Fr Caulk	Entrance to Generator Rm	brown	Non-Fibrous 100	None Detected
02 / 186479	Int Door Fr	Entrance to Generator Rm	white	Non-Fibrous 100	None Detected
03 / 186480	Generator Exhaust	Vert, Generator Room	tan	Fiberglass < 1 Non-Fibrous 100	None Detected
04 / 186481	Gen Exh	Muffler, Generator Room	tan	Synthetic 2 Non-Fibrous 98	None Detected
05 / 186482	Gen Exh	Vert, Generator Room	tan	Synthetic 5 Non-Fibrous 95	None Detected
06 / 186483	Tan Cement in Boiler End Section	Boiler #1	tan	Non-Fibrous 100	None Detected
07 / 186484	Tan Cement in Boiler End Section	Boiler #2	multi	Non-Fibrous 100	None Detected
08 / 186485	Paint on Brick Wall	Rear of Boilers	multi	Non-Fibrous 100	None Detected
09 / 186486	Paint on Brick Floor	Front of Boilers	multi	Non-Fibrous 100	None Detected
10 / 186487	Paint on Conc Floor	By HW Tank	multi	Non-Fibrous 100	None Detected
11 / 186488	Win Fr Caulk	French St, Exterior	white	Non-Fibrous 100	None Detected
12 / 186489	Win Fr	Ranger Side, Exterior	white	Non-Fibrous 100	None Detected
13 / 186490	Grille Caulk	Chimney Side, Exterior	white	Non-Fibrous 100	None Detected
14 / 186491	GL for Small Window in Old Wood Entrance Door-I	Exterior	multi	Non-Fibrous 100	None Detected

FieldID / LabID	Material	Location	Color	Non-Asbestos %	Asbestos %
15 / 186492	GL for Small Window in Old Wood Entrance Door-II	Exterior	multi	Non-Fibrous 100	None Detected
16 / 186493	Old Brick Floor in Front of Boilers		red	Non-Fibrous 100	None Detected

Monday 17 October

Analyzed by:



End of Report

Batch: 16866

CHAIN OF CUSTODY

Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702
Tel: (508) 628-5486 - Fax: (508) 628-5488
adieb@uec-env.com

Lowell High School

Town/City: Lowell, MA Building Name Steam Plant

Sample	Result	Description of Material	Sample Location
1		interior door fr caulk	ENTRANCE to Generator Conciator
2		int. door fr	" " "
3		Generator Exhaust	vert Generator Room
4		Gen. Exh	muffler
5		Gen exh	vert
6		Lay cement in Boiler end section	Boiler #1
7		Lay cement in Boiler end section	Boiler #2
8		paint on Brick wall	rear of Boilers
9		paint on Brick floor	Front of Boilers
10		paint on conc. floor	by HW tank
11		win fr caulk	French St. EXTERIOR
12		win fr	Ranger side
13		Grille caulk	chimney side
14		gl. for small window in	old wood ENTRANCE door - I
15		" " "	" " " " - II
16		old brick Floor in Front	of Boilers

Reported By: [signature] Date: 10/12/16 Due Date: 72-hr

Received By: [signature] Date: 10/12/16

UTILITY INFORMATION STATEMENT

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREON IS COMPILED BASED ON FIELD SURVEY INFORMATION, RECORD INFORMATION AS SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES, AND PLAN INFORMATION SUPPLIED BY THE CLIENT, IF ANY; THEREFORE WE CANNOT GUARANTEE THE ACCURACY OF SAID COMPILED SUB-SURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE. ONLY PHYSICALLY LOCATED SUB-SURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.

2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.

3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR COMPILATION OF THIS INFORMATION.

5. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILING UTILITY INFORMATION IS NOT EXACT, AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.

6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.

7. THE PROPER UTILITY ENGINEERING/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD (V.I.F.) BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.

8. AS OF THE DATE OF THIS PLAN RECORD INFORMATION HAS NOT BEEN RECEIVED BY NITSCH ENGINEERING FOR THE FOLLOWING UTILITIES:

NOTES

1. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO PERKINS EASTMAN, AIA FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH PERKINS EASTMAN, AIA FOR EXISTING CONDITIONS SURVEY OF LOWELL HIGH SCHOOL CAMPUS. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.

2. THE PURPOSE OF THIS PLAN IS TO SHOW EXISTING CONDITIONS SURVEY AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY WHICH OCCURRED BETWEEN AUGUST 24 AND OCTOBER 11 OF 2016.

3. HORIZONTAL COORDINATES REFER TO NAD83 BASE ON RTK GPS OBSERVATION.

4. ELEVATION REFERS TO CITY OF LOWELL VERTICAL DATUM BASED ON RTK GPS OBSERVATION AND CHECKING BENCHMARKS..

5. THE INFORMATION CONTAINED ON THE DISK OR ELECTRONIC DRAWING FILE ACCOMPANYING THIS PLAN MUST BE COMPARED TO THE SEALED AND SIGNED HARD COPY OF THE PLAN TO ENSURE THE ACCURACY OF ALL INFORMATION AND TO ENSURE NO CHANGES, ALTERATIONS, OR MODIFICATIONS HAVE BEEN MADE. RELIANCE SHALL NOT BE MADE ON A DOCUMENT TRANSMITTED BY COMPUTER OR OTHER ELECTRONIC MEANS UNLESS FIRST COMPARED TO THE ORIGINAL SEALED DOCUMENT ISSUED AT THE TIME OF THE SURVEY. DUE TO THE CRITICAL NATURE OF SURVEYING, DATA ACQUISITION, AND AUTOCAD PLAN DEVELOPMENT, IF CRITICAL DIMENSIONAL INFORMATION IS NEEDED AND IS NOT SPECIFICALLY SHOWN ON THE ELECTRONIC DRAWING FILE, PLEASE CONTACT NITSCH ENGINEERING.

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

BENCH MARK: TBM-A
X-CUT ON BOLT OF LIGHT POLE BASE NO. 40
ELEVATION=31.48(L.C.B)
FIELD BOOK 645A PAGE 44
SET ON (09/20/16)

FATHER MORISSETTE BOULEVARD
(PUBLIC - 80' WIDE)

ARCAND DRIVE
(PUBLIC - 75' WIDE)

MERRIMACK CANAL

N/F CITY OF LOWELL SCHOOL DEPARTMENT GI PARCEL ID#2450-50 BOOK 2313 PAGE 190

"FIELD HOUSE" NO. 50 FATHER MORISSETTE BOULEVARD

3 STORY BRICK

"LORD BUILDING" NO. 50 FATHER MORISSETTE BOULEVARD
LOT AREA 143,186.2 SQ. FT. OR 3.3 ACRES

30' WIDE EASEMENT FOR OVERHEAD PEDESTRIAN WALKWAY TO THE CITY OF LOWELL, BOOK 2405 PAGE 382

30' WIDE EASEMENT FOR OVERHEAD PEDESTRIAN WALKWAY TO THE CITY OF LOWELL BOOK 2419, PAGE 310

2ND STORY PEDESTRIAN BRIDGE (ENCLOSED)

10' WIDE UTILITY EASEMENT

10' WIDE TEMPORARY CONSTRUCTION EASEMENT

20' RAILROAD EASEMENT

LINE OF RAILROAD EASEMENT

N:3,061,235.3121
E:708,526.3629

S88°08'10"E 313.32'

N:3,061,063.8047
E:706,476.7586

N15°50'E, 128.03'

N15°50'E, 197.05'

N59°58'37"W 315.81'

N35°58'37"E 409.62'

S30°01'43"E 441.27'

S30°01'43"E 445.57'

N56°59'32"W 146.09'

R=1260.00'
L=194.85'
Δ=8°51'37"
CH B=S83°42'22"E
CH D=194.65'

R=64.00'
L=69.12'
Δ=90°00'00"
CH B=N46°51'50"E
CH D=62.23'

LEGEND

- CB — CATCH BASIN
- CATV — CABLE TELEVISION MANHOLE
- D — DRAIN MANHOLE
- E — ELECTRIC MANHOLE
- M — MISCELLANEOUS MANHOLE
- S — SEWER MANHOLE
- T — TELEPHONE MANHOLE
- W — WATER MANHOLE
- GSO — GAS SHUT-OFF
- WSO — WATER SHUT-OFF
- GG — GAS GATE
- WG — WATER GATE
- ICV — IRRIGATION CONTROL VALVE
- CLEANOUT — CLEANOUT
- S/A — SIAMESE SPRINKLER HEAD
- FIRE HYDRANT
- DS — DOWN SPOUT
- UP — UTILITY POLE
- UP W/ UE — UTILITY POLE WITH CONDUIT LINE TO GROUND
- LIGHT POLE
- LB — LIGHT BOLLARD
- LL — LANDSCAPE LIGHT
- HH — HAND HOLE
- TC — TRASH CAN
- CAT — CATENARY POLE
- FACP — FIRE ALARM CALL BOX
- FP — FLAG POLE
- PM — PARKING METER
- S — SIGN POST
- 12" — DECIDUOUS TREE WITH TRUNK DIAMETER
- 12" — CONIFEROUS TREE WITH TRUNK DIAMETER
- HANDICAP PARKING
- 31x43 — SPOT ELEVATION
- CLF — CHAIN LINK FENCE
- SGC — SLOPED GRANITE CURB
- VGC — VERTICAL GRANITE CURB
- VCC — VERTICAL CONCRETE CURB
- WCR — WHEELCHAIR RAMP
- R= — RIM ELEVATION EQUALS
- I= — INVERT ELEVATION EQUALS
- TH= — TOP OF HOOD ELEVATION EQUALS
- NPV — NO PIPES VISIBLE
- TOW= — TOP OF WATER
- TW — TOP OF WALL ELEVATION
- CATV — UNDERGROUND CABLE TELEVISION LINE
- D — UNDERGROUND DRAIN LINE
- UD — UNDERGROUND UNDER DRAIN LINE
- E — UNDERGROUND ELECTRIC LINE
- G — UNDERGROUND GAS LINE
- S — UNDERGROUND SEWER LINE
- T — UNDERGROUND TELEPHONE LINE
- W — UNDERGROUND WATER LINE
- OHW — OVERHEAD WIRES
- BENCH MARK

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

MATCH LINE - SEE SHEET EX.1
MATCH LINE - SEE SHEET EX.3

MATCH LINE - SEE SHEET EX.1
MATCH LINE - SEE SHEET EX.2

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- Structural Engineering
- Green Infrastructure
- Planning
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EXISTING CONDITIONS SURVEY

LOWELL HIGH SCHOOL

50 FATHER MORISSETTE BOULEVARD, LOWELL, MA 01852

PREPARED FOR:
PERKINS EASTMAN, AIA
50 FRANKLIN STREET, SUITE 203, BOSTON, MA 02110

REV.	COMMENTS	DATE
	REVISIONS	

PROJECT #	11601
FILE:	11601_TOP01.dwg
SCALE:	1" = 20'
DATE:	OCTOBER 20, 2016
DES./COMP:	ALEX A. DIOTTE
FIELD BOOK:	645A
DRAFTED BY:	TI
CHECKED BY:	

SHEET: 1

EX-1

OF 4 REV.

11/8/2017 1:19 PM
A:\11601 Lowell Hs Utility Survey\Cad\11601_layout.dwg

UTILITY INFORMATION STATEMENT

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3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.

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8. AS OF THE DATE OF THIS PLAN RECORD INFORMATION HAS NOT BEEN RECEIVED BY NITSCH ENGINEERING FOR THE FOLLOWING UTILITIES:

NOTES

1. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO PERKINS EASTMAN, AIA FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH PERKINS EASTMAN, AIA FOR EXISTING CONDITIONS SURVEY OF LOWELL HIGH SCHOOL CAMPUS. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.

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LEGEND

	CATCH BASIN
C	CABLE TELEVISION MANHOLE
D	DRAIN MANHOLE
E	ELECTRIC MANHOLE
M	MISCELLANEOUS MANHOLE
S	SEWER MANHOLE
T	TELEPHONE MANHOLE
W	WATER MANHOLE
GSO	GAS SHUT-OFF
WSO	WATER SHUT-OFF
GG	GAS GATE
WG	WATER GATE
ICV	IRRIGATION CONTROL VALVE
CLEANOUT	CLEANOUT
SIA	SIAMESE SPRINKLER HEAD
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UP W/ UE	UTILITY POLE WITH CONDUIT LINE TO GROUND
	LIGHT POLE
LB	LIGHT BOLLARD
LL	LANDSCAPE LIGHT
HH	HAND HOLE
TC	TRASH CAN
CAT	CATENARY POLE
FACB	FIRE ALARM CALL BOX
FP	FLAG POLE
PM	PARKING METER
S	SIGN POST
12"	DECIDUOUS TREE WITH TRUNK DIAMETER
12"	CONIFEROUS TREE WITH TRUNK DIAMETER
	HANDICAP PARKING
31x43	SPOT ELEVATION
CLF	CHAIN LINK FENCE
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EXISTING CONDITIONS SURVEY

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50 FATHER MORISSETTE BOULEVARD, LOWELL, MA 01852

PREPARED FOR:

PERKINS EASTMAN, AIA

50 FRANKLIN STREET, SUITE 203, BOSTON, MA 02110

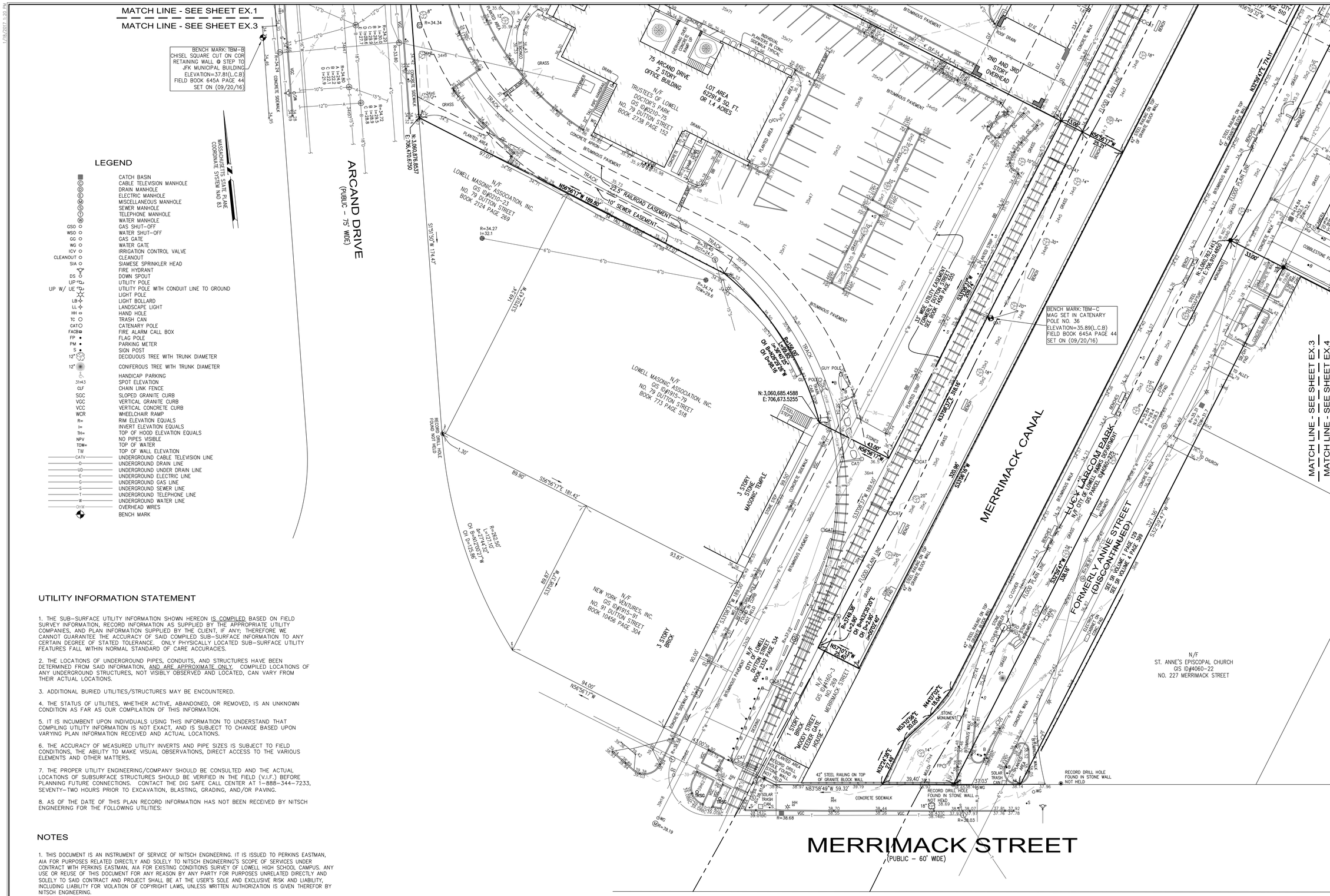
REV.	COMMENTS	DATE
	REVISIONS	

PROJECT #	11601
FILE:	11601_TOPO1.dwg
SCALE:	1"= 20'
DATE:	OCTOBER 20, 2016
DES./COMP:	ALEX A. DIOTTE
FIELD BOOK:	645A
DRAFTED BY:	TI
CHECKED BY:	

SHEET: 2

EX-2

OF 4 REV.


MATCH LINE - SEE SHEET EX.1
MATCH LINE - SEE SHEET EX.3
BENCH MARK: TBM-B
CHISEL SQUARE CUT ON COR RETAINING WALL @ STEP TO JFK MUNICIPAL BUILDING
ELEVATION=37.81(L.C.B)
FIELD BOOK 645A PAGE 44
SET ON (09/20/16)
MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83
LEGEND
CATCH BASIN
CABLE TELEVISION MANHOLE
DRAIN MANHOLE
ELECTRIC MANHOLE
MISCELLANEOUS MANHOLE
SEWER MANHOLE
TELEPHONE MANHOLE
WATER MANHOLE
GAS SHUT-OFF
WATER SHUT-OFF
GAS GATE
WATER GATE
IRRIGATION CONTROL VALVE
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WHEELCHAIR RAMP
RIM ELEVATION EQUALS
INVERT ELEVATION EQUALS
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NO PIPES VISIBLE
TOP OF WATER
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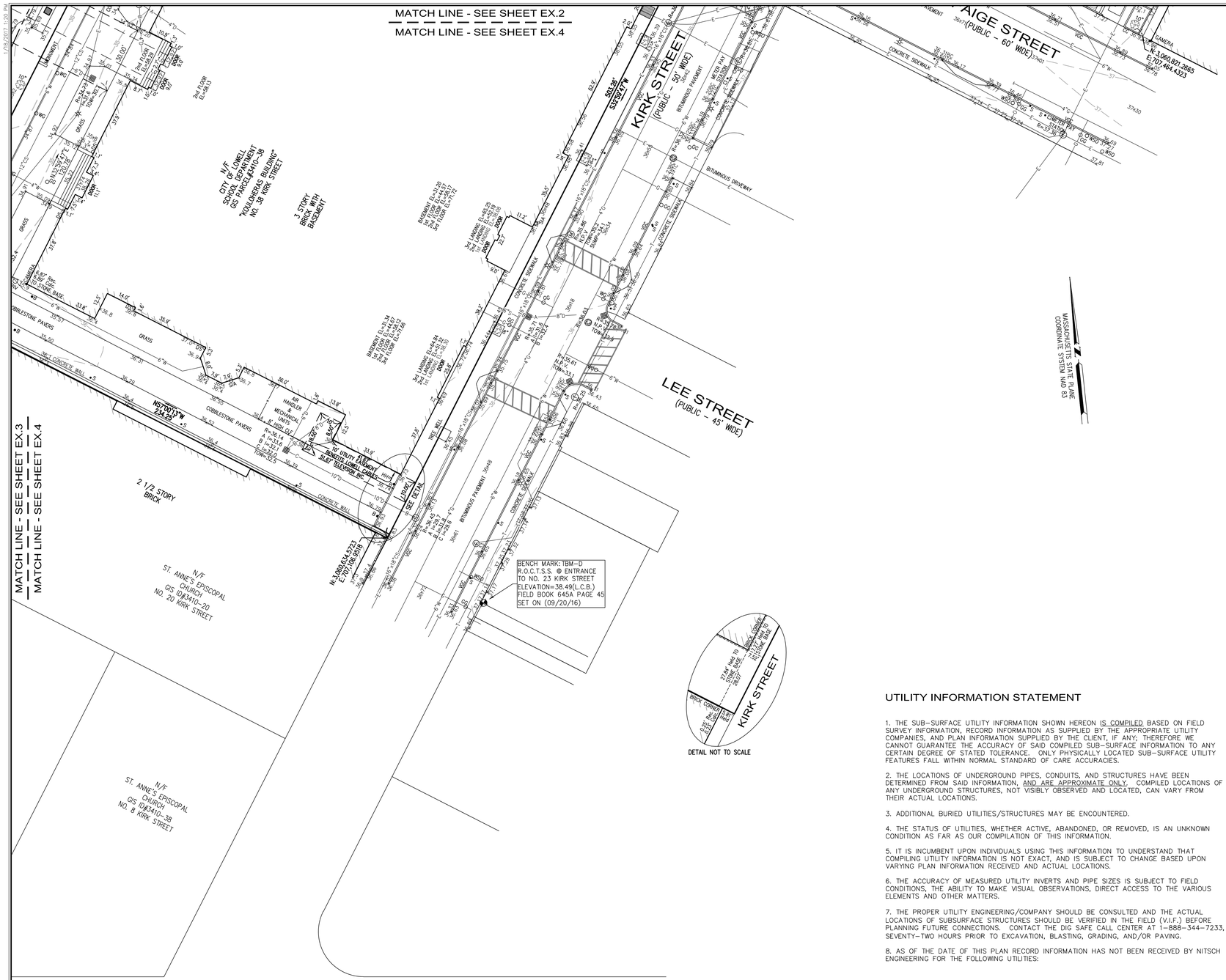
UNDERGROUND CABLE TELEVISION LINE
UNDERGROUND DRAIN LINE
UNDERGROUND UNDER DRAIN LINE
UNDERGROUND ELECTRIC LINE
UNDERGROUND GAS LINE
UNDERGROUND SEWER LINE
UNDERGROUND TELEPHONE LINE
UNDERGROUND WATER LINE
OVERHEAD WIRES
BENCH MARK
ARCAND DRIVE
(PUBLIC - 75' WIDE)
75 ARCAND DRIVE
2 STORY
OFFICE BUILDING
LOT AREA
922919 SQ. FT.
OR 1.4 ACRES
N/F
TRUSTEES OF LOWELL
DOCTOR'S PARK
GIS ID#0210-75
NO. 79 DUTTON STREET
BOOK 2738 PAGE 152
N/F
LOWELL MASONIC ASSOCIATION, INC.
GIS ID#0210-23
NO. 79 DUTTON STREET
BOOK 2124 PAGE 269
N/F
LOWELL MASONIC ASSOCIATION, INC.
GIS ID#1915-79
NO. 79 DUTTON STREET
BOOK 773 PAGE 518
N/F
NEW YORK VENTURES, INC.
GIS ID#1915-91
NO. 91 DUTTON STREET
BOOK 10436 PAGE 304
N/F
CITY OF LOWELL
DUTTON STREET
BOOK 2302 PAGE 534
N/F
GIS ID#1915-60-3
NO. 69
MERRIMACK STREET
N: 3,060,876.8537
E: 706,470.6750
N: 3,060,685.4588
E: 706,673.5255
N: 3,060,782.4417
E: 706,910.4893
22.5' RAILROAD EASEMENT
10' SEWER EASEMENT
35' WIDE UTILITY EASEMENT
FOR BOSTON & LOWELL R.R. CORP.
SEE BOOK 1470 PAGE 355
N56°56'17"W 189.80'
S15°15'07"W 174.47'
S33°03'43"W 149.74'
S56°56'17"E 181.42'
N33°08'07"E 89.87'
N56°56'17"W 94.00'
S33°08'07"W 89.87'
S33°08'07"W 105.50'
N56°56'17"W 25.21'
S33°08'07"W 376.96'
N33°08'07"E 376.16'
N56°56'17"W 43.00'
N56°56'17"W 33.00'
N56°59'32"W 774.11'
S33°59'47"W 321.36'
S33°59'47"W 38.16'
N83°58'49"W 59.32'
N51°07'07"E 89.04'
N33°08'07"E 89.05'
N27°23'53"E 27.09'
R=34.27
L=32.1
R=34.24
LOW=29.6
R=34.30
BOT=24.2
R=34.20
R=34.80
R=34.72
R=28.5
R=28.8
R=2563.50'
L=277.10'
CH BRG=N30°03'27"W
CH DIST=277.00'
R=2563.50'
L=277.43'
CH BRG=N30°03'27"W
CH DIST=277.32



LEGEND

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D	DRAIN MANHOLE
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T	UNDERGROUND TELEPHONE LINE
W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
	BENCH MARK

PLAN REFERENCES:
MIDDLESEX (NORTH) COUNTY REGISTRY OF DEEDS

PLAN BOOK 176 PLAN 17
PLAN BOOK 186 PLAN 121
PLAN BOOK 180 PLAN 45
PLAN BOOK 108 PLAN 36
PLAN BOOK 107 PLAN 41
PLAN BOOK 126 PLAN 142
PLAN BOOK 130 PLAN 80
PLAN BOOK 16 PLAN 38
PLAN BOOK 33 PLAN 70
PLAN BOOK 109 PLAN 63A
PLAN BOOK 119 PLAN 100A
PLAN BOOK 220 PLAN 44
PLAN BOOK 163 PLAN 99
PLAN BOOK 130 PLAN 80
PLAN BOOK 128 PLAN 25
PLAN BOOK 136 PLAN 136A
PLAN BOOK 107 PLAN 41
PLAN BOOK 109 PLAN 54A
PLAN BOOK 63 PLAN 9

LAND COURT PLAN 5011A

CITY OF LOWELL STREET RECORDS
SR VOLUME 1 PAGE 129
SR VOLUME 4 PAGE 399

UTILITY INFORMATION STATEMENT

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NOTES

PROPERTY PLAN BY YALE SURVEY, INC.
STONEHAM, MASS AND IS SHOWN IN SHEET X/02
"ADDITIONS, THE LOWELL HIGH SCHOOL" BY
PERLEY F. GILBERT ASSOCIATES, INC.
ARCHITECTS & ENGINEERS, LOWELL, MA
SUN BUILDING. (RE: PEDESTRIAN BRIDGE
EASEMENTS ACROSS MERRIMACK CANAL)

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

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LOWELL HIGH SCHOOL
50 FATHER MORISSETTE BOULEVARD, LOWELL, MA 01852

PREPARED FOR:
PERKINS EASTMAN, AIA
50 FRANKLIN STREET, SUITE 203, BOSTON, MA 02110

REV.	COMMENTS	DATE
	REVISIONS	

PROJECT #	11601
FILE:	11601_TOPO1.dwg
SCALE:	1"= 20'
DATE:	OCTOBER 20, 2016
DES./COMP:	ALEX A. DIOTTE
FIELD BOOK:	645A
DRAFTED BY:	TI
CHECKED BY:	

SHEET: 4

EX-4

OF 4 REV.

A:\11601 Sheet Fls. \dgn\Survey\Vue\11601_topo1.dwg

SKANSKA

Lowell High School Project

Site Selection Analysis

Most Favorable | Favorable | Less Favorable | Unfavorable | Y=Yes | N=No

Site	Acreage +/-	Usable Acreage +/-	Proximity to Public Transporta-tion	Proximity to Parking and/or Garage	Eminent Domain Required	Utilities Available Y/N	Entirely Within Lowell City Limits	Proximity to Public Services in Miles (50 Arcand Dr.)	Sidewalks	Potential Environmen-tal Issues	Land Use Restrictions	Historical Significance	Wetlands Y/N	Flood Plain	Zoning
Existing HS Location 50 Father Morissette Blvd.	6	6	Central Bus Hub	Ayotte Garage, John St. Garage	N	Y	Y	0	Y	Y	None known	Y	Y	N	Downtown Mixed Use (DMU)
Cawley Stadium 364 Douglas Rd.	45 +/-	31 +/-	Local Bus Routes	On Site	N	Y	Portions at Clark Rd. in Tewksbury	2.6	Rogers St.-Yes, Douglas Rd.-No	Potential Endangered Species	Title Review Req'd	Y	Y	Y	Regional Retail & Single Family (RR & SSF)
Wang MS/LeBlanc Park 475 West Meadow Rd.	56	31	Local Bus Routes	Limited existing	N	Y	Y	2.3	Y	Former Hospital Site	None known	N	Y	Y	Single Family (SSF)
South Common Park 171 South St.	20	2.3	Bus Routes, Train Terminal	Central & Early Garages, On Site	N	Y	Y	0.9	Y	None known	Article 97 Open Spaces	Y (Public Park)	N	N	Traditional Multi-Family (TMF)
Regatta Field 381 Pawtucket Blvd.	23	19	Local Bus Routes	N	Owned by MassDOT	Y	Y	2.4	Y	None known	None known	Y (Public Greenspace)	Y	Y	Single Family (SSF)
Rollie's Farm 1415 Varnum Ave.	11.18	11.18	Local Bus Routes	N	Y	Y	Y	3.8	Y	Potential Endangered Species	Ch. 61A Farmland Restrict.	N	Y	N	Single Family (SSF)
Carlisle St. 0 Carlisle St. Chelmsford	14	10	Local Bus Routes	N	N	Y	Entire lot in Chelmsford	2.5	N	Potential Endangered Species	None known	N	Y	N	Public Educational & Municipal (P)

PUBLIC and NONPROFIT PARCELS

CITY PROPERTIES

City of Lowell holds and extensive number of properties throughout the city used for a variety of public purposes. City properties are under the management by the following City authorities:

- Public School Department
- Parks and Recreation Department
- Fire Department
- Water Utility Department
- Public Works Department
- Wastewater Department
- Inspectional Services Department
- Cemeteries

The following table lists city owned and managed open spaces and parks. This is not a complete inventory of city owned land.

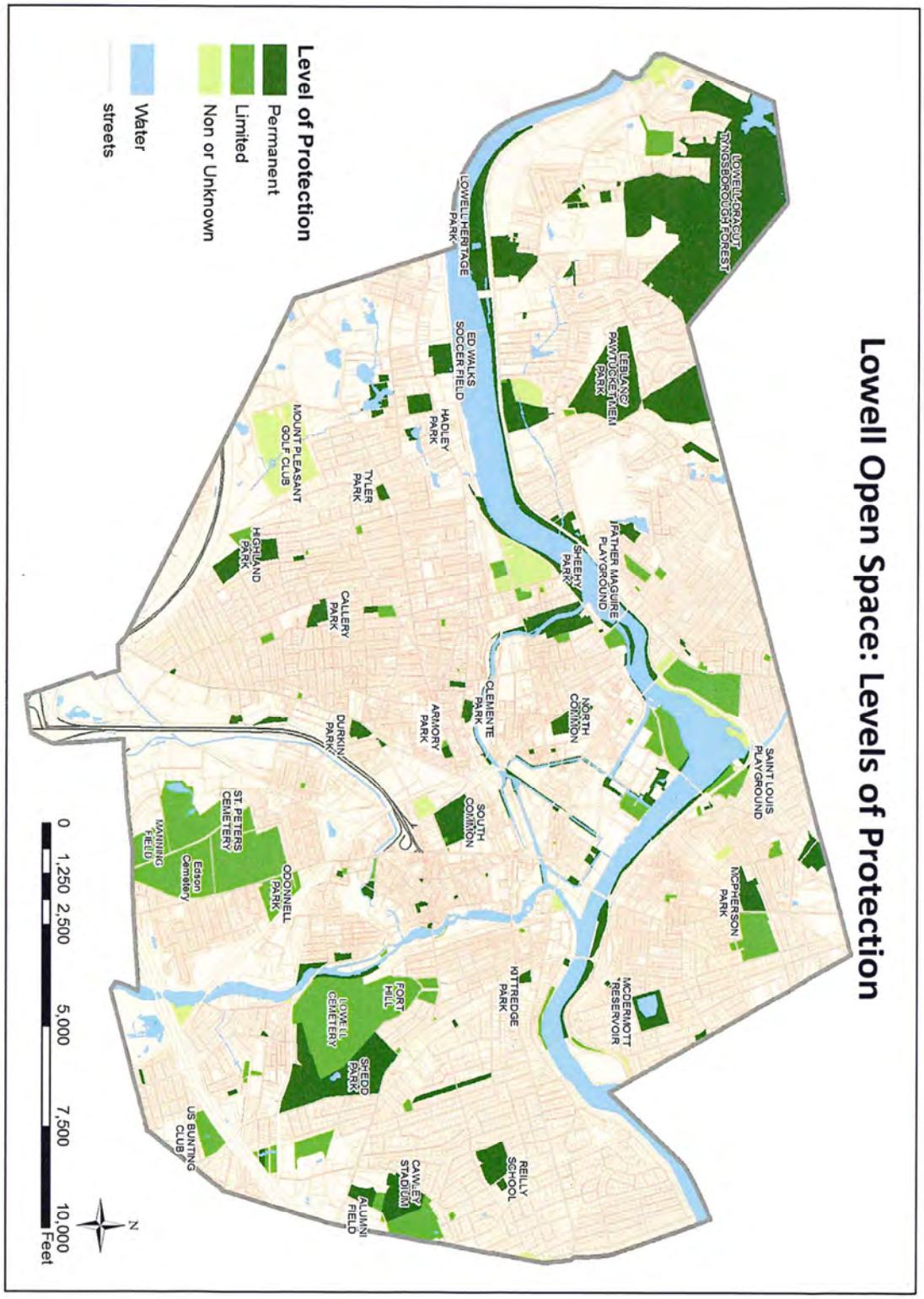
TABLE 5: CITY PARKS AND OPEN SPACES

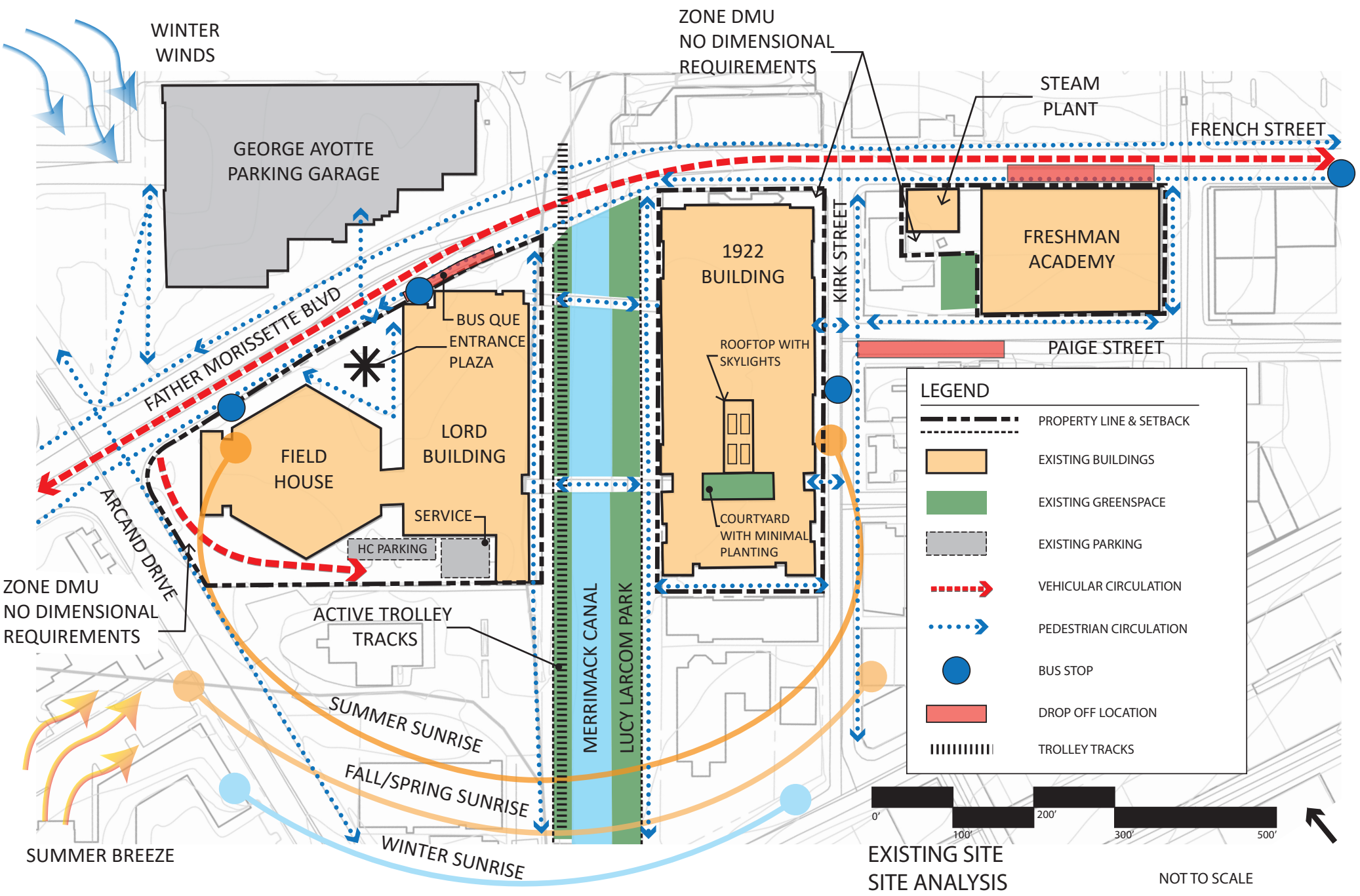
SITE NAME	ACRES	RECREATION	FUNDING
Alumni Field	5.48	Active-baseball	City Bonded Funds
Armory Park	1.25	Passive-playground	CDBG
Bourgeois Park	0.19	Active-basketball	CDBG
Callery Park	5.50	Active-baseball/playground	State Earmarks
Campbell Park	2.53	Active-baseball /playground	City
Carter St Park	0.41	Active-basketball	City
Cawley Stadium Complex	26.01	Active-football/track & field	State, CDBG, Federal, City
Centerville Memorial Park	0.13	Passive	CDBG, City, State Earmark
Circuit Av Park	0.58	Passive	City
Clemente Park	3.02	Active-volleyball /playground/skate park	CDBG, City, Earmark
Coburn Park	0.25	Passive	Private Foundation (LPCT), City
Doane St Park	1.29	Active	City, CDBG, LHA Partnership
Donahoe Park	13.04	Active-basketball /playground	CDBG, City
Dubner Park	0.18	Passive	CDBG, Private LPCT
Ducharme Park	0.51	Active-basketball /playground	CDBG, City, State Earmark
Durkin Park	3.76	Active-baseball /basketball	CDBG, State SBAP (School), City
Edwards St Park	8.79	Active-soccer	CDBG, Brownfields, LPCT,

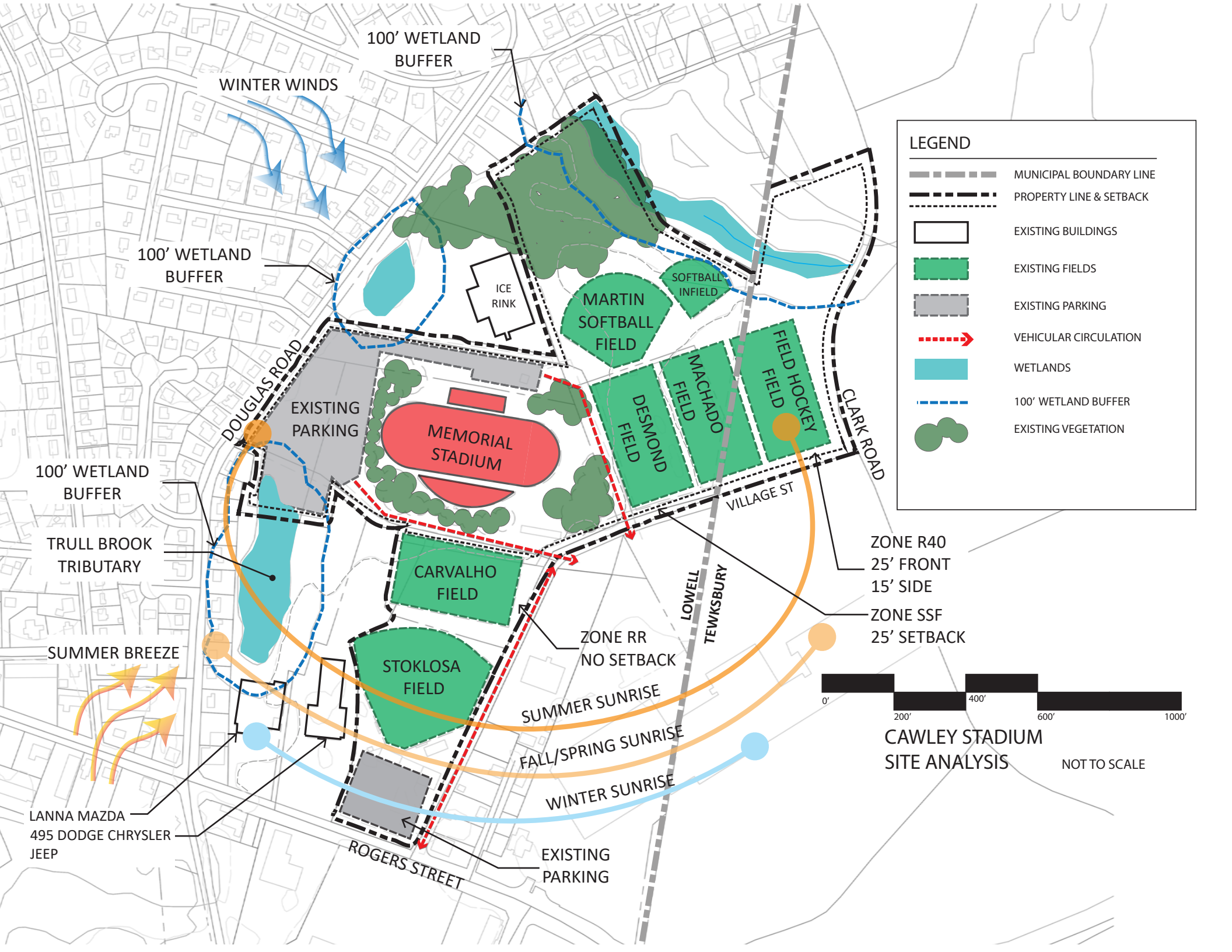
			City, State Earmark
Father Grillo Park	0.10	Passive	CDBG, City
Fayette St Park	0.17	Active-basketball /playground	CDBG, City
Fels Playground	0.64	Passive-playground	CDBG, City
Ferry Landing Park	0.15	Passive-dog park	City
Finneral Park	0.03	Passive	City
First St Park	2.67	Passive	Partnership with Private "Curbs and Cobbles", Veterans, and City,
Fort Hill Park	34.51	Passive	CDBG, MHC, DEM/DCR, City
Fr Kirwin Park	1.48	Active-basketball /playground	City, CDBG
Fr Maguire Park	4.59	Active-basketball/ baseball/tennis/playground	CDBG, State SBAP (School), City
Gage Field	21.87	Active-basketball/soccer baseball/tennis/playground	State Earmark, CDBG, City
Hadley Park	5.75	Active-volleyball/ baseball/ playground/skate park	CDBG, State Earmark, City
Harmony Park	0.19	Passive	CDBG, City
Highland Park	19.71	Active-basketball/handball /baseball/playground	CDBG, State Earmark, City
Hovey Field	7.42	Active-soccer/playground	CDBG, State Earmark, City
Kerouac Park	0.97	Passive	CDBG, City
Kittredge Park	1.63	Passive-playground	Tsongas Foundation, CDBG, City, Private Funding
Knott Park	1.12	Passive	City
Koumantzellis Park	12.75	Active-baseball /skate park/playground	CDBG, State Earmark, City
LHS Practice Fields	4.55	Active-soccer/football	City
LHS Varsity Soccer Field	2.26	Active-soccer	City, CDBG, State Earmark
Lincoln Square Park	0.37	Passive	CDBG, City, Lowell Heritage Partnership Fund
Lowell Memorial Auditorium Greenspace	2.22	Passive	City
Lucy Larcom Park	0.71	Passive	Federal National Park, City
John & Priscilla Maher Park	0.35	Active-playground	CDBG, State Earmark, City
Manning Field	6.15	Active-baseball	City
Martin Portuguese Park	0.08	Passive	CDBG, City
Martin Softball Field	10.12	Active-softball	CDBG, State SBAP (School), City
McDermott Reservoir	14.87	Passive	CDBG, City, State Earmark
McPherson Park	10.55	Active-pool/basketball/ tennis/playground/ softball	CDBG, City, Private
Monsignor Keenan	0.62	Active-playground	CDBG, City
Moody St Playground	0.40	Active-basketball/ playground	CDBG, City
Mulligan Park	1.99	Active-splash park*/ basketball/playground	State "Our Common Backyards Grant", LHA partnership, CDBG, City

Nieves, Olga Playground	0.23	Active-playground	CDBG, City
Noonan Family Park	0.03	Passive	City
North Common	9.84	Active-pool/basketball/ softball/playground	CDBG, State Earmark, State (Pool)
O'Donnell Park	15.29	Active-splash park*/ basketball/tennis/baseball	State, City, CDBG
Oliveria Park	1.81	Active-baseball/softball	CDBG, City
Pawtucket Memorial Park	58.22	Active-baseball/softball/ soccer/playground	CDBG, City, State SBAP (School)
Perry Playground	0.41	Active-basketball/ playground	CDBG, City
Reilly School Community Playground	13.98	Active-basketball/ playground	City, Private
Rotary Club Park	0.85	Active-skate park/ community garden	CDBG, Private- Rotary Club, City, Mill City Grows
Rynne Beach	0.25	Active-swimming	State, City (summer staffing)
Scullin Park	1.19	Passive-playground	Also called Morey School Playground, CDBG, State SBAP (School), City
Shedd Park	52.89	Active-splash park/ basketball/tennis/ playground/baseball	CDBG, State, Private "Friends of Shedd Park", City
Sheehy Park	5.42	Passive	CDBG, City
Sheehy Park Extension	5.48	Passive	CDBG, City
South Common	20.11	Active-pool/soccer/ playground	CDBG, State, City, Federal
St Louis Playground	6.38	Active-baseball/softball/ basketball/playground	CDBG, City
Suffolk St Park	1.20	Passive	CDBG, City
Tenth St Reservoir	1.23	Passive	State (Water Dept), City
Thomas L Crowley Park	0.61	Passive-playground	City , State Earmark
Tyler Park	1.81	Passive	CDBG, City
UMass Lowell Boathouse	0.24	Active-boating	State, City
Varnum (Mt. Vernon) Park	0.58	Passive	State Earmark, City
Veterans Memorial Park	0.28	Passive	CDBG, City, State Earmark
Victory Park	0.06	Passive	City
Walter J Lemieux Park	0.13	Passive	CDBG, City
Wang Soccer Field	17.32	Active-soccer	City
Wannalancit Park	0.05	Passive	City
TOTAL ACRES	**459.80**		

Lowell 2013 Open Space Plan pages 58 – 61 Excerpted




WINTER WINDS
GEORGE AYOTTE PARKING GARAGE
ZONE DMU NO DIMENSIONAL REQUIREMENTS
STEAM PLANT
FRENCH STREET
FATHER MORISSETTE BLVD
BUS QUE ENTRANCE PLAZA
1922 BUILDING
KIRK STREET
FRESHMAN ACADEMY
ROOFTOP WITH SKYLIGHTS
PAIGE STREET
FIELD HOUSE
LORD BUILDING
ARCAND DRIVE
SERVICE
HC PARKING
COURTYARD WITH MINIMAL PLANTING
ZONE DMU NO DIMENSIONAL REQUIREMENTS
ACTIVE TROLLEY TRACKS
MERRIMACK CANAL
LUCY LARCOM PARK
SUMMER SUNRISE
FALL/SPRING SUNRISE
WINTER SUNRISE
SUMMER BREEZE
LEGEND
PROPERTY LINE & SETBACK
EXISTING BUILDINGS
EXISTING GREENSPACE
EXISTING PARKING
VEHICULAR CIRCULATION
PEDESTRIAN CIRCULATION
BUS STOP
DROP OFF LOCATION
TROLLEY TRACKS
0'
100'
200'
300'
500'
EXISTING SITE
SITE ANALYSIS
NOT TO SCALE


100' WETLAND BUFFER
WINTER WINDS
100' WETLAND BUFFER
ICE RINK
SOFTBALL INFIELD
MARTIN SOFTBALL FIELD
DOUGLAS ROAD
EXISTING PARKING
MEMORIAL STADIUM
DESMOND FIELD
MACHADO FIELD
FIELD HOCKEY FIELD
CLARK ROAD
VILLAGE ST
100' WETLAND BUFFER
TRULL BROOK TRIBUTARY
CARVALHO FIELD
LOWELL
TEWKSBURY
ZONE R40
25' FRONT
15' SIDE
ZONE SSF
25' SETBACK
ZONE RR
NO SETBACK
SUMMER BREEZE
STOKLOSA FIELD
SUMMER SUNRISE
FALL/SPRING SUNRISE
WINTER SUNRISE
LANNA MAZDA
495 DODGE CHRYSLER
JEEP
ROGERS STREET
EXISTING PARKING
LEGEND
MUNICIPAL BOUNDARY LINE
PROPERTY LINE & SETBACK
EXISTING BUILDINGS
EXISTING FIELDS
EXISTING PARKING
VEHICULAR CIRCULATION
WETLANDS
100' WETLAND BUFFER
EXISTING VEGETATION
0'
200'
400'
600'
1000'
CAWLEY STADIUM
SITE ANALYSIS
NOT TO SCALE

BUILDABLE ACREAGE = 6.4

BUILDING (GSF) = 641,600

RENOVATION AREA (GSF) = 623,700

ADDITION/ NEW AREA (GSF) = 17,900

EXISTING 2, 3 & 5 STORY + 2 STORY ADDTN

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ MEETS ALL SPACE NEEDS (COUNT/SIZE)
+/- MEETS SOME EDUC. OBJECTIVES
- COMM./ACTIVITY AREAS SPREAD/SPLIT
- FRESHMAN ACADEMY IS REMOTE (INEFFICIENT SPACE USE/SAFETY ISSUE)
- SOLAR ORIENTATION IS PROBLEMATIC
- WINDOWLESS CLASSROOMS REMAIN
- LIMITED ACCESS TO GREEN SPACE
- HIGHER OPERATING COSTS (SIZE+ENV.)

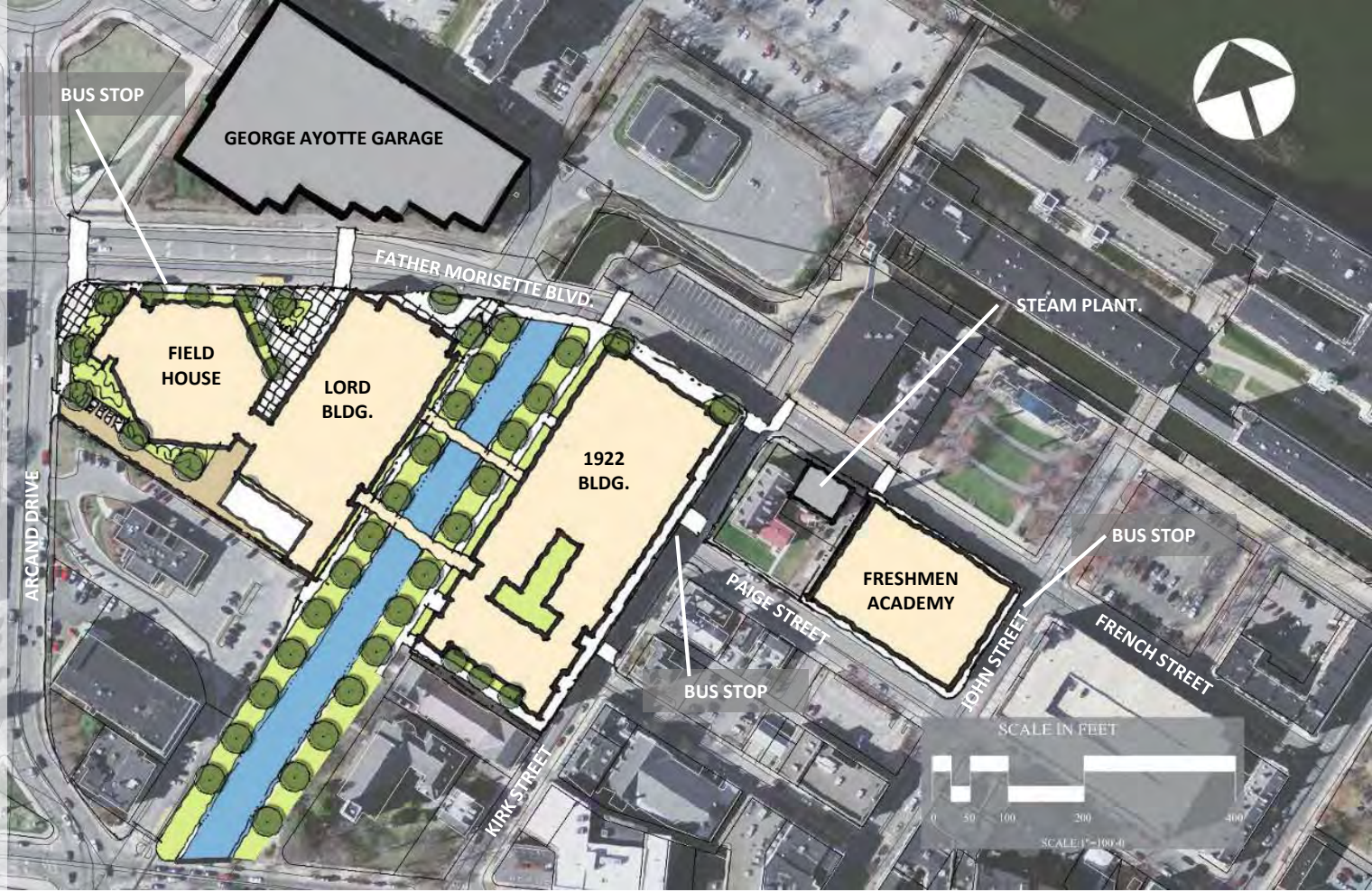
CONSTRUCTION

5 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CLASSROOMS
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

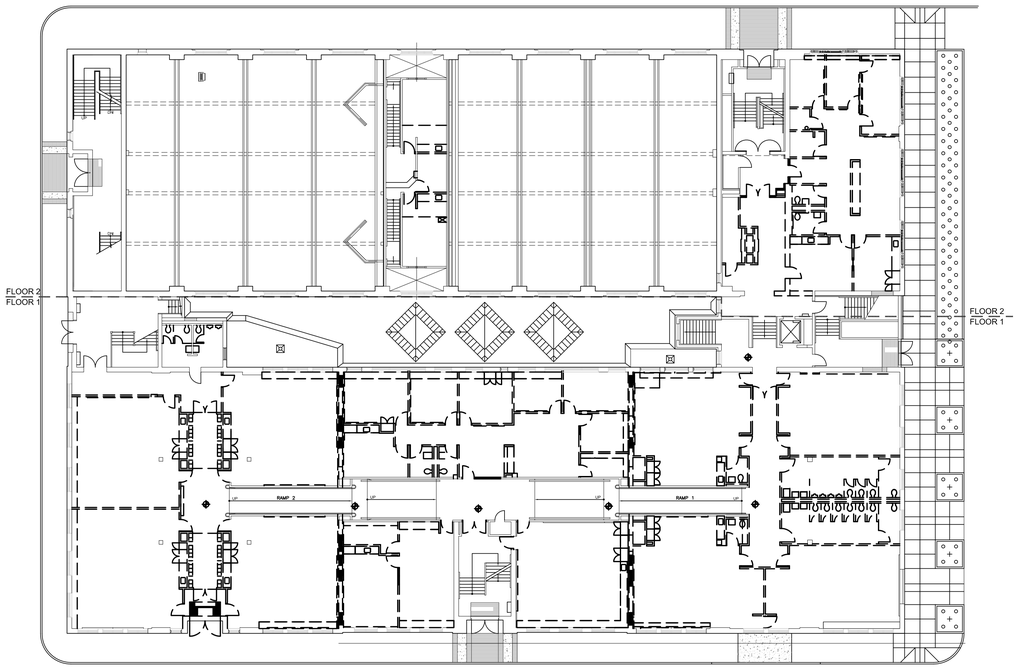
TOTAL PROJECT COST = $331,360,298

ESTIMATED CITY'S SHARE = $116,472,533

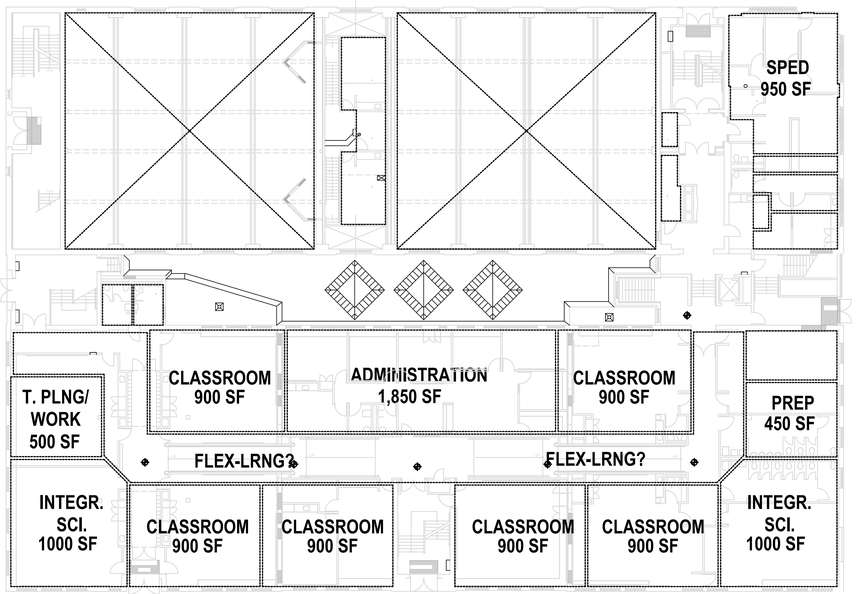


Lowell High School | FULL RENOVATION (EXISTING)

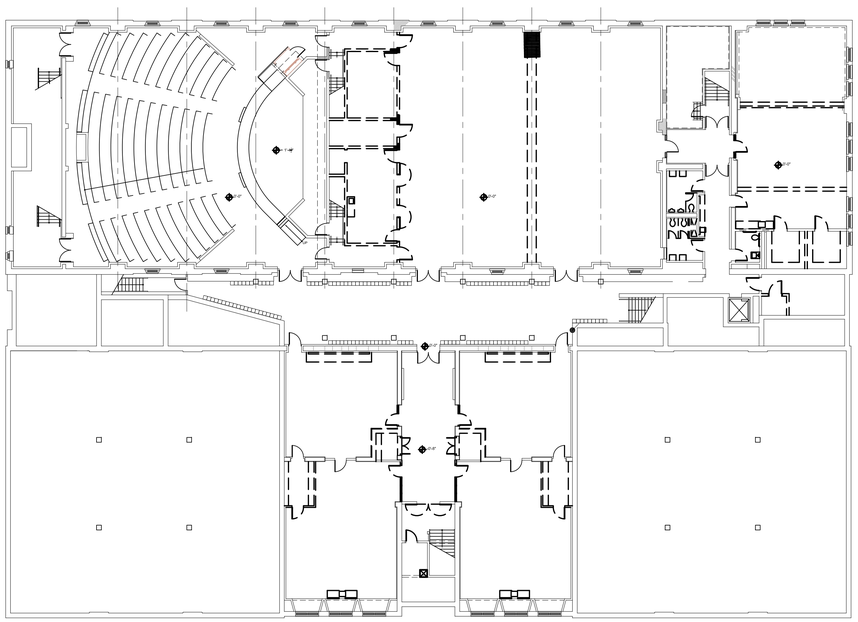
Perkins Eastman SKANSKA



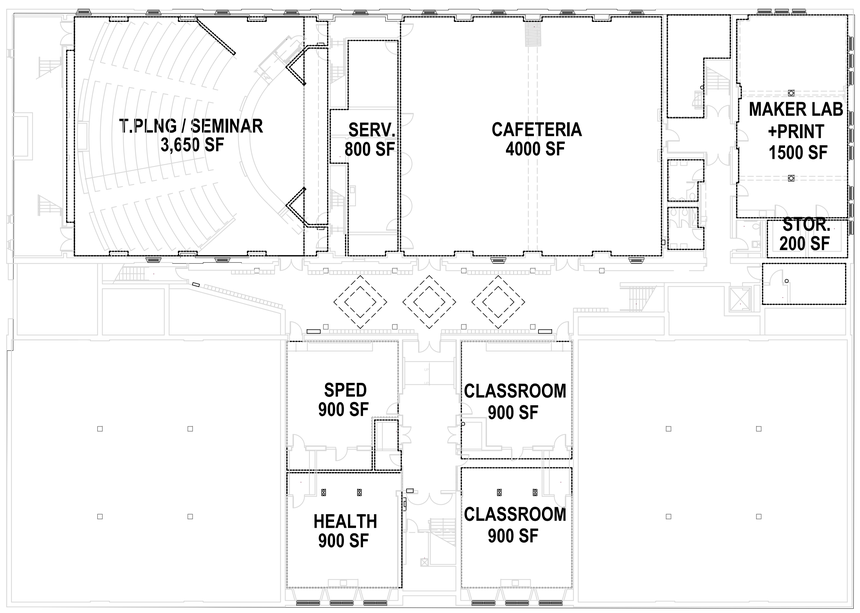
LEVEL 1 & 2 - FRESHMEN ACADEMY - EXISTING/ DEMOLITION



LEVEL 1 & 2 - FRESHMEN ACADEMY - RENOVATION FIT OUT



GROUND FLOOR - FRESHMEN ACADEMY - EXISTING/ DEMOLITION



GROUND FLOOR - FRESHMEN ACADEMY - RENOVATION FIT OUT

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
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Food Service:
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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
FULL RENOVATION

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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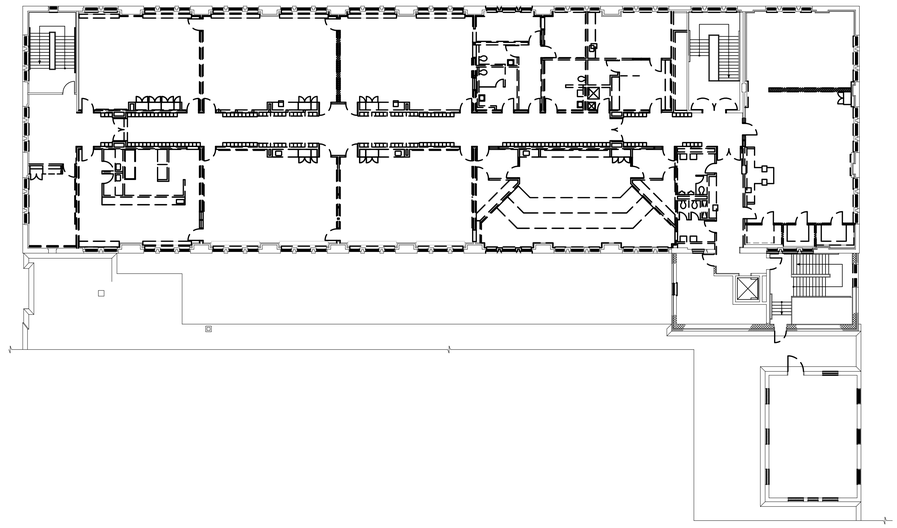
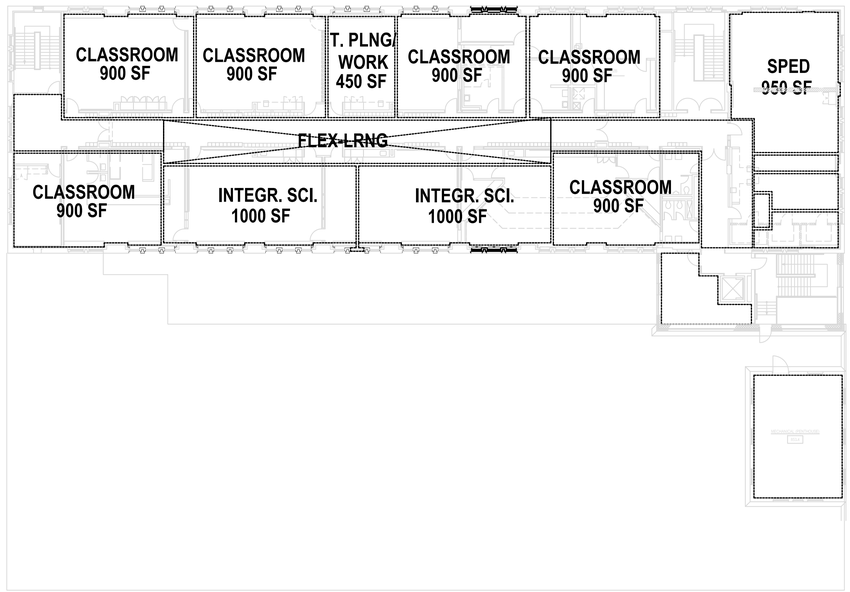
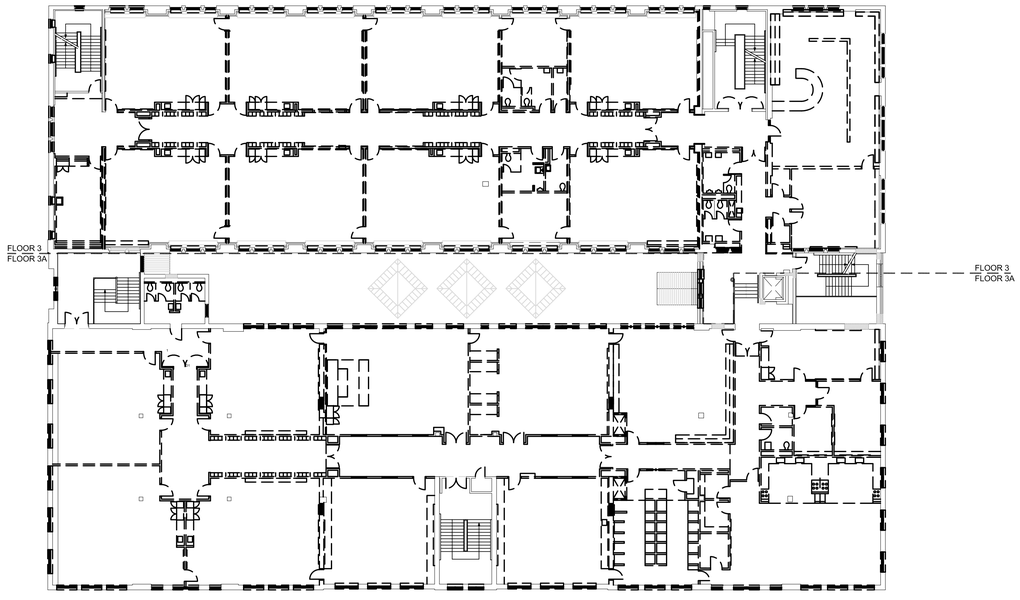
01/16/17



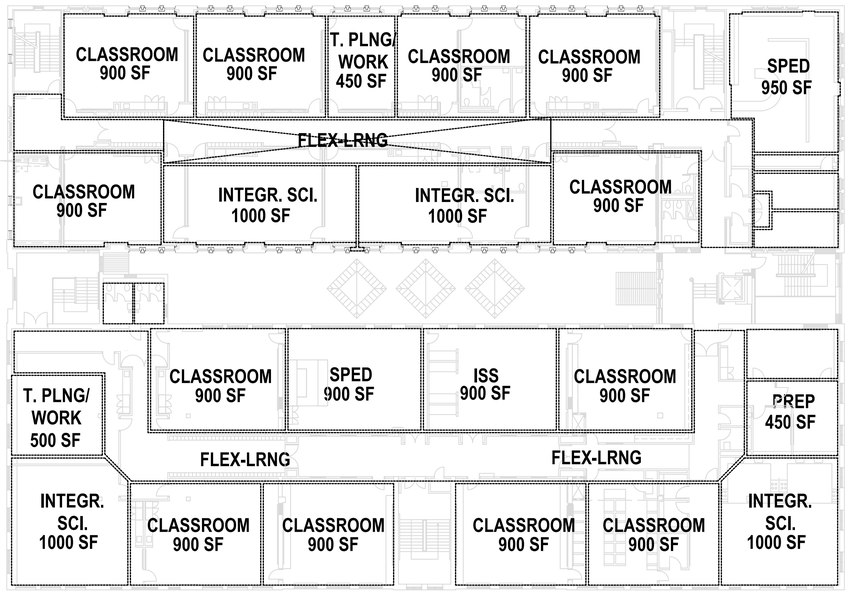
LEVEL 4 - FRESHMEN ACADEMY - EXISTING/ DEMOLITION



LEVEL 4 - FRESHMEN ACADEMY - RENOVATION FIT OUT



LEVEL3 - FRESHMEN ACADEMY - EXISTING/ DEMOLITION



LEVEL 3 - FRESHMEN ACADEMY - RENOVATION FIT OUT

NO. DATE REVISION

SEAL

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PROJECT TITLE:
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50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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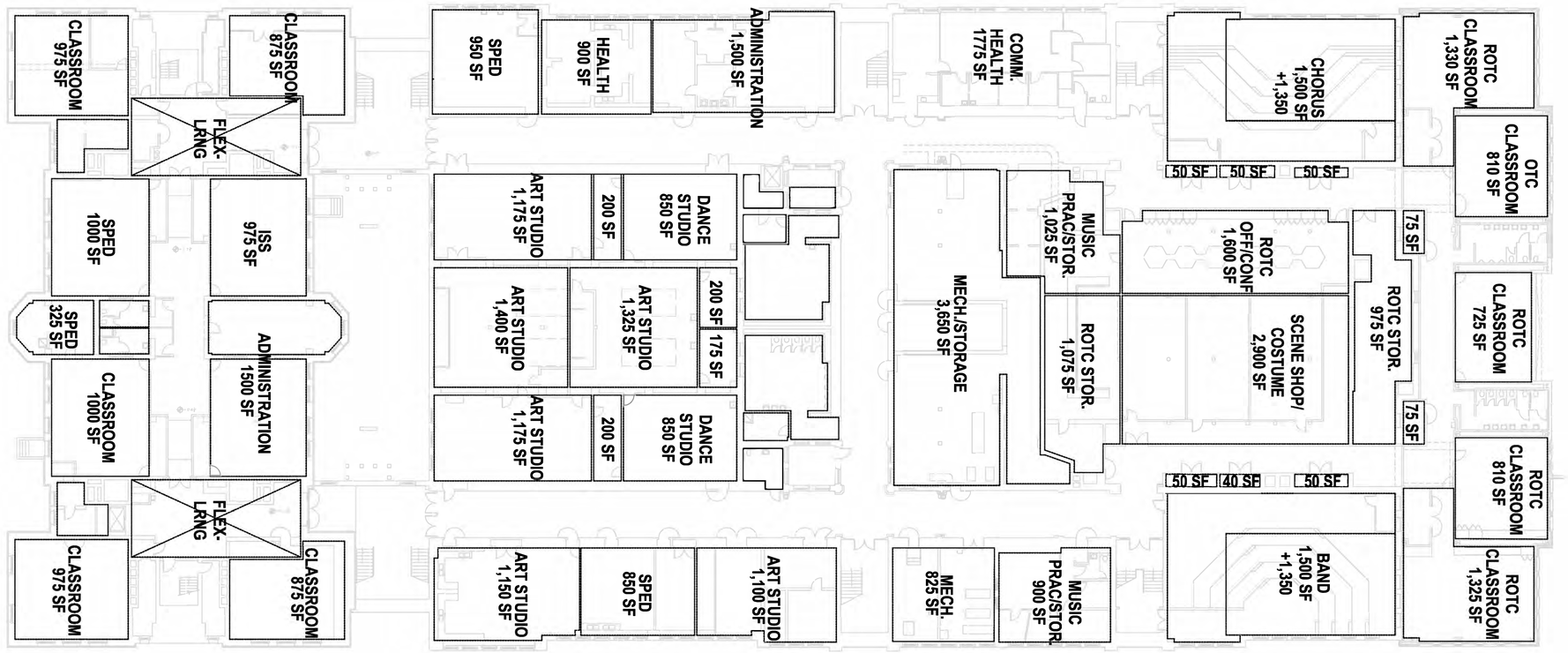
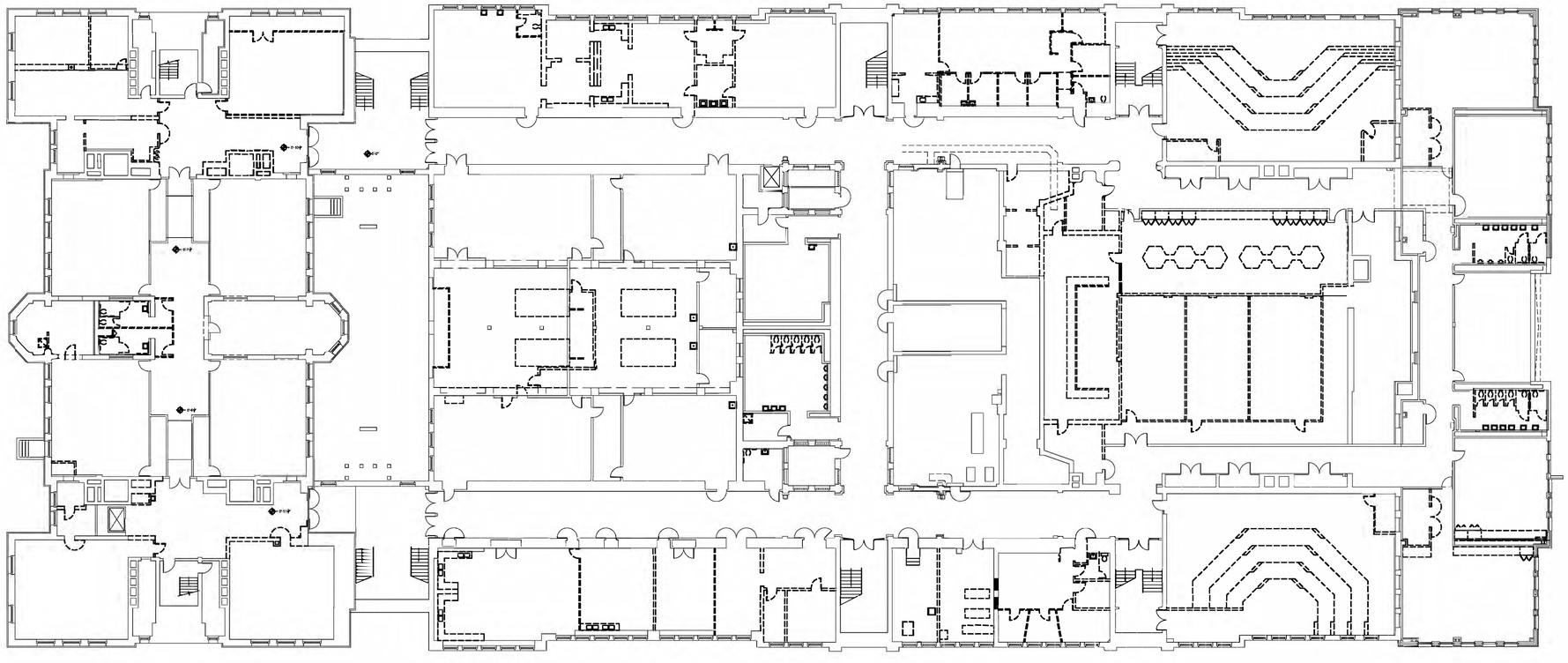
01/16/17



BSMNT. FLOOR - 1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

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50 FRANKLIN STREET
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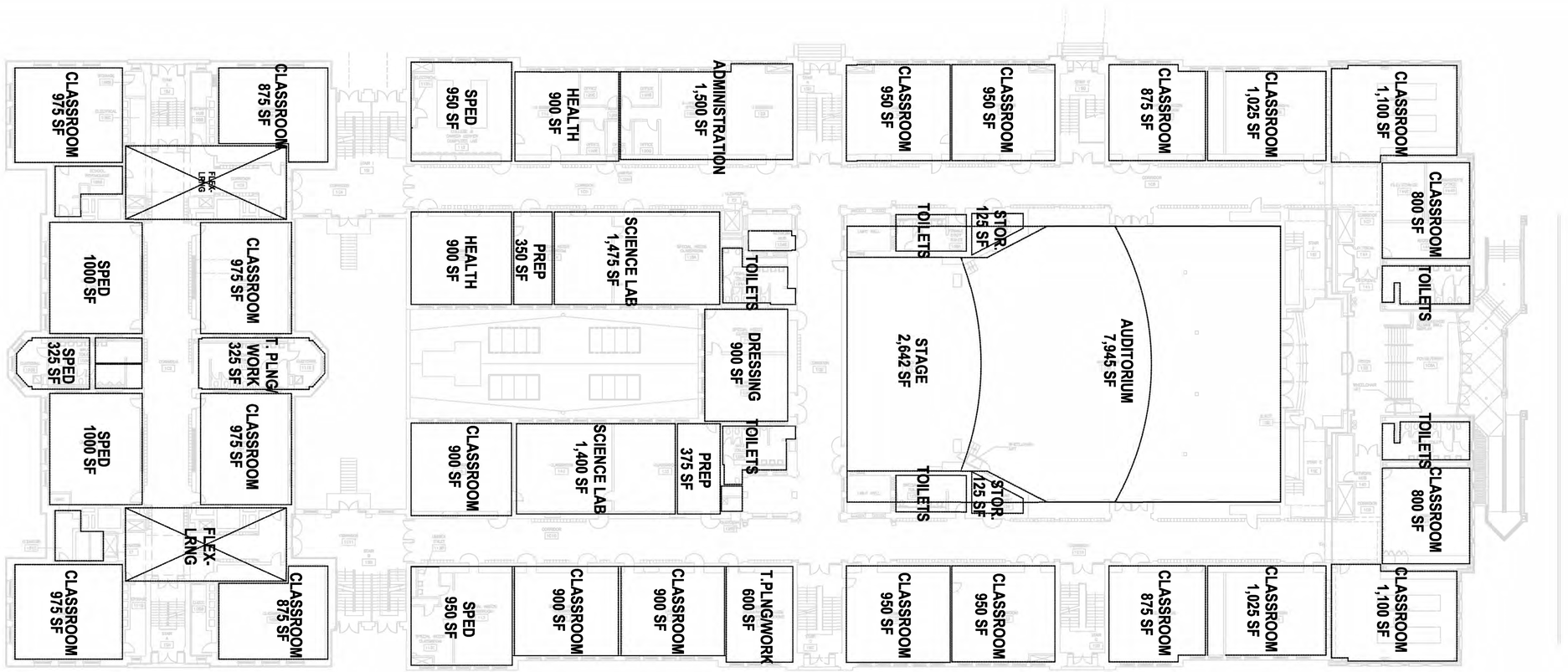
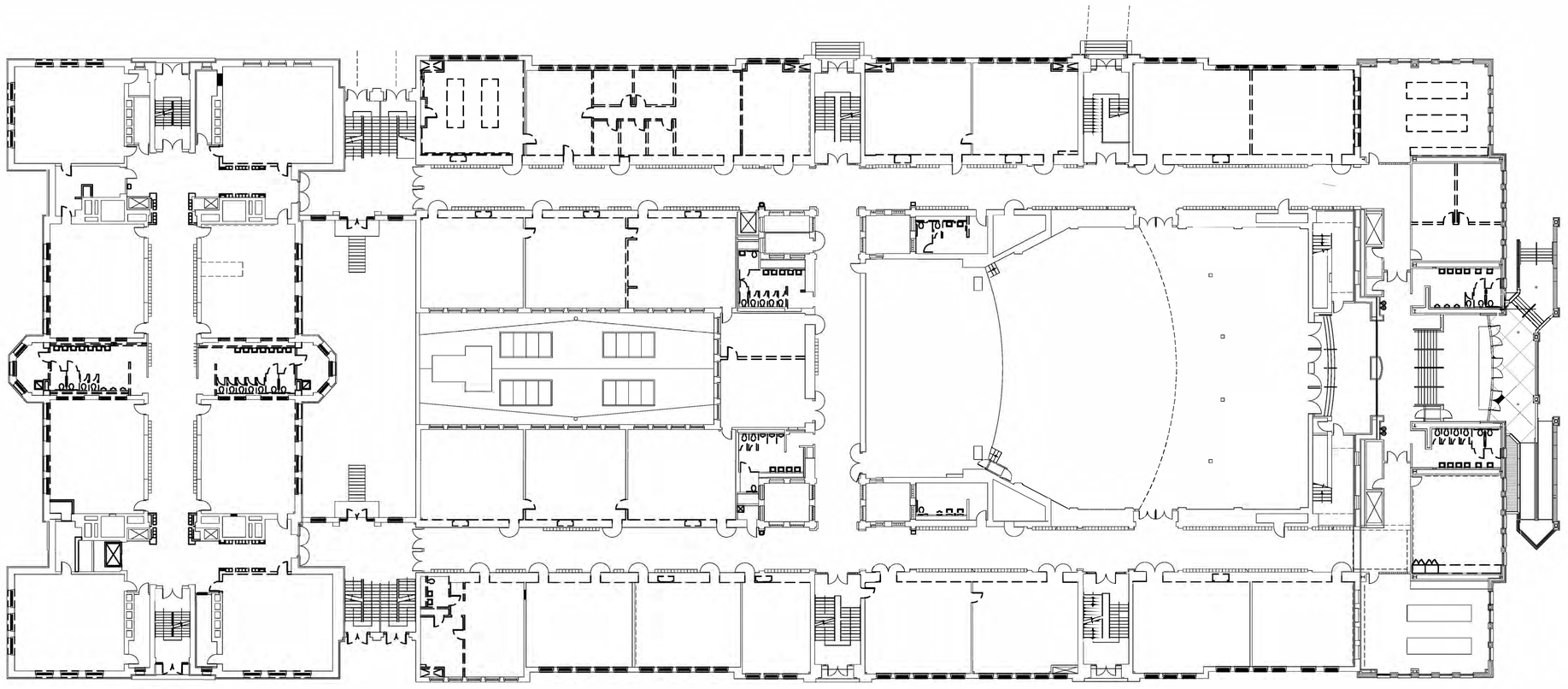


1ST FLOOR - 1922 BUILDING - RENOVATION FIT OUT



1ST FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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PROJECT No: 67150

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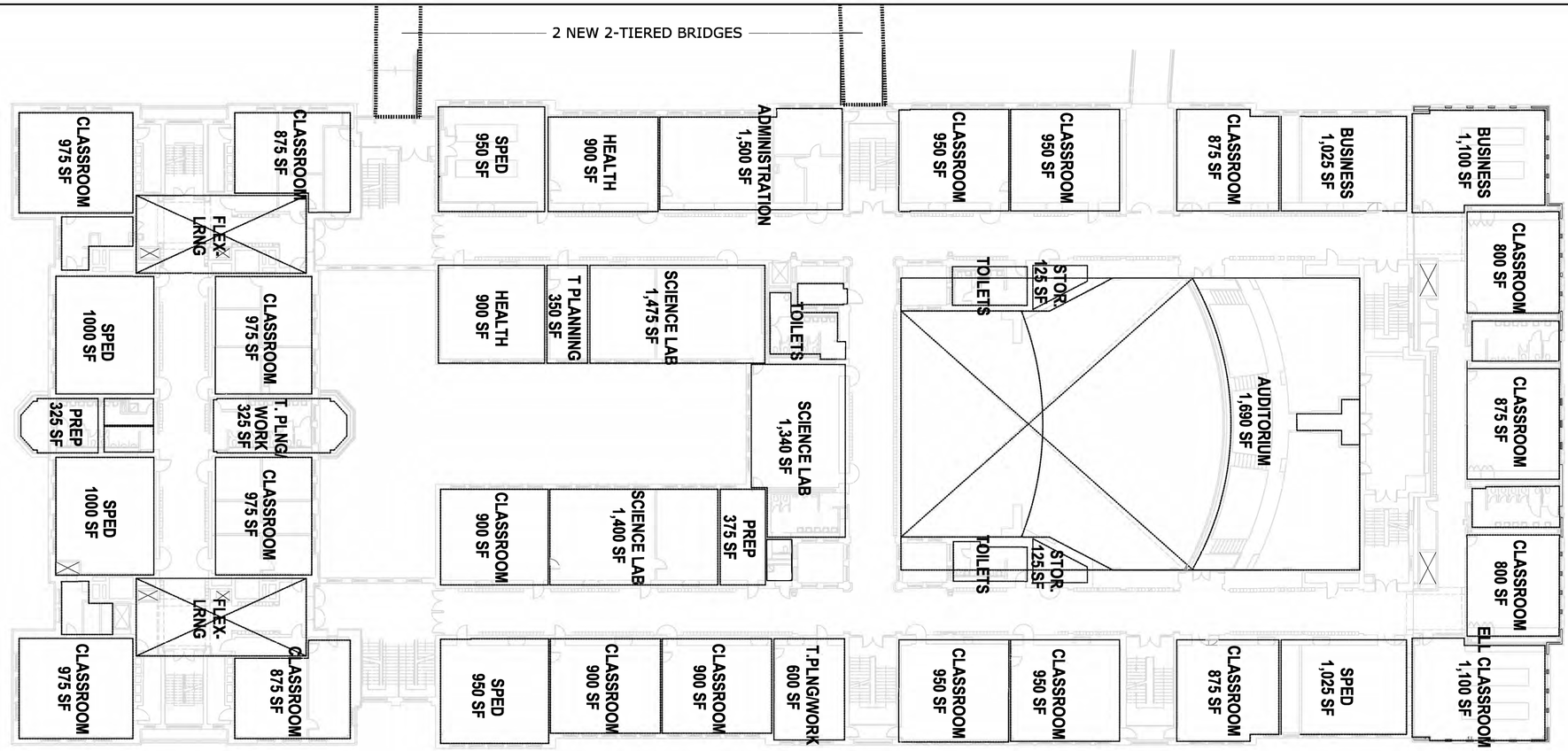
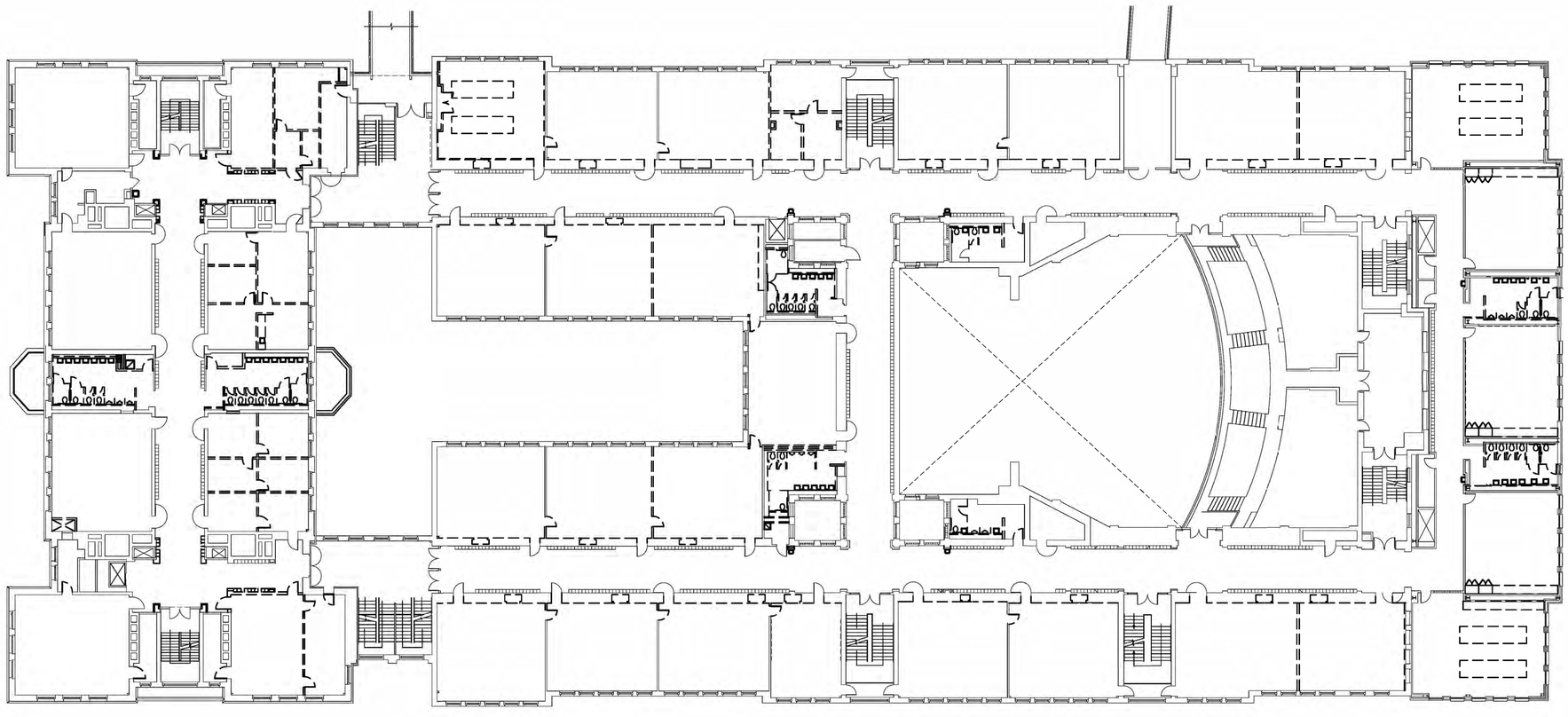


2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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DRAWING TITLE:

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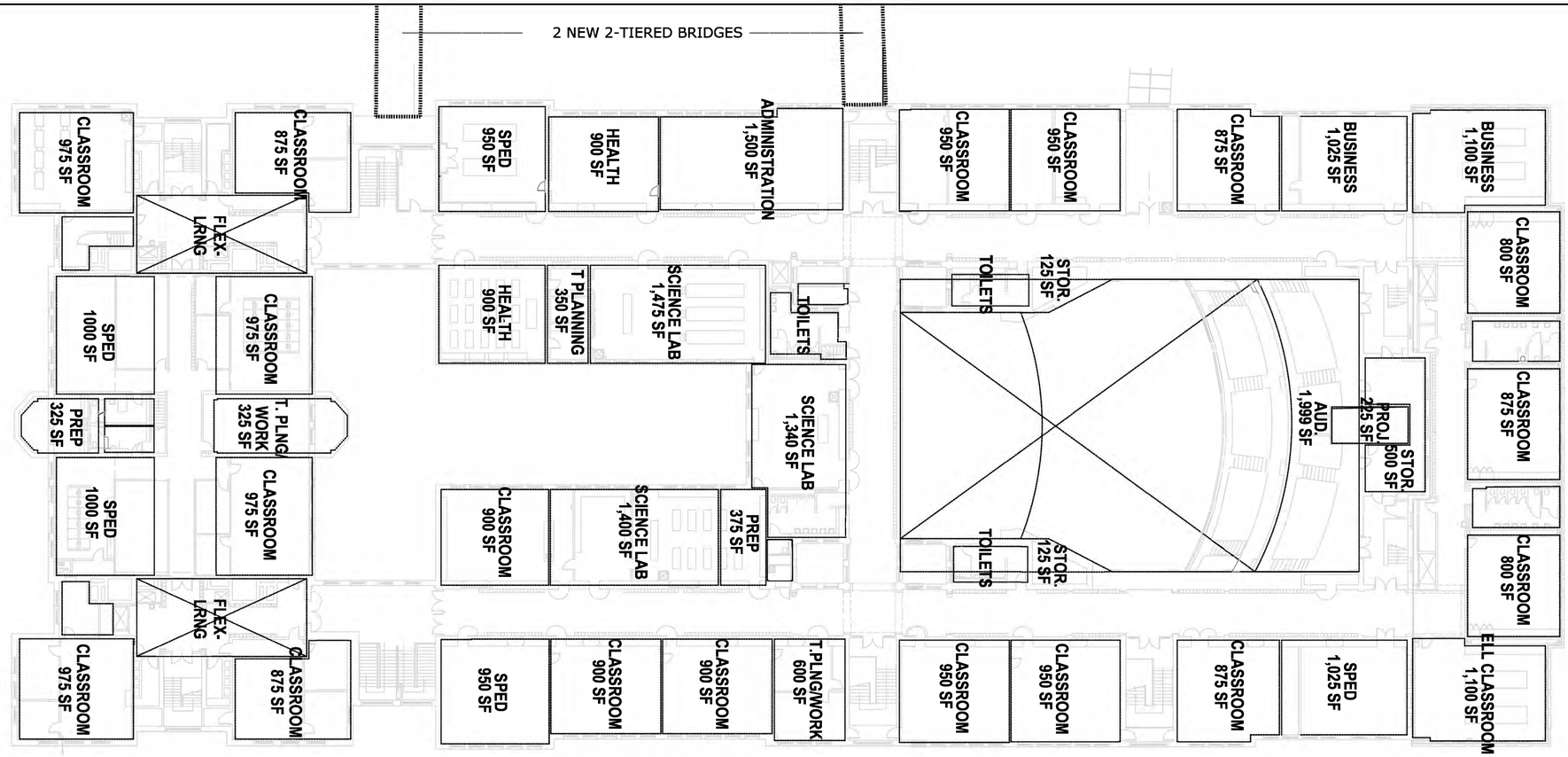
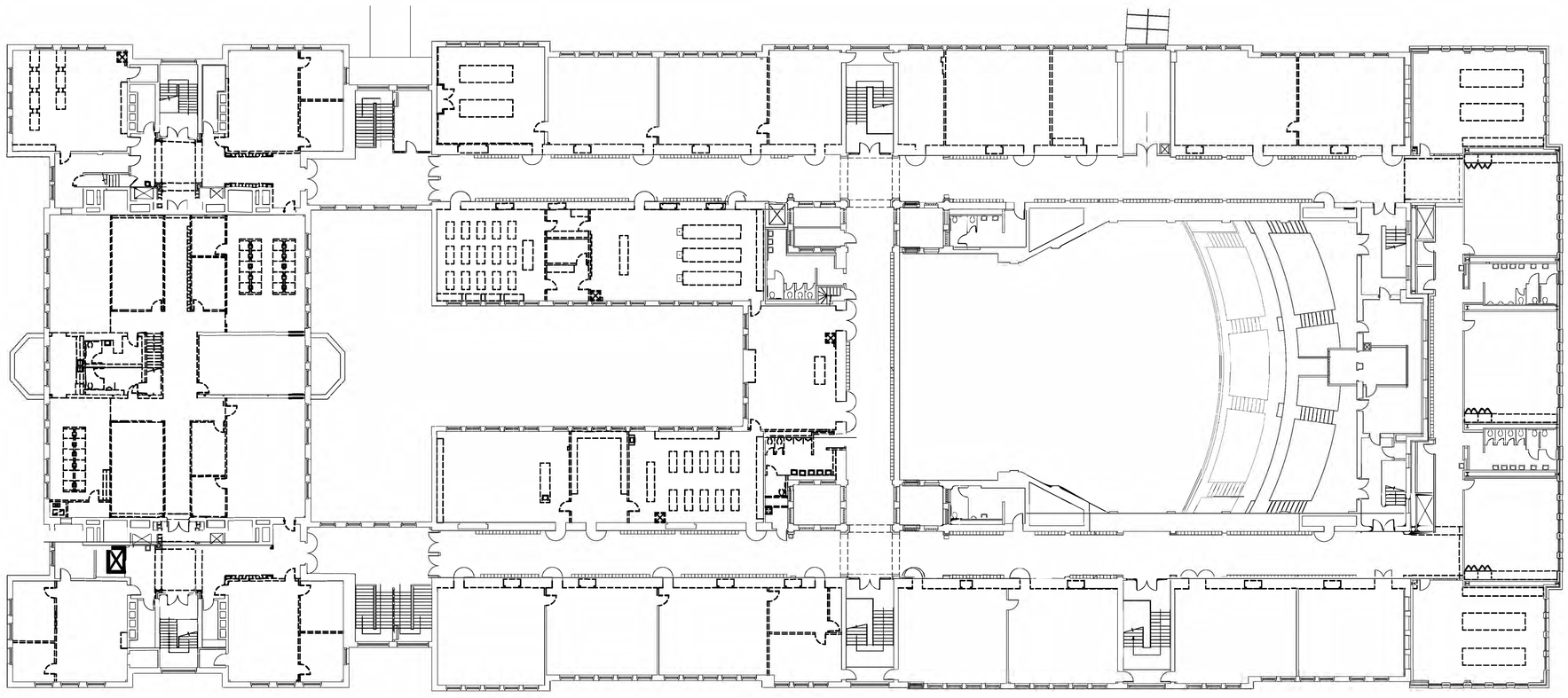
01/16/17



3RD FLOOR - 1922 BUILDING - RENOVATION FIT OUT



3RD FLOOR - **1922** BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4040

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL FULL RENOVATION

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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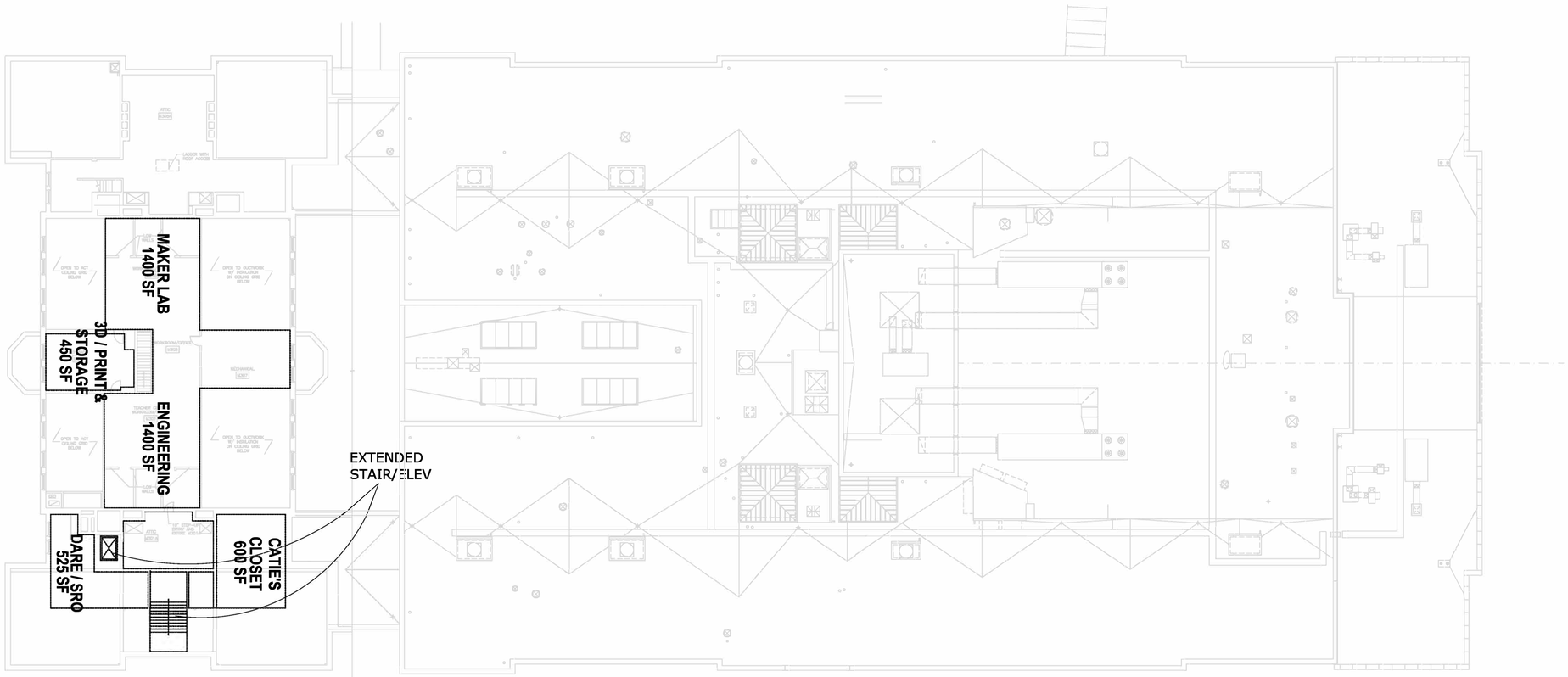
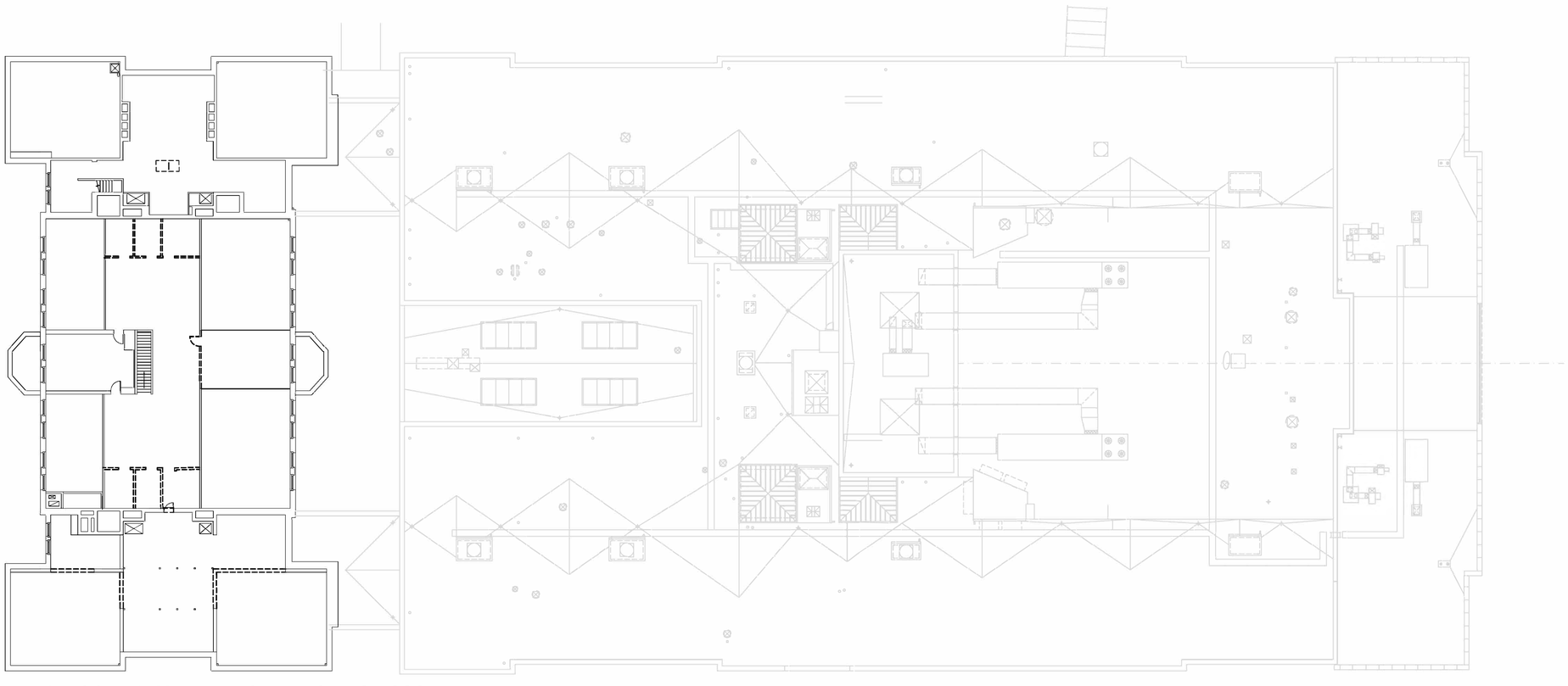
01/16/17



4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4048

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

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Structural:
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Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
FULL RENOVATION

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

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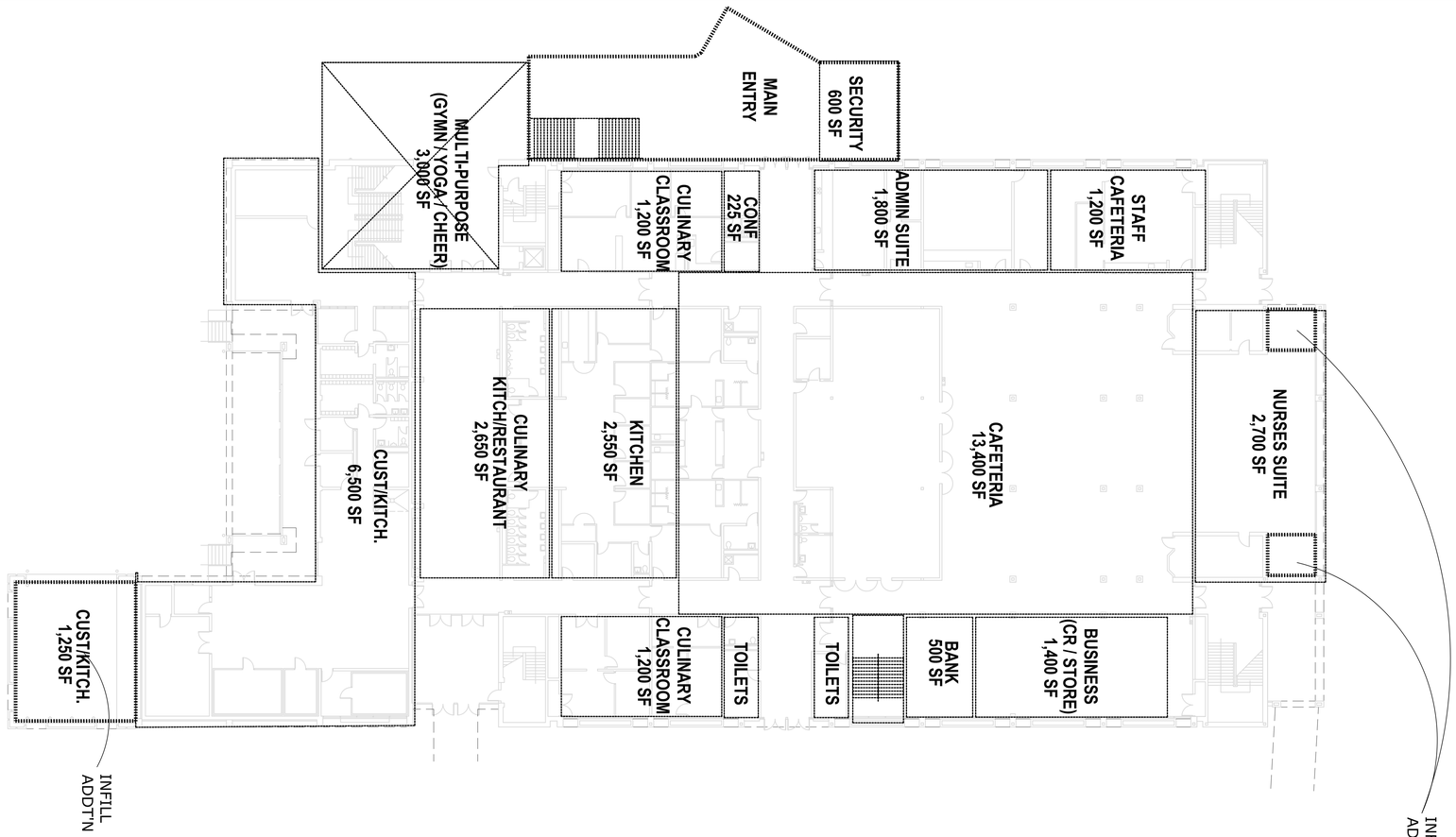
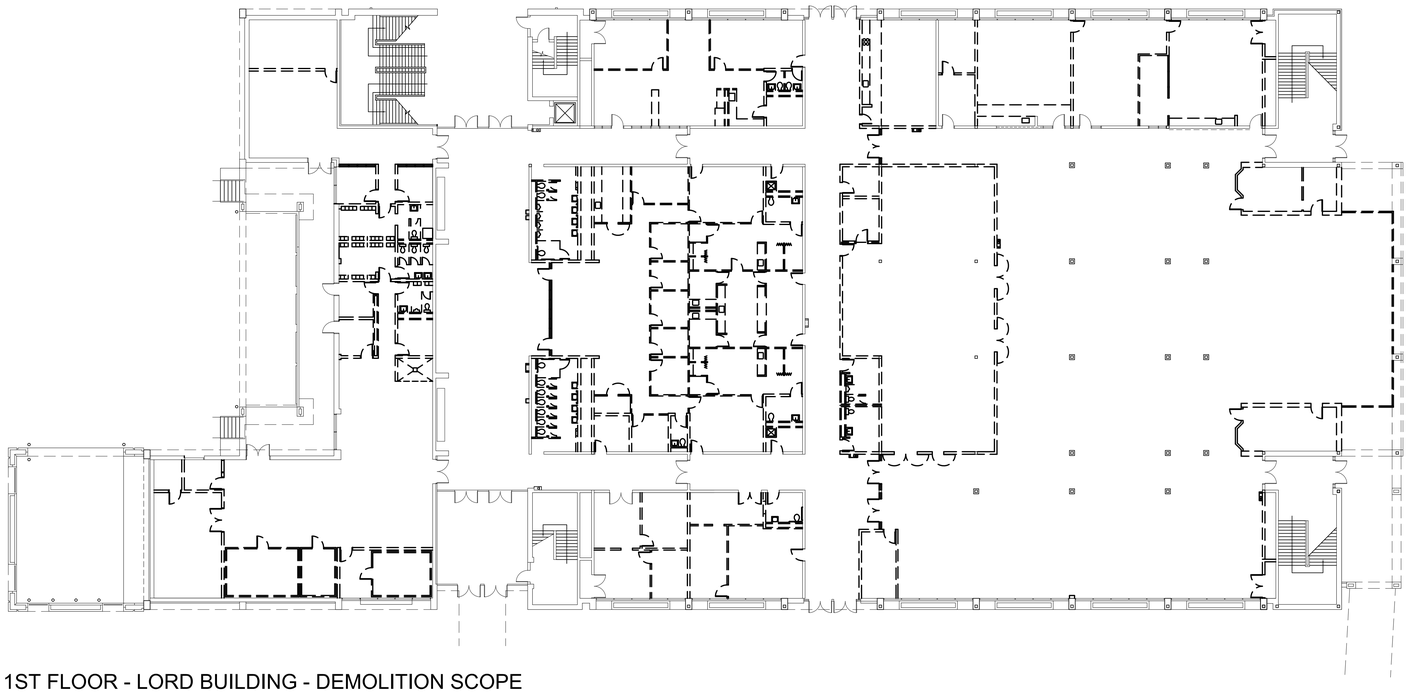


1ST FLOOR - LORD BUILDING - RENOVATION FIT OUT



1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

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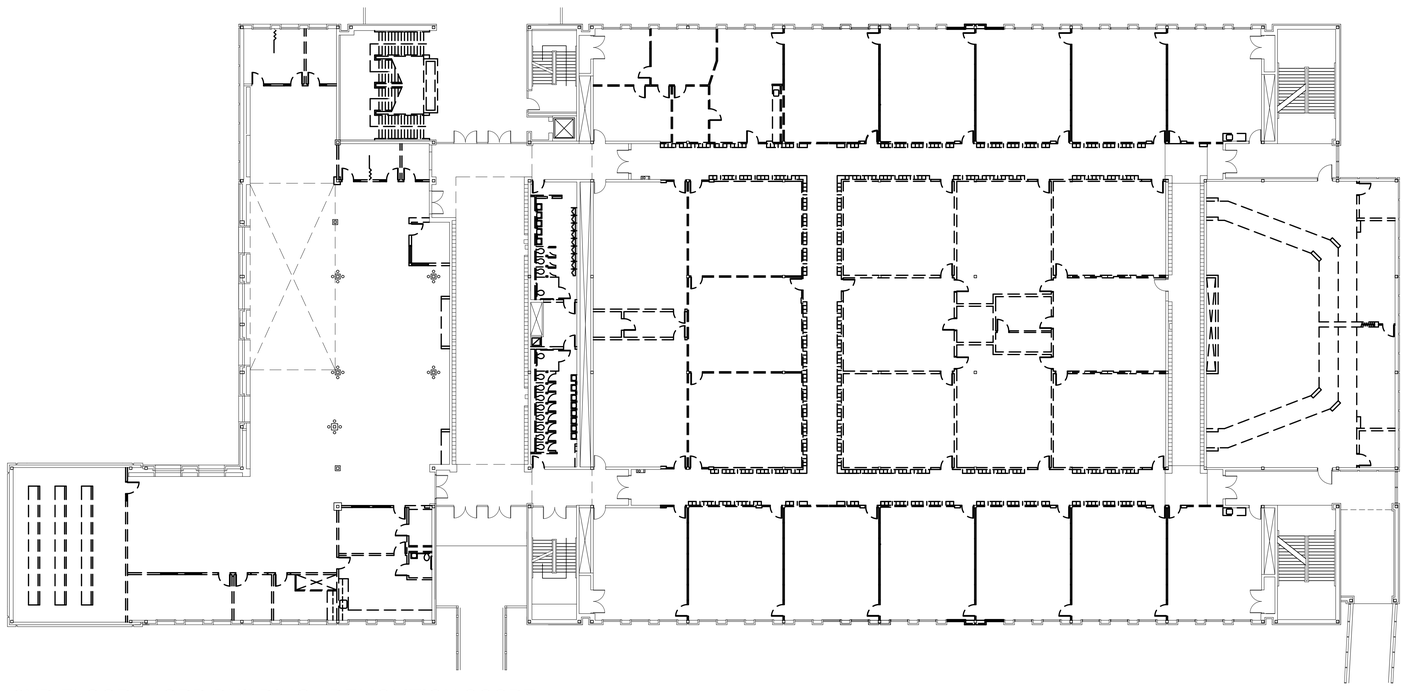
2ND FLOOR - LORD BUILDING - RENOVATION FIT OUT



2ND FLOOR - LORD BUILDING - DEMOLITION SCOPE

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PROJECT No: 67150

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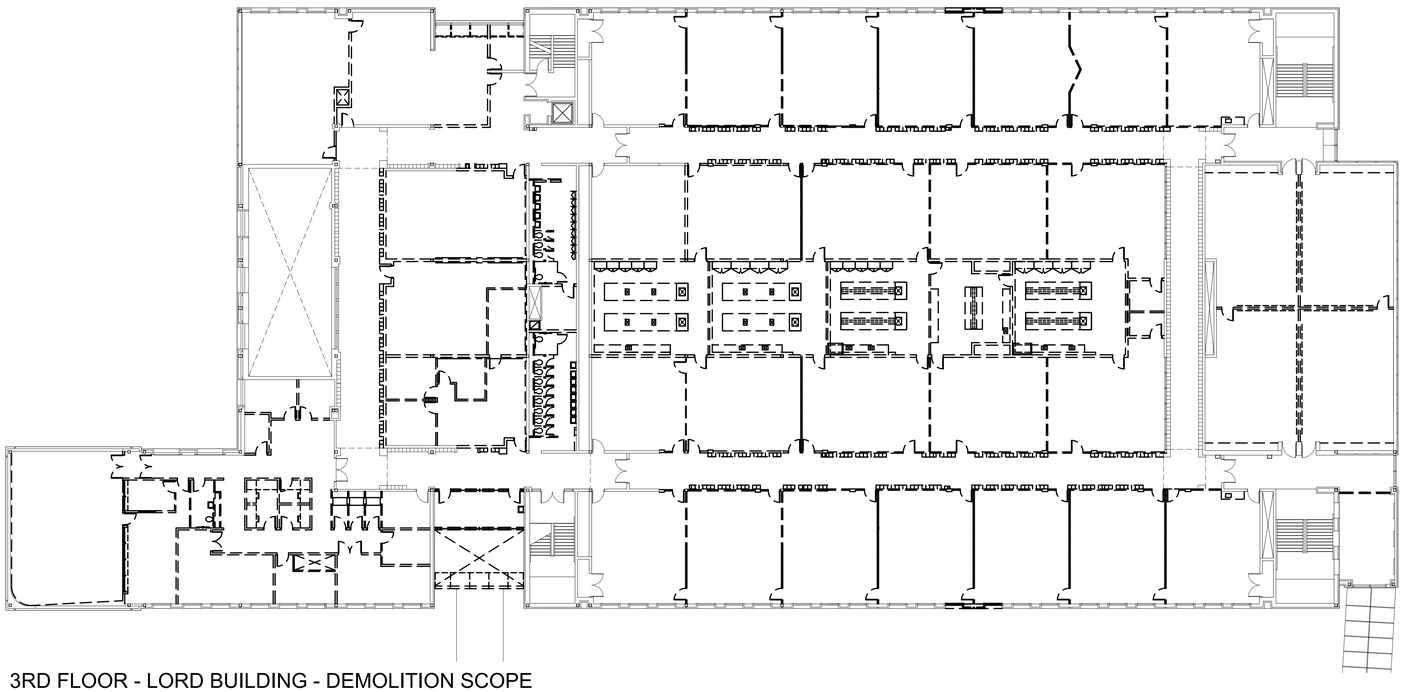
3RD FLOOR - LORD BUILDING - RENOVATION FIT OUT



3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

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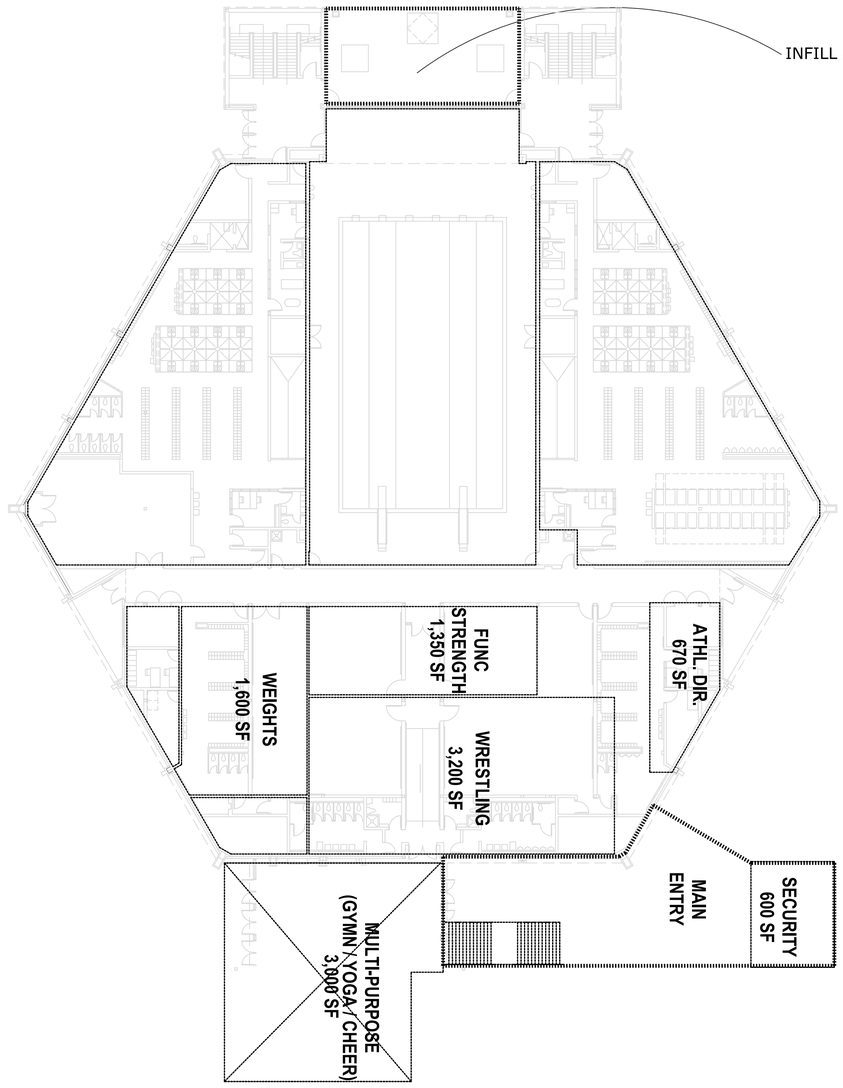
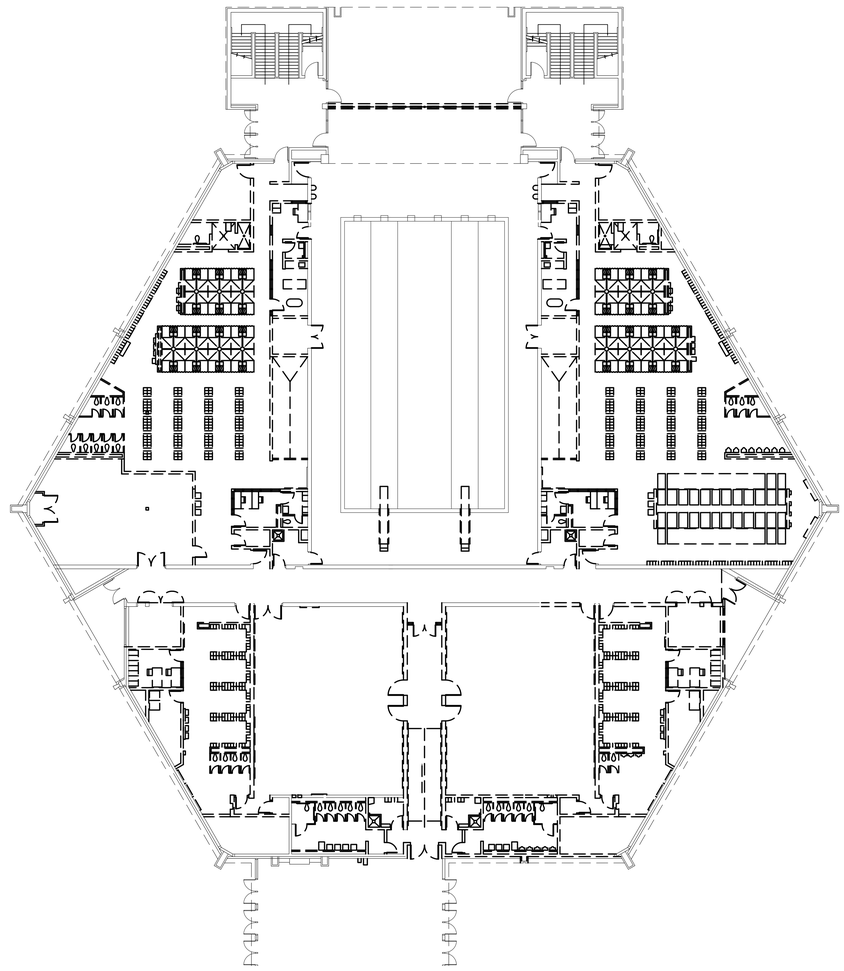


1ST FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT

NOTE - FIELD HOUSE RENOVATION TO INCLUDE THE EXISTING 2,800 SF OF BASEMENT MECHANICAL



1ST FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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50 FATHER MORISSETTE BLVD,
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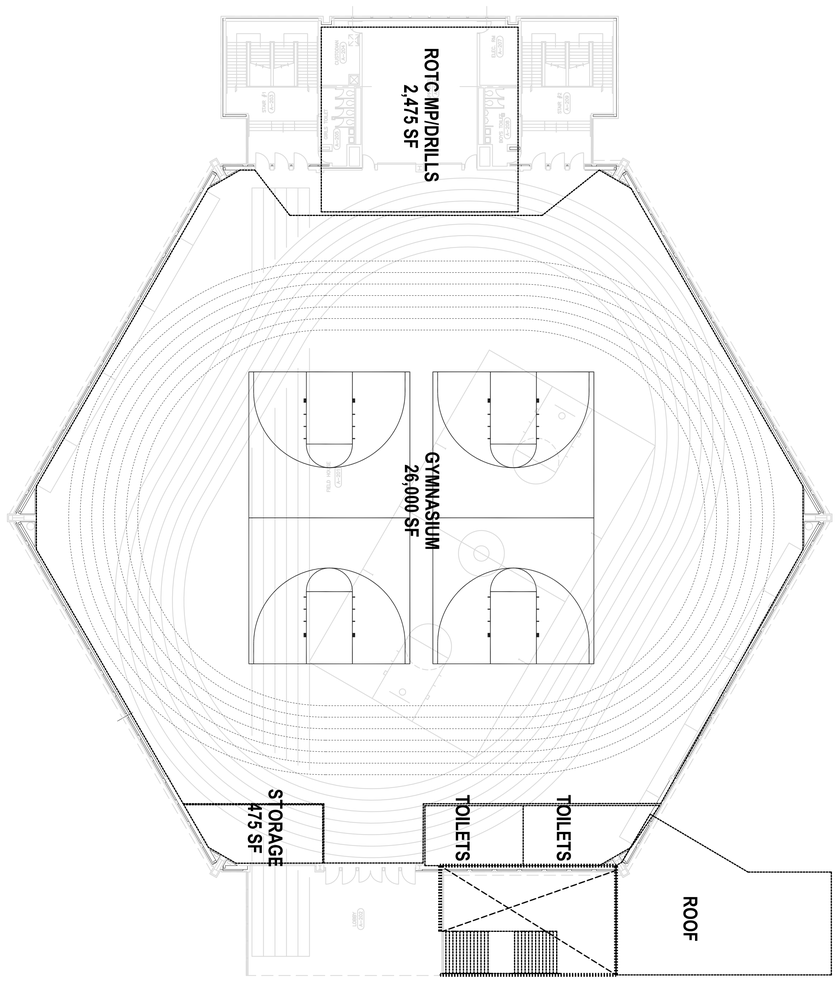
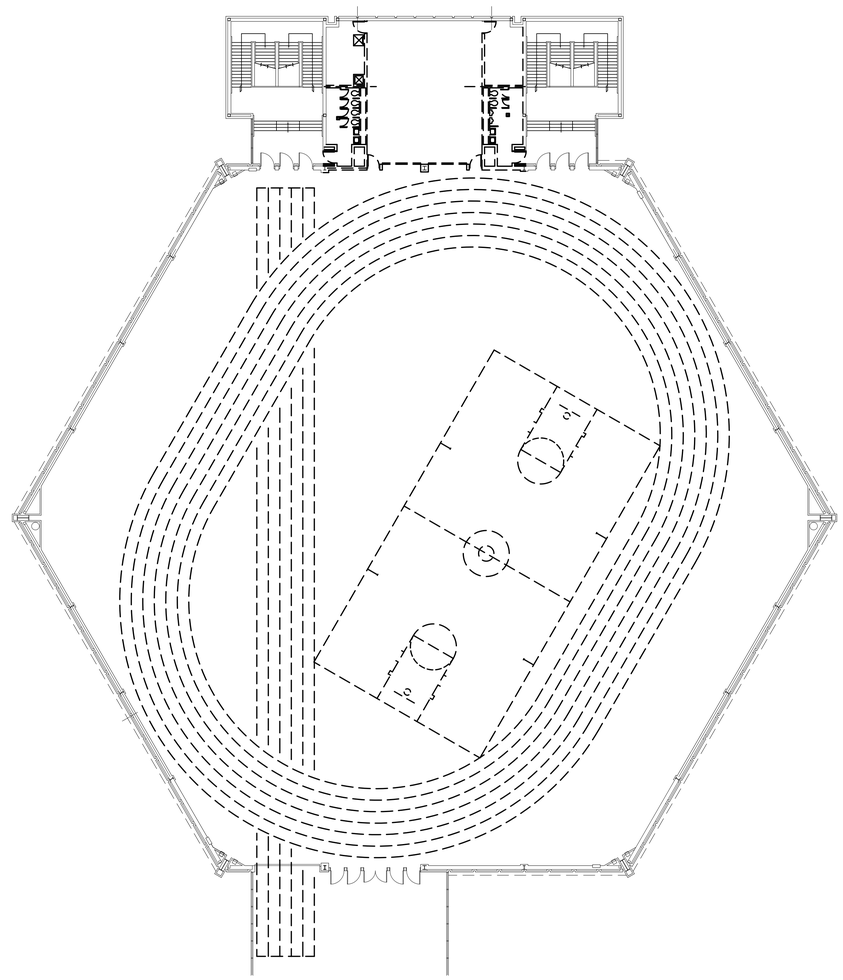


2ND FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT



2ND FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE - FULL BUILDING

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

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PROJECT TITLE:
LOWELL HIGH SCHOOL FULL RENOVATION

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

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BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 617,400

RENOVATION AREA (GSF) = 529,100

ADDITION/ NEW AREA (GSF) = 88,300

NEW 2 & 3 STORY ADDITIONS, INCLUDING 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS FULL-RENO, EXCEPT;

+ FRESHMAN RELOCATED ON CAMPUS
+ FORMER BLDG AVAILABLE FOR REUSE
+ NEW ENTRY/FACE TO THE SCHOOL
+ NEW 2-TIER BRIDGES (CIRC./SAFETY)

CONSTRUCTION

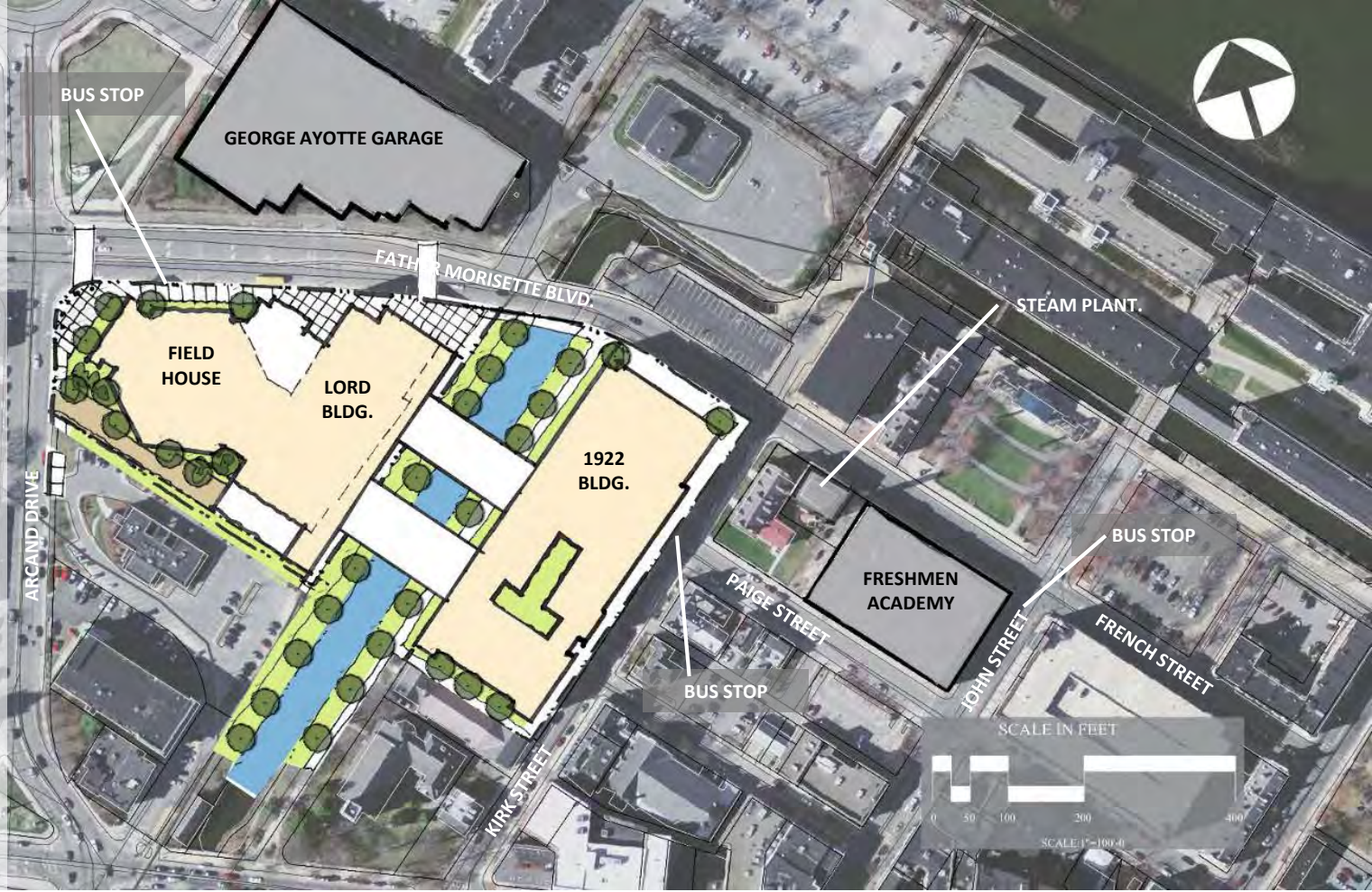
4½ YEAR PHASED PROJECT

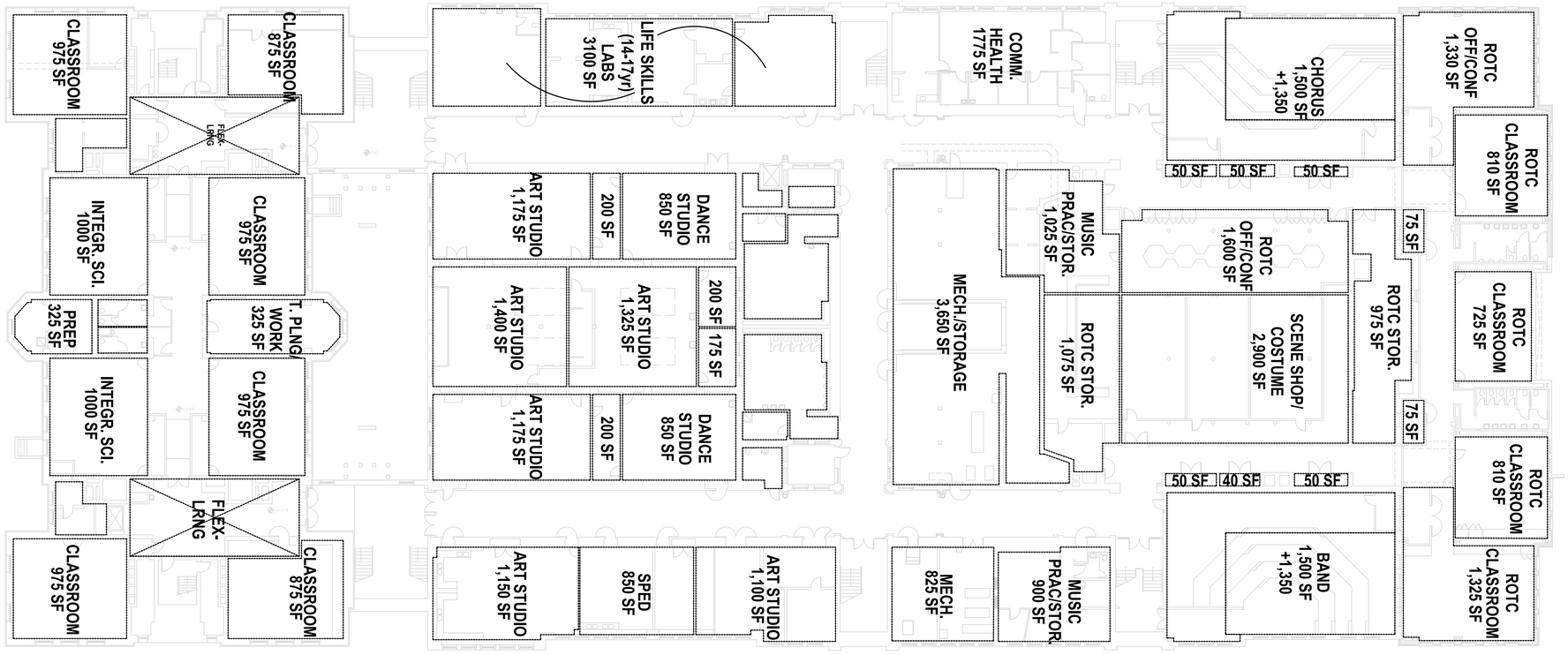
+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

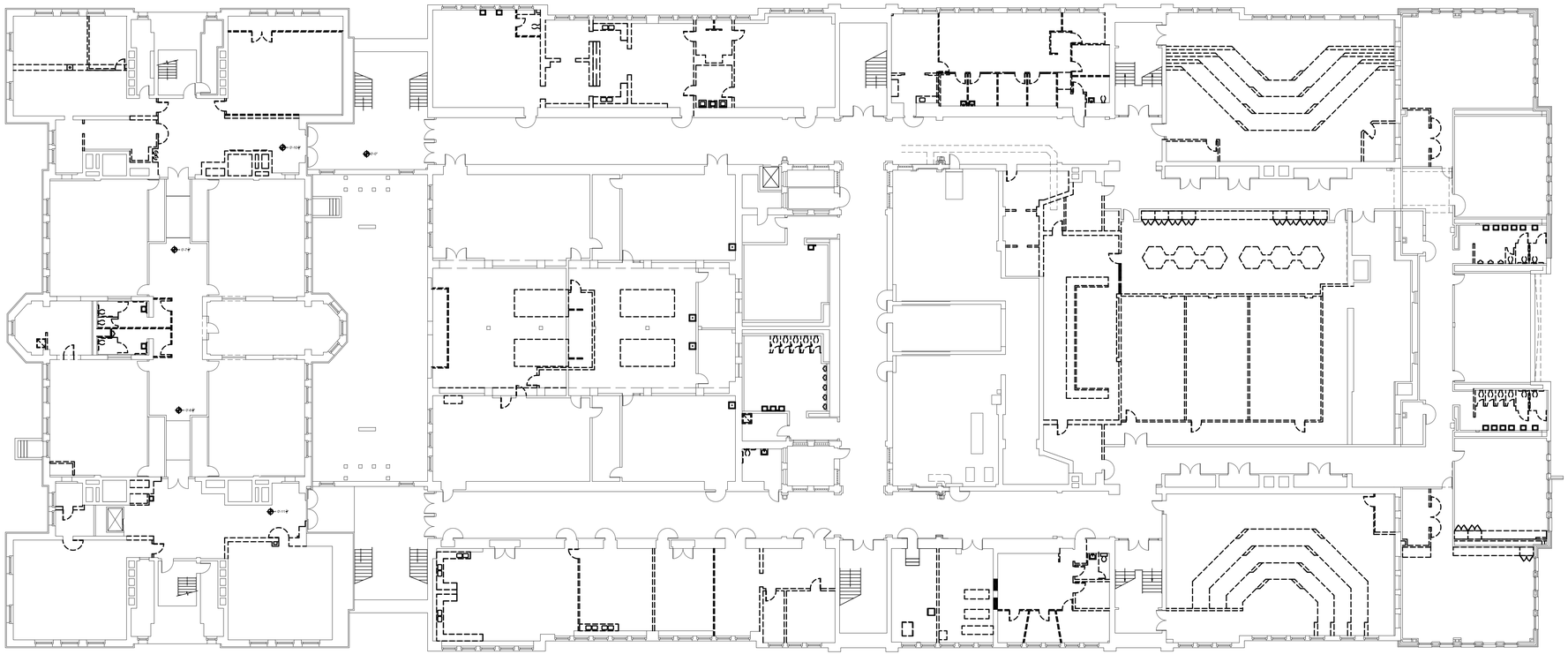
TOTAL PROJECT COST = $340,980,538

ESTIMATED CITY'S SHARE = $132,448,689





BSMNT. FLOOR - 1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

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50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 1A

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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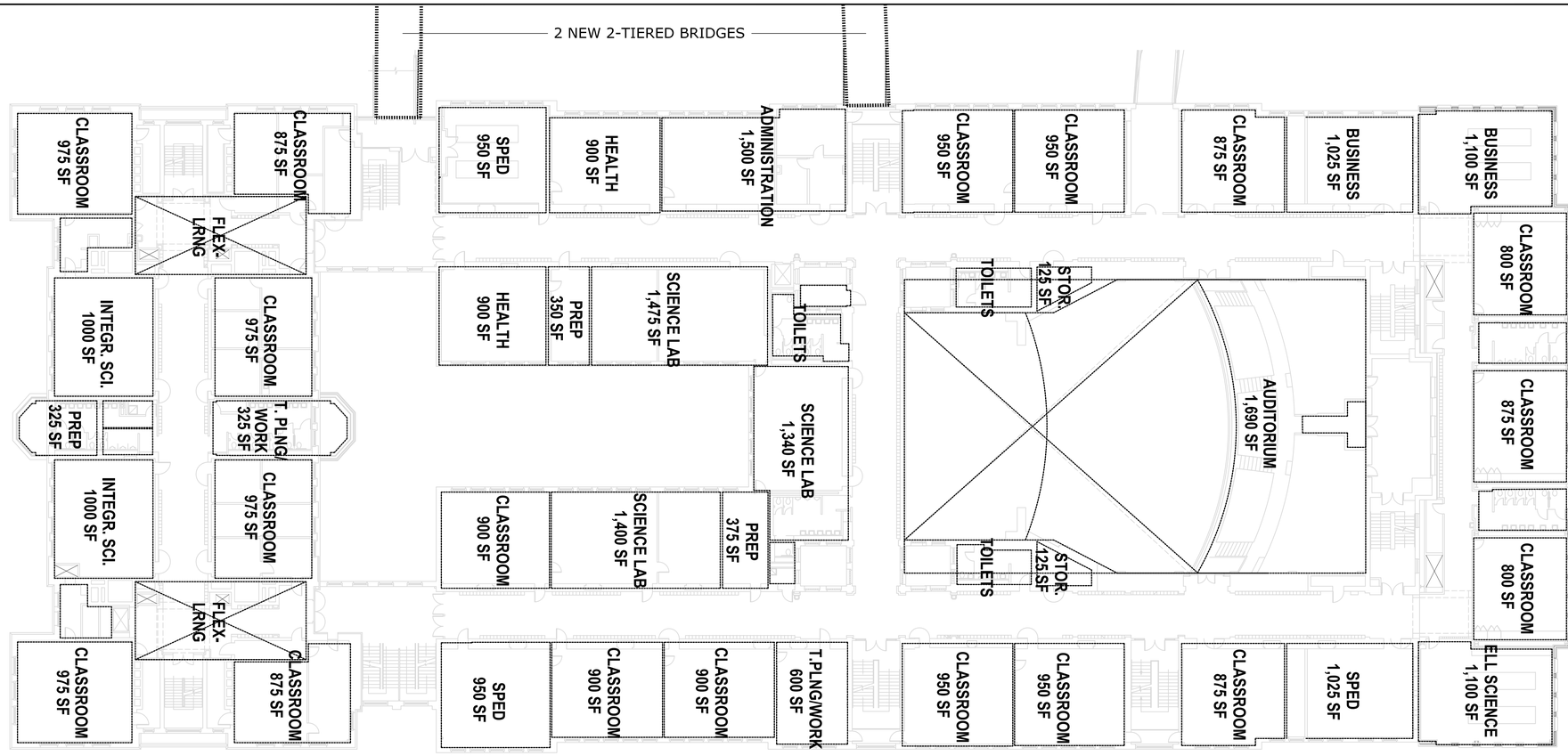
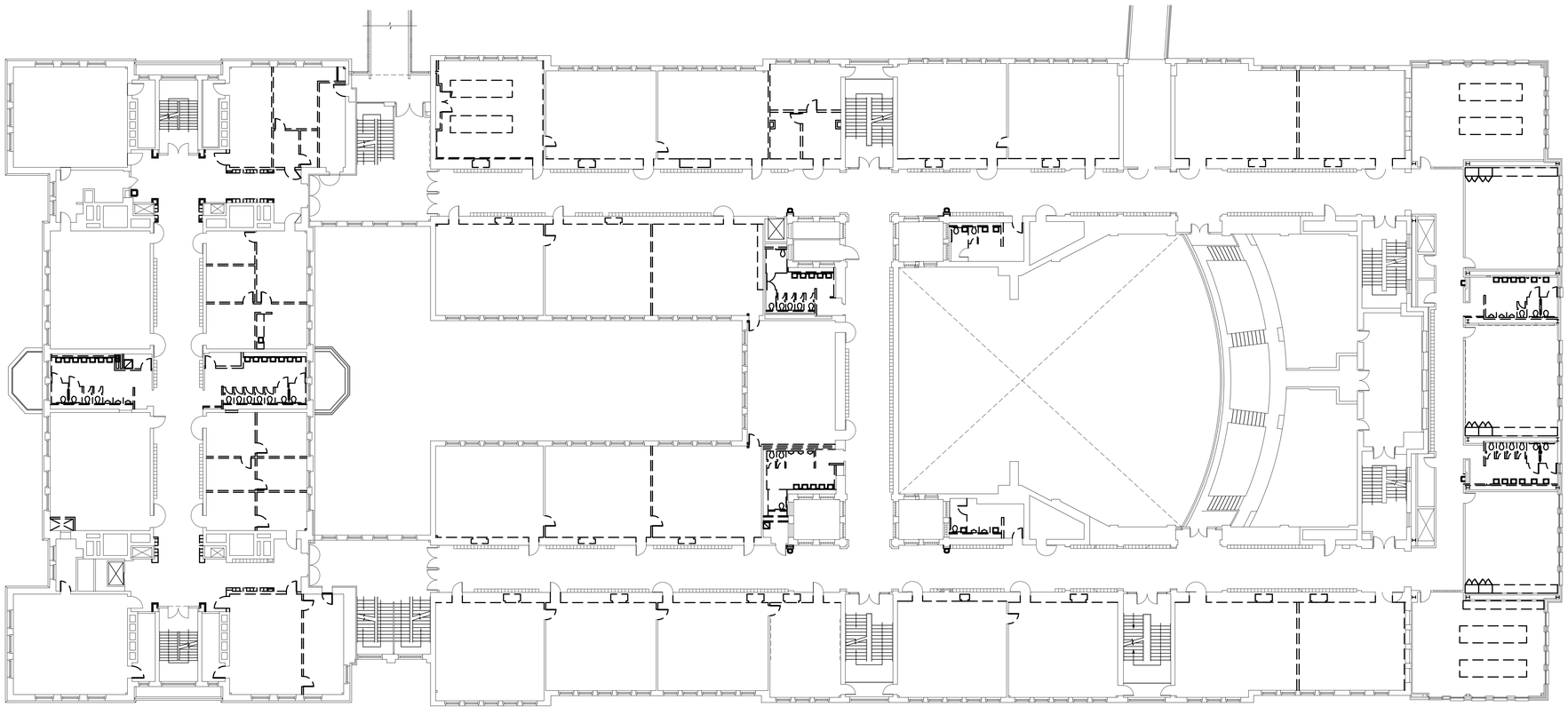


2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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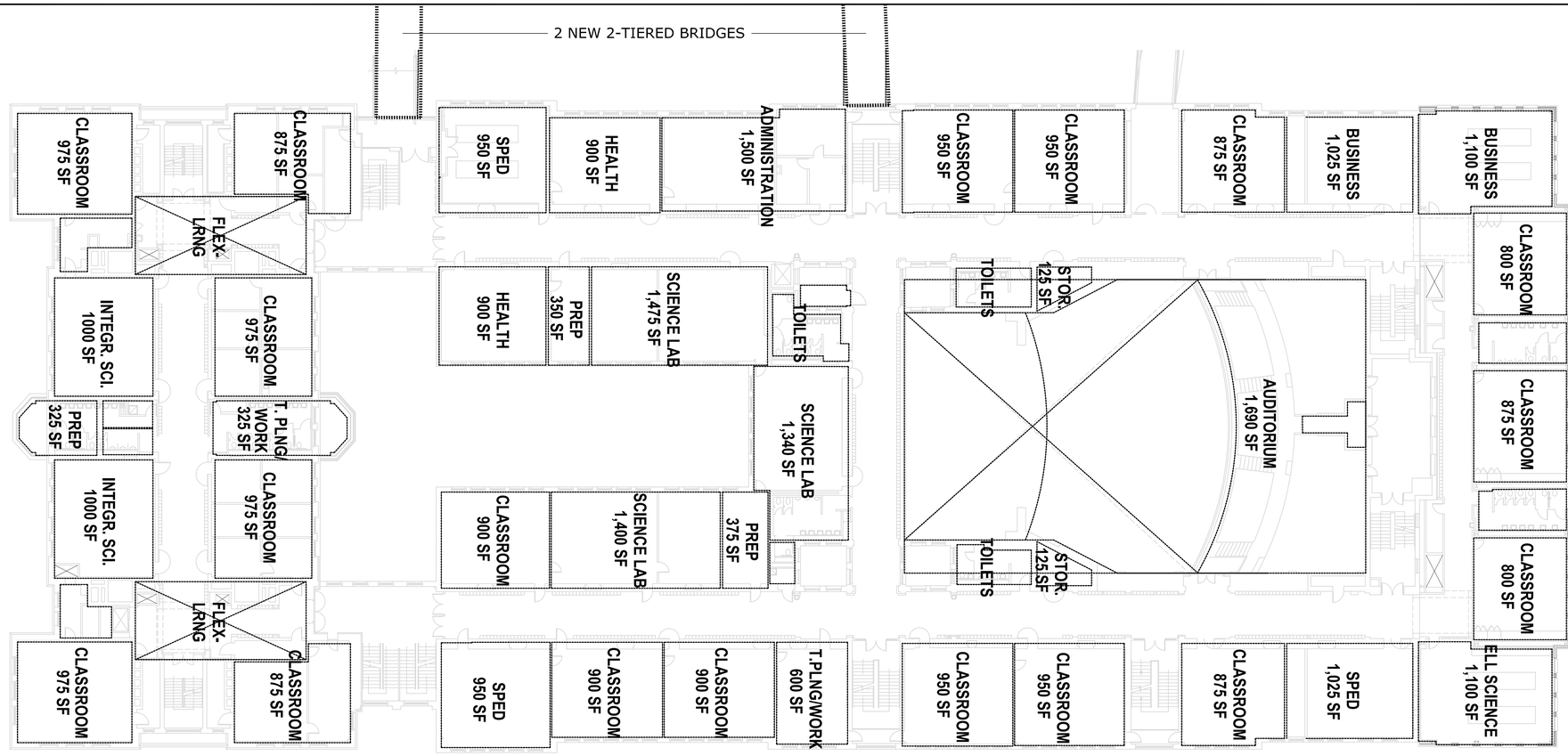

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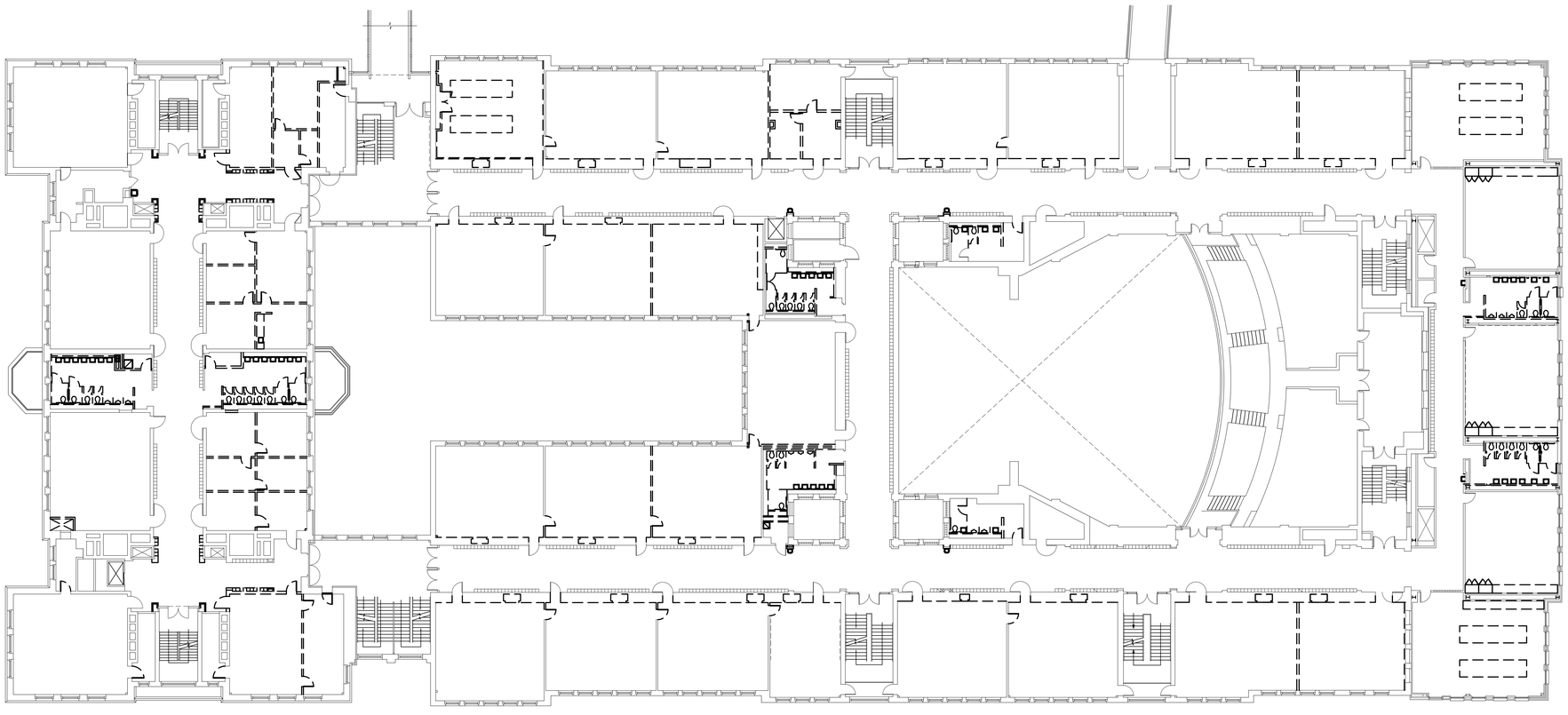

2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

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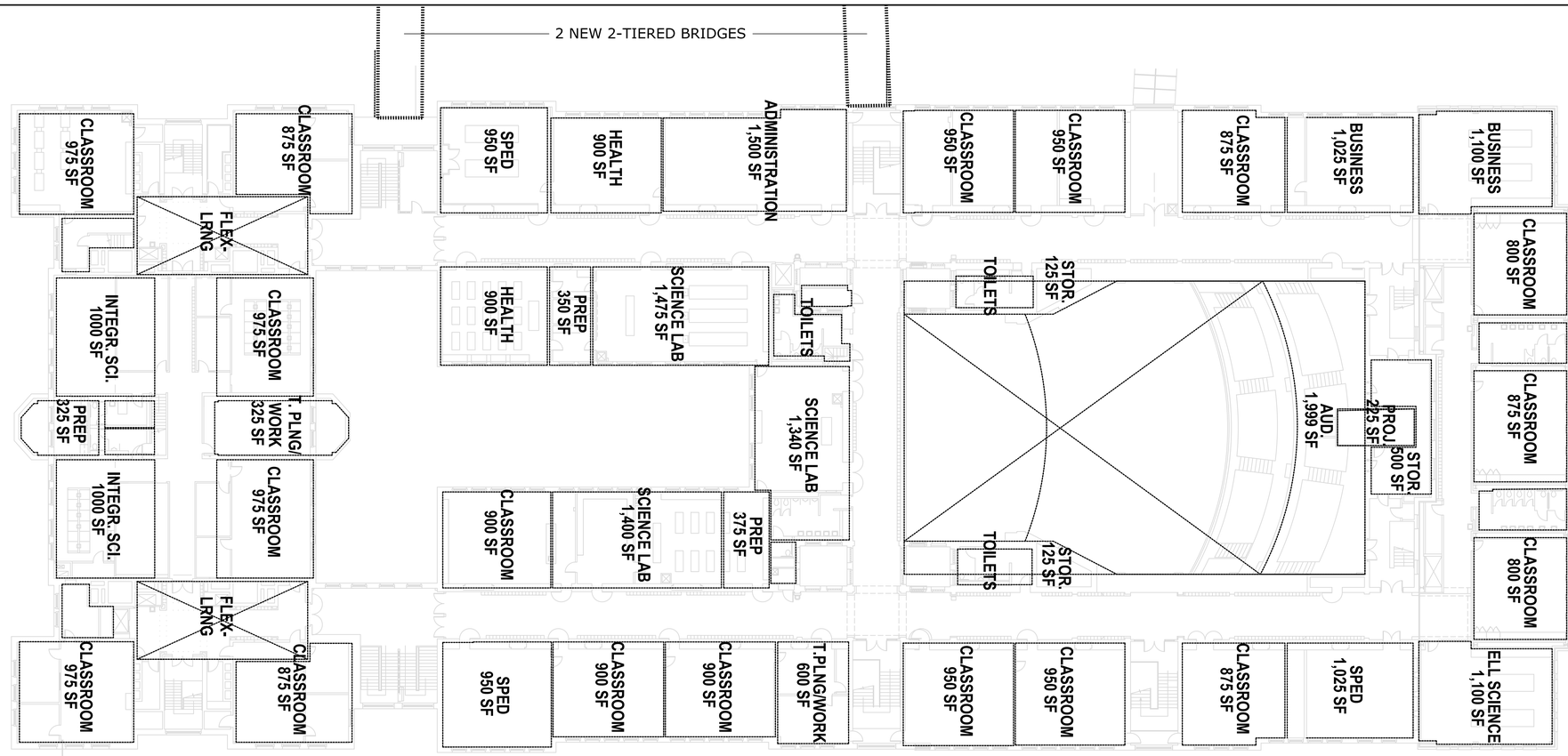

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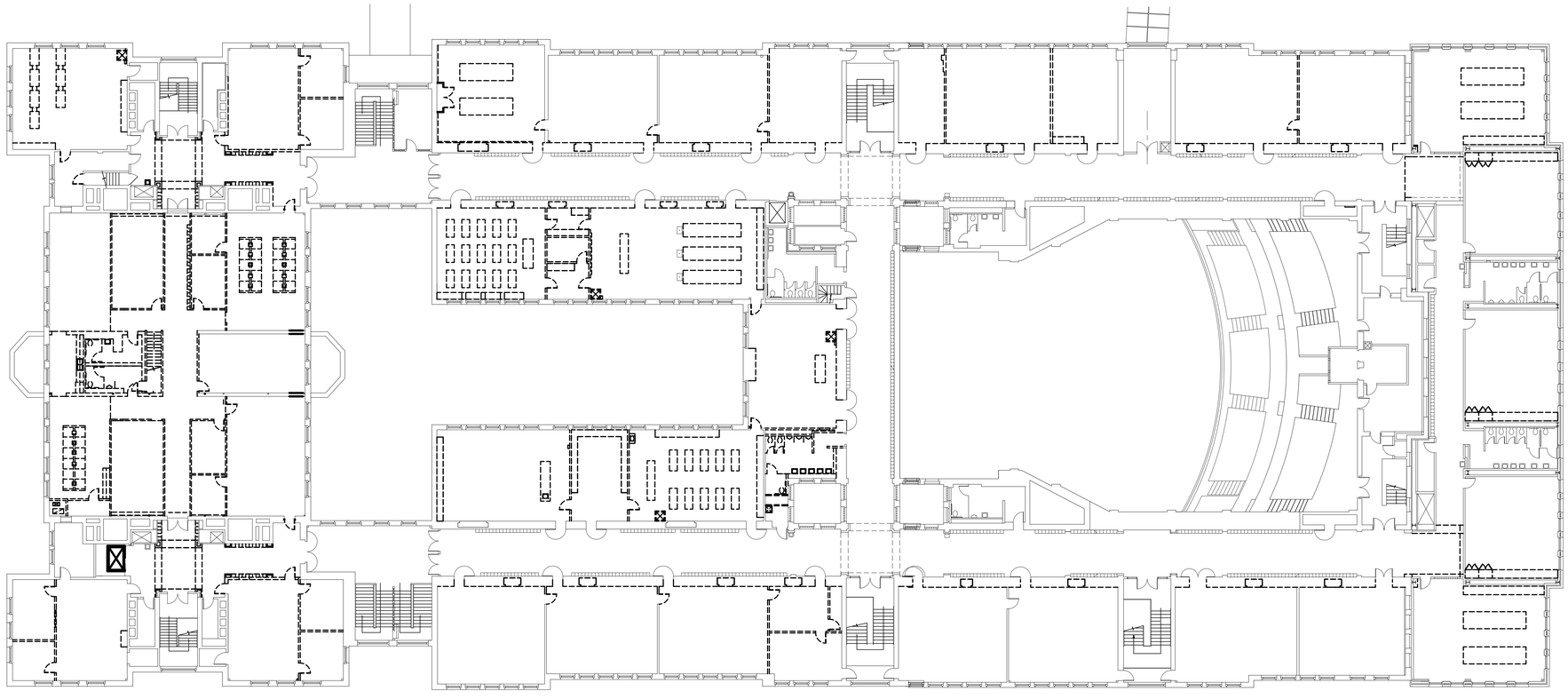


3RD FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 1A

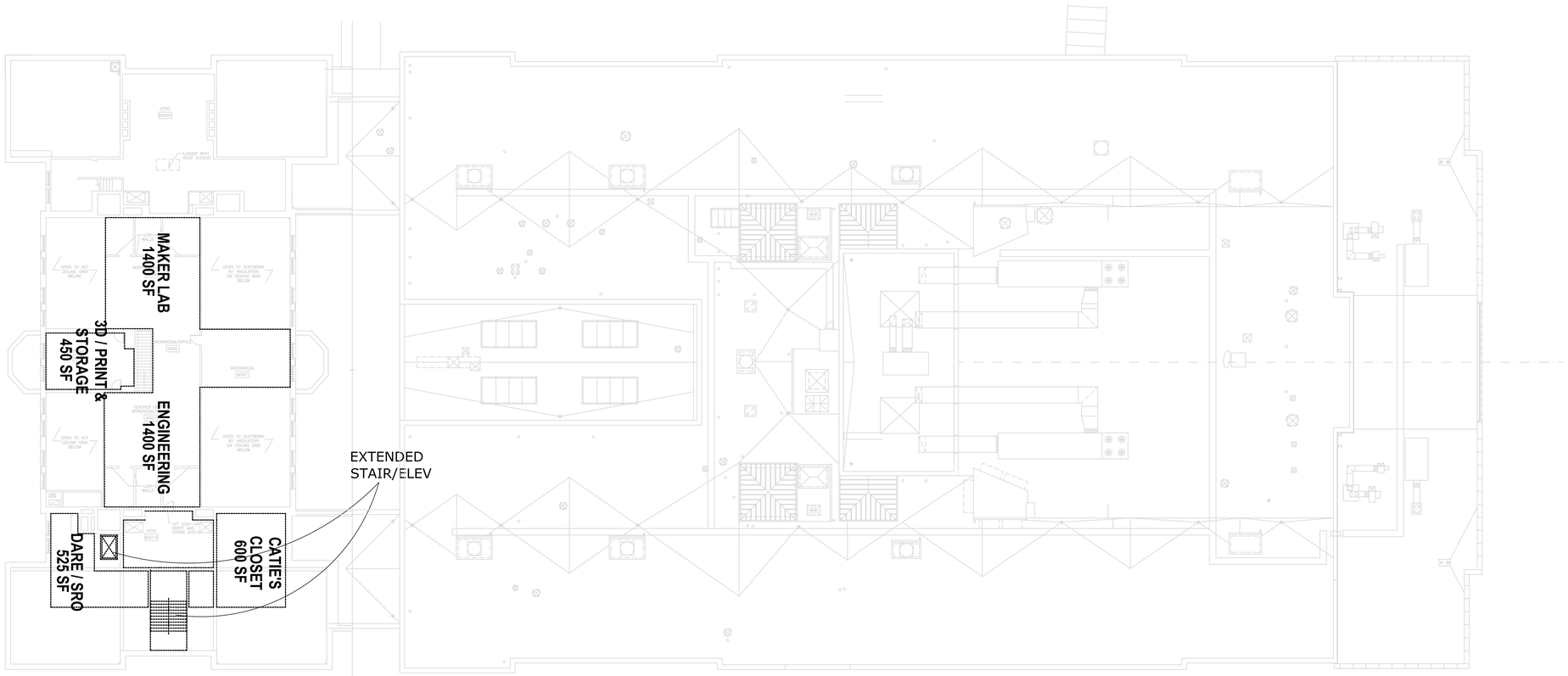
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

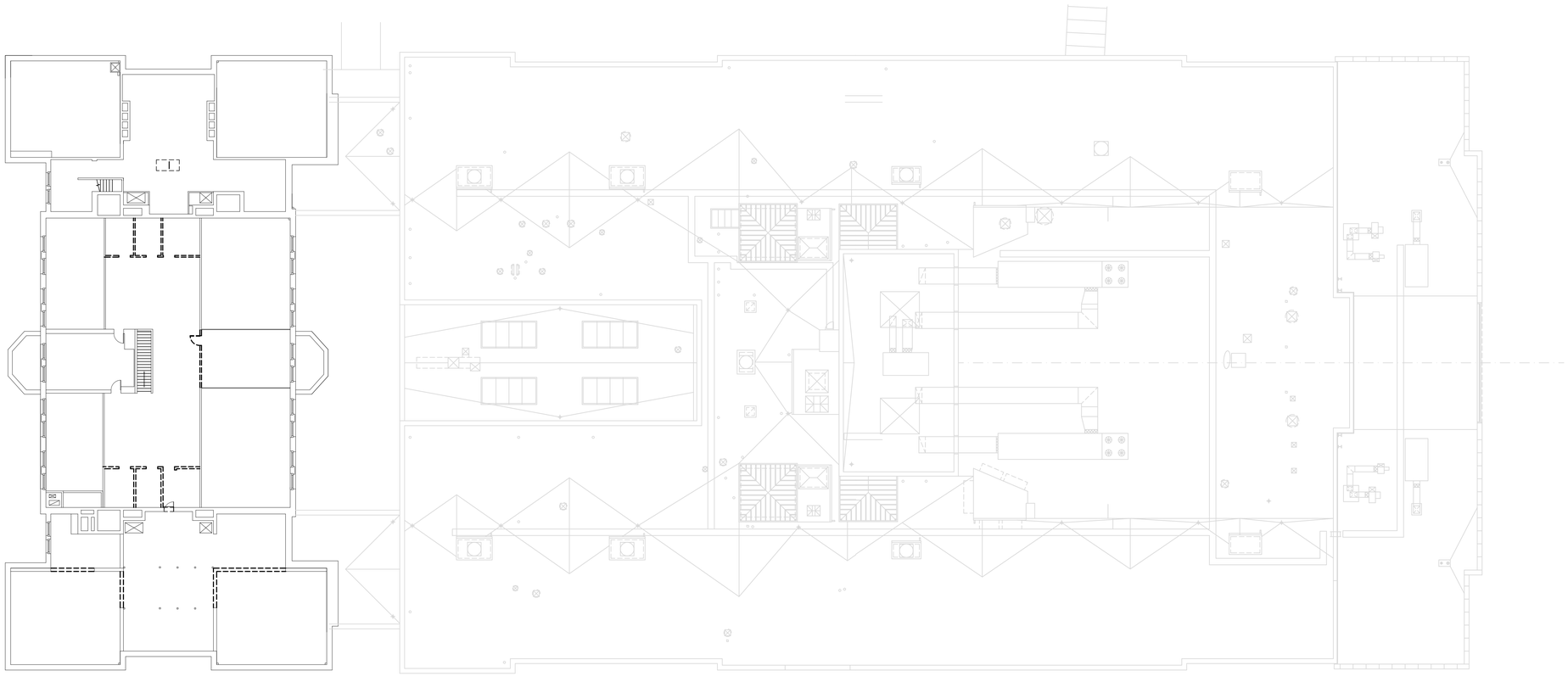
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/23/17



4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N, Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

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LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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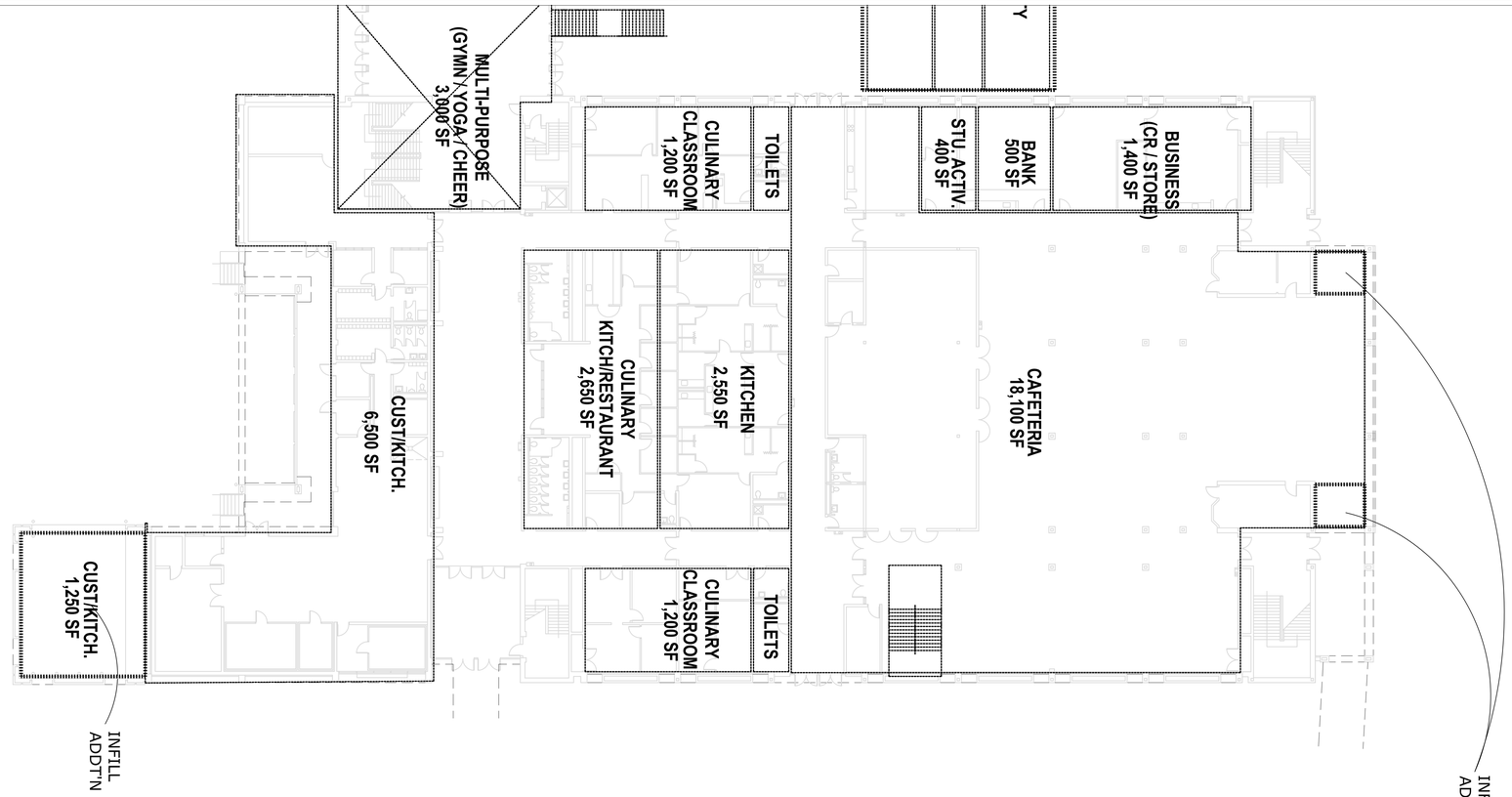
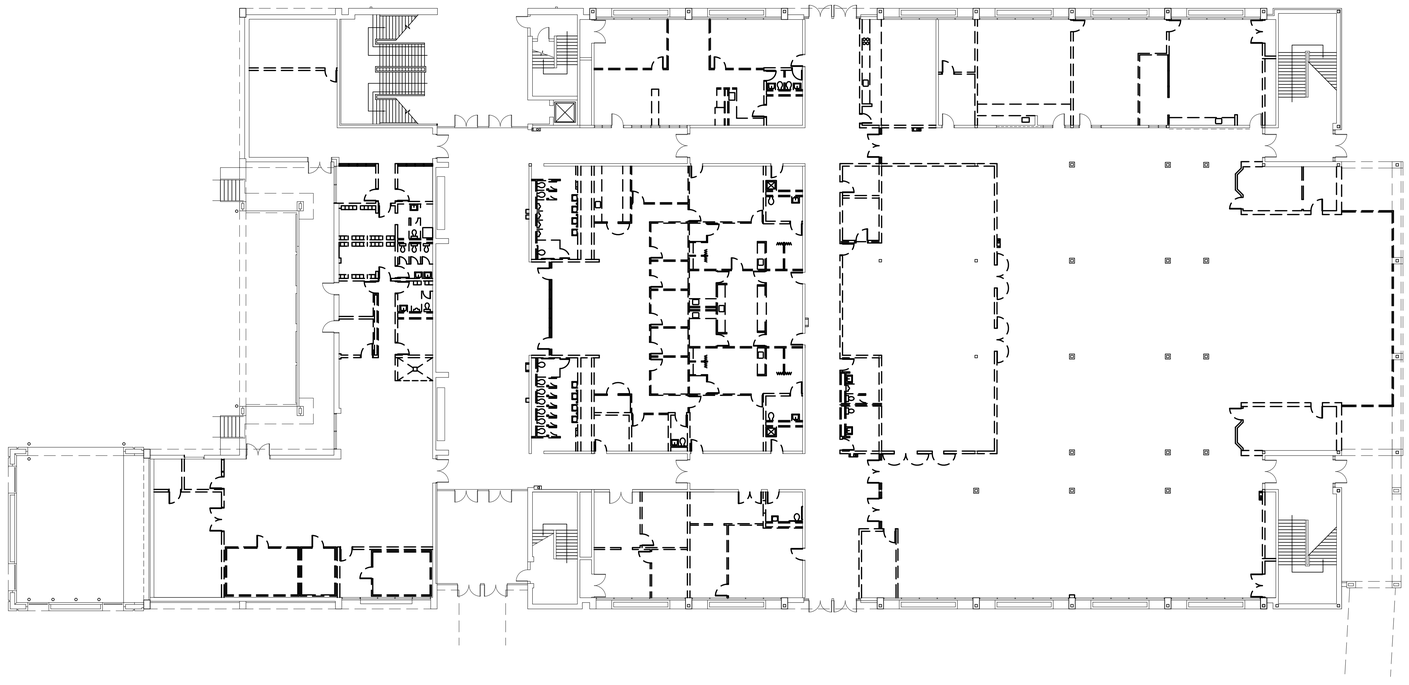


1ST FLOOR - LORD BUILDING - RENOVATION FIT OUT



1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
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529 Main Street, Boston, MA 02129

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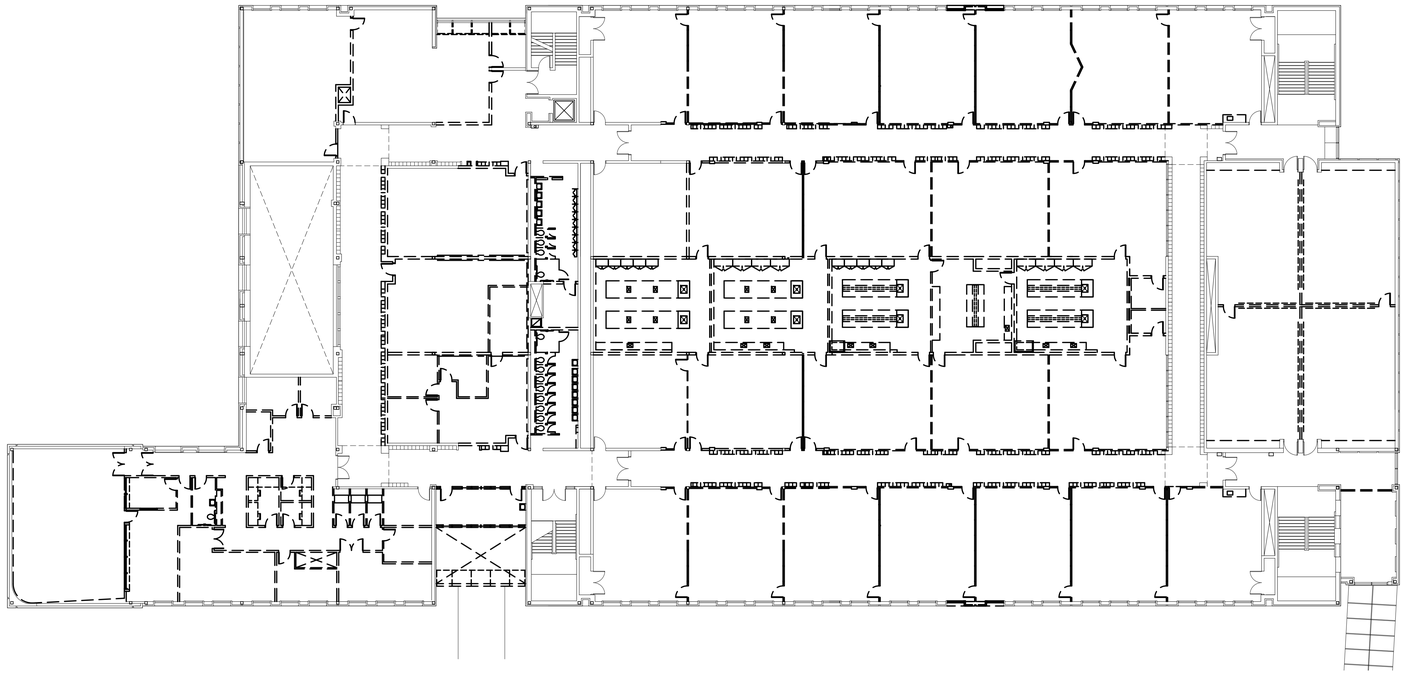
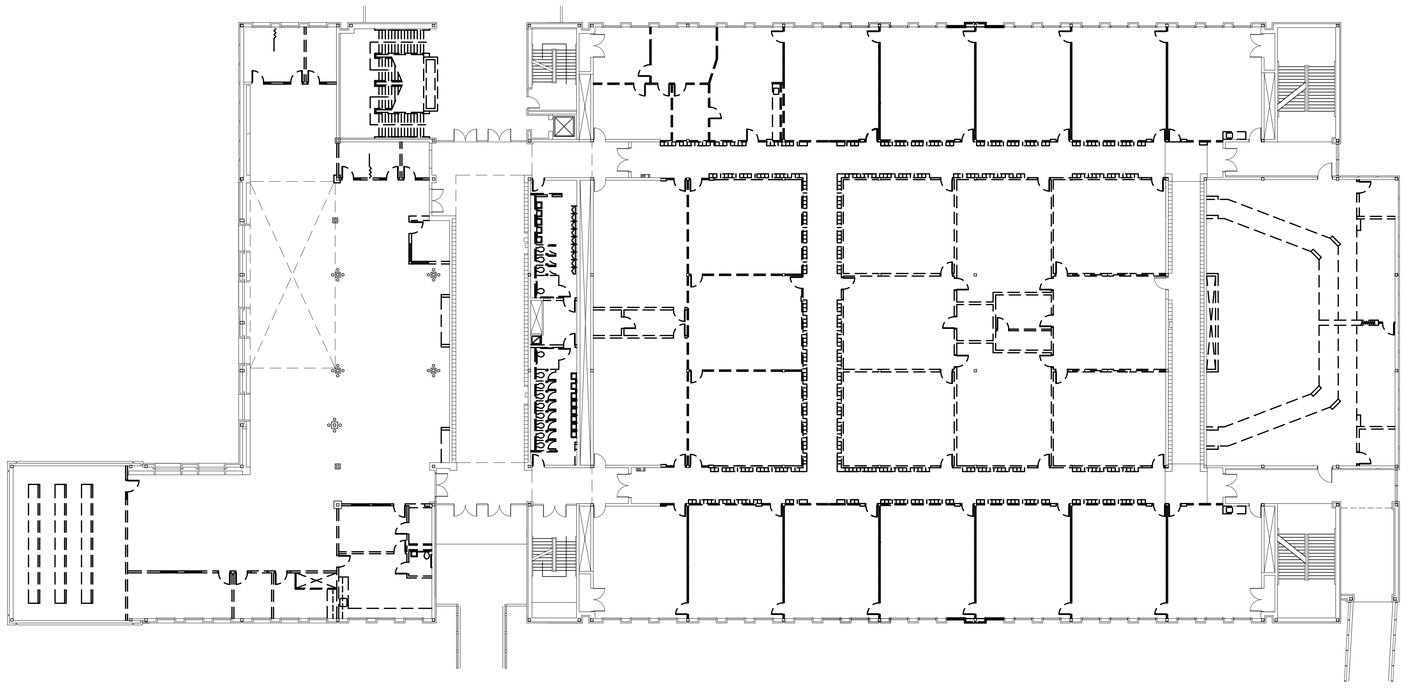


3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE



2ND FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 1A

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

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01/23/17

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 200
BOSTON, MA 02110
T: 617.448.4000
F: 617.448.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
ADD/ RENO
OPTION 1A

50 FATHER MORISSETTE BLVD.
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

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NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
BOSTON, MA 02110
T: 617.482.7080
F: 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
1 Beacon Street Boulevard, Boston, MA 02210

Civil / Site:
Hitech Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Bill Oberwood Design Group
PO Box 2, Rehoboth, MA 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Contact Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
11 Forest Ridge Rd., Chelmsford, MA 01863

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01776

PROJECT TITLE:
LOWELL
HIGH SCHOOL
ADD/ RENO
OPTION 1A

50 FATHER MORISSETTE BLVD.
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

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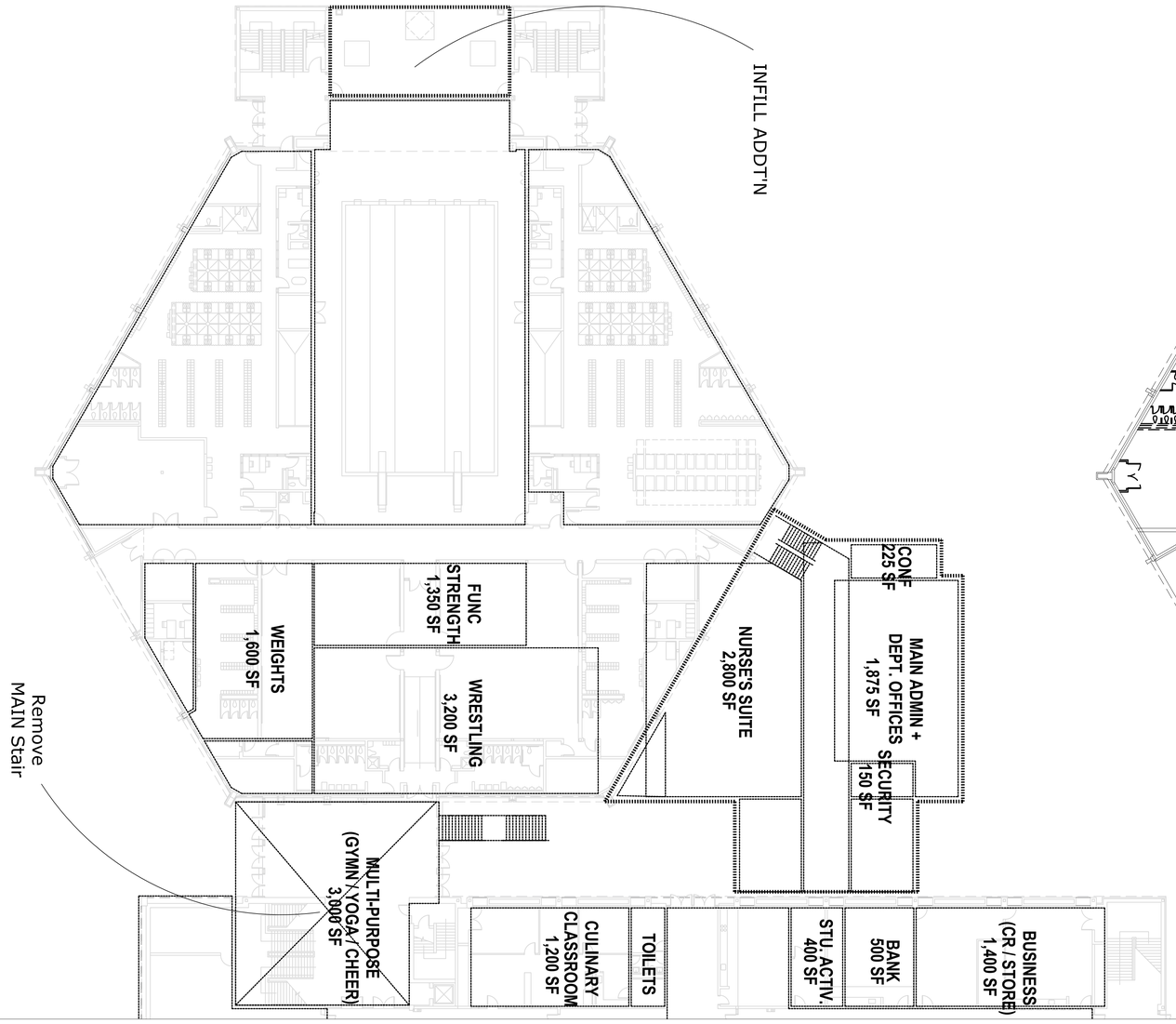
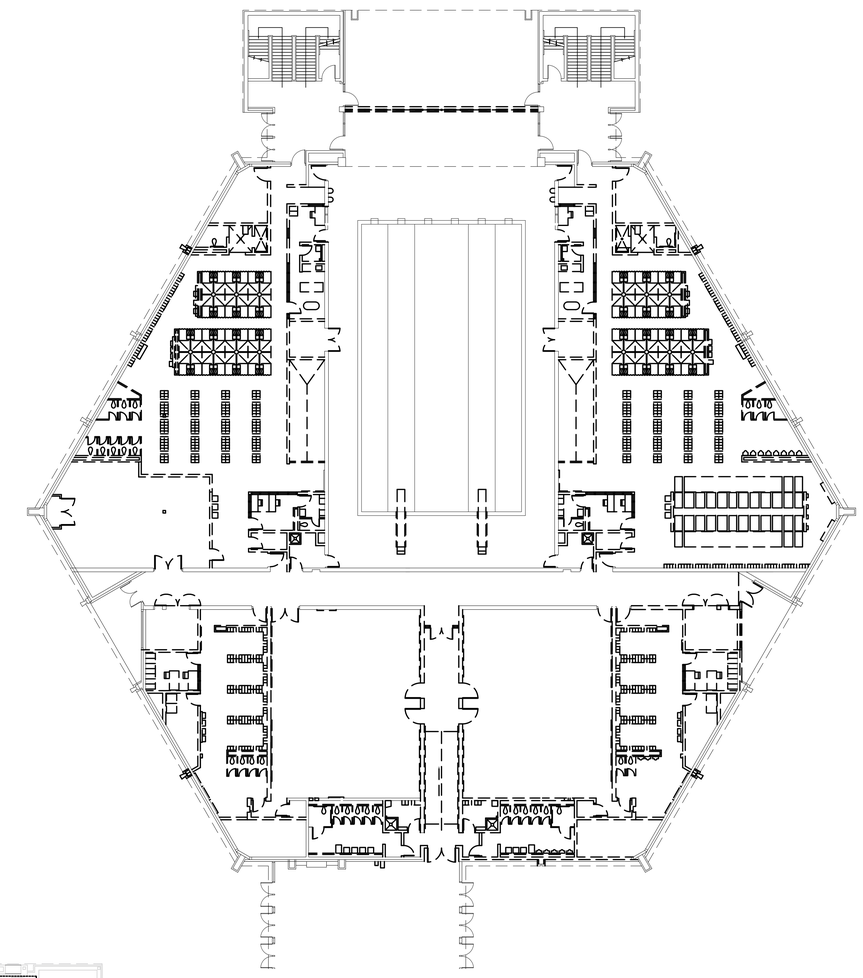


1ST FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT



1ST FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 1A

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

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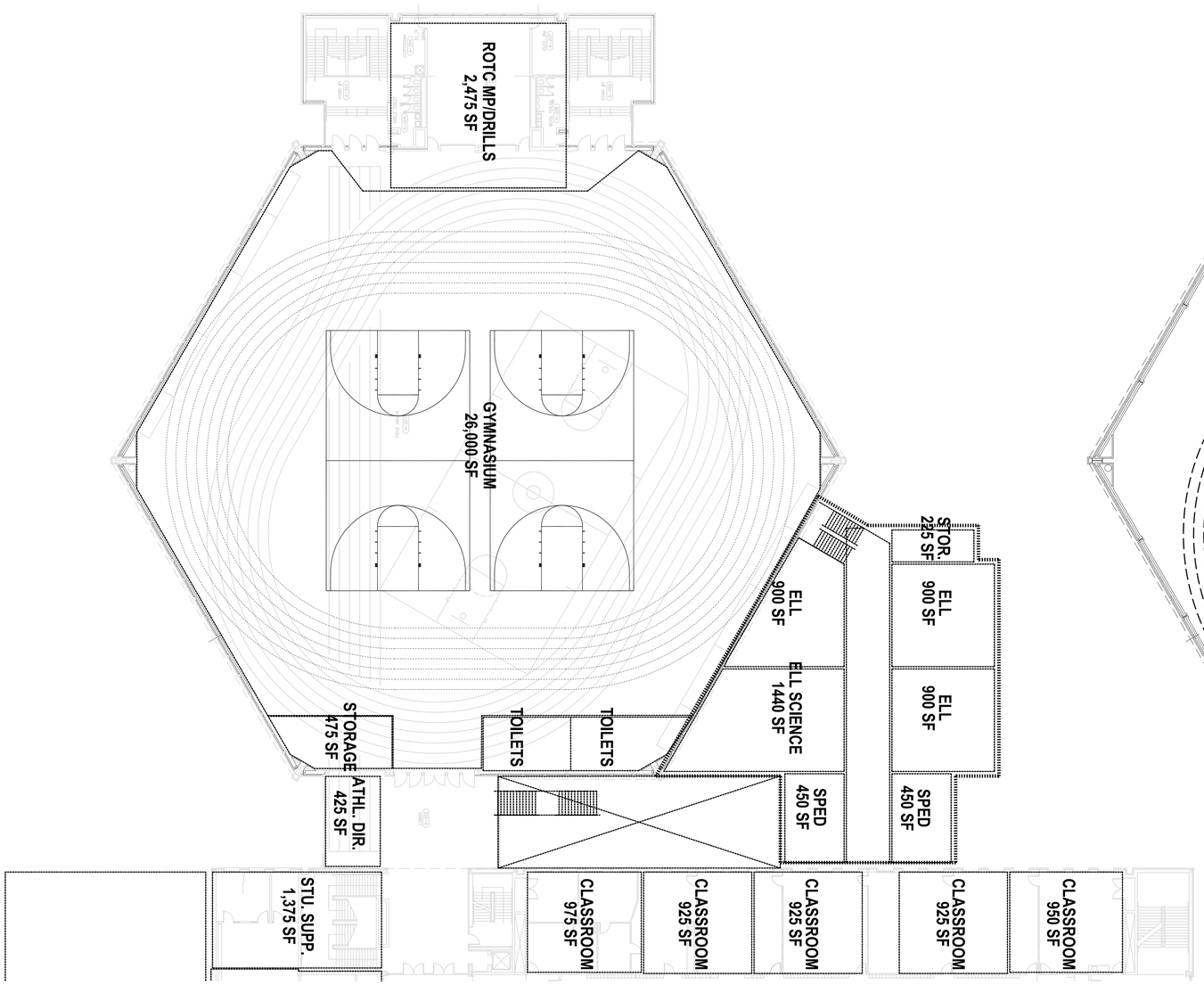
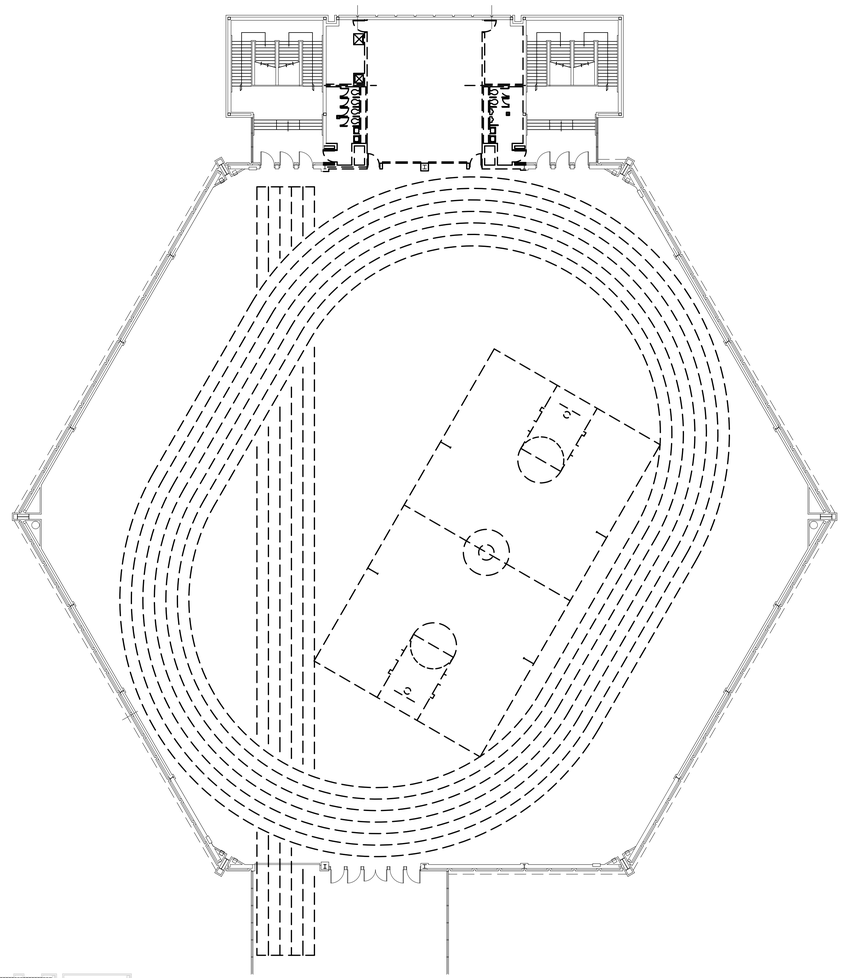


2ND FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT



2ND FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
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161 West Main St., Georgetown, MA 01833

Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

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PROJECT No: 67150

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01/23/17

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 624,100

RENOVATION AREA (GSF) = 454,100

ADDITION/ NEW AREA (GSF) = 170,000

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 1A, EXCEPT;

+ NEW FRESHMAN WING (IDEAL ORG/SUN)
+ NEW FIELD HS (MORE EFFIC./FLEXIBLE)
+ MODEST GREEN SPACE CREATED

CONSTRUCTION

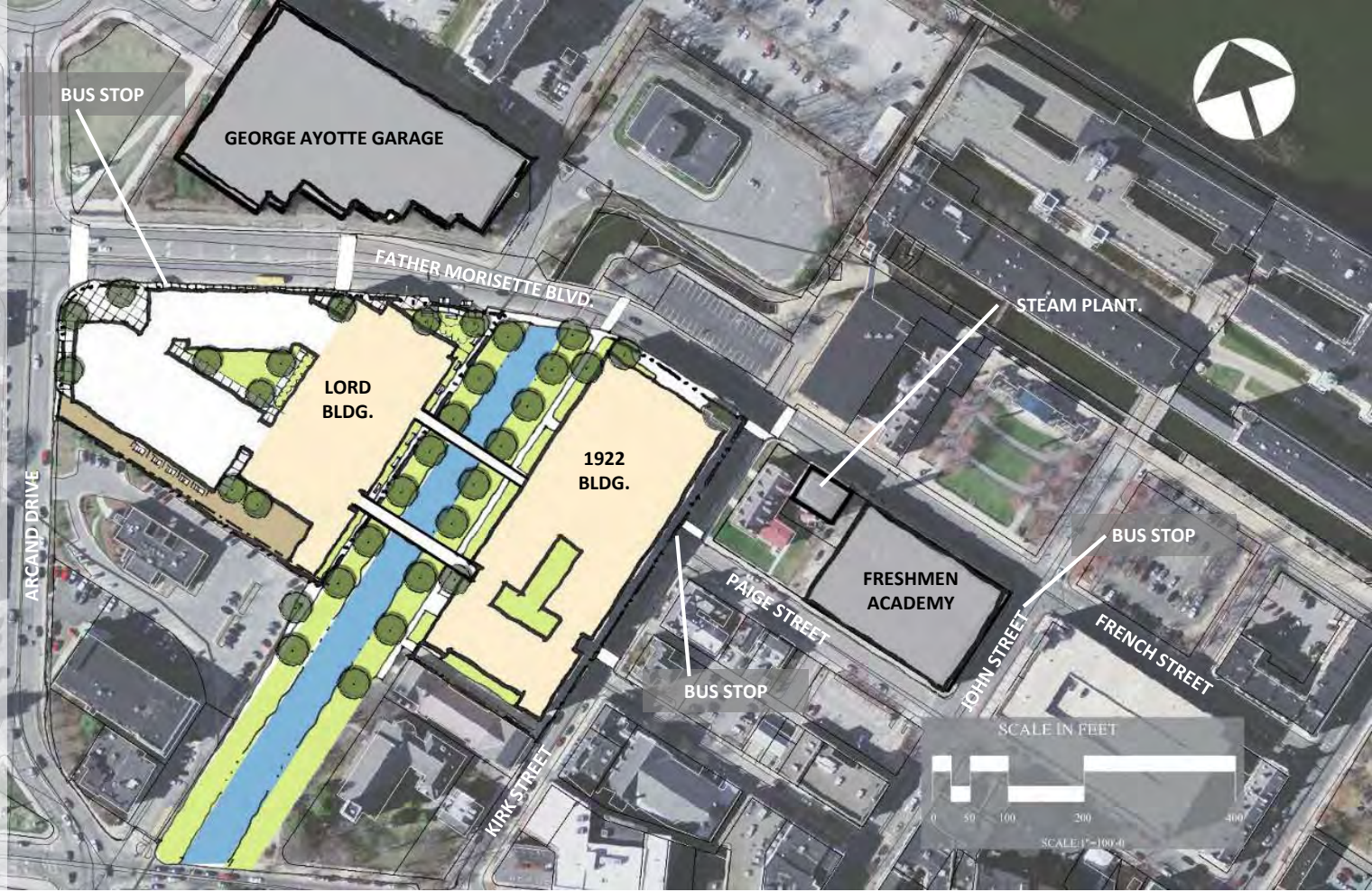
4 YEAR PHASED PROJECT

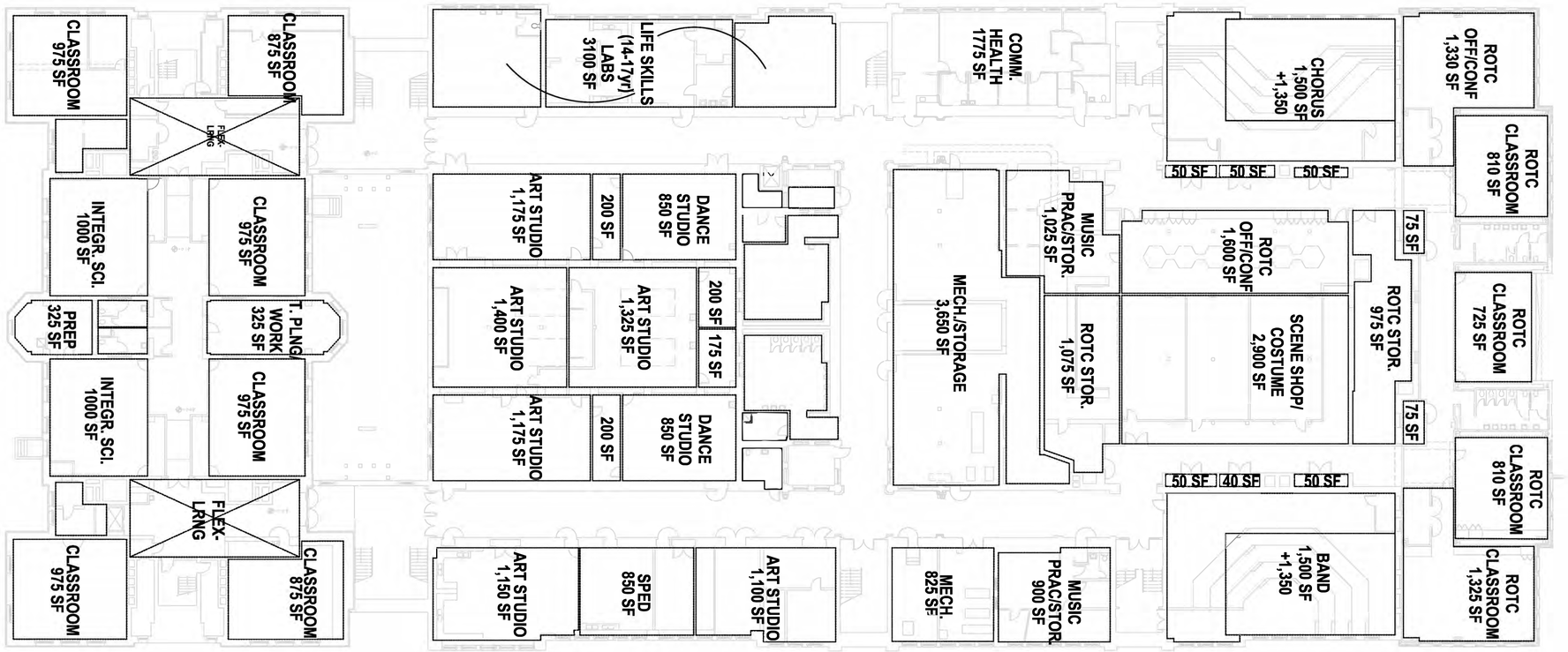
+ FEW MODULAR CLASSROOMS REQ'D
- TEMPORARY GYM FACILITIES REQUIRED

RELATIVE COSTS

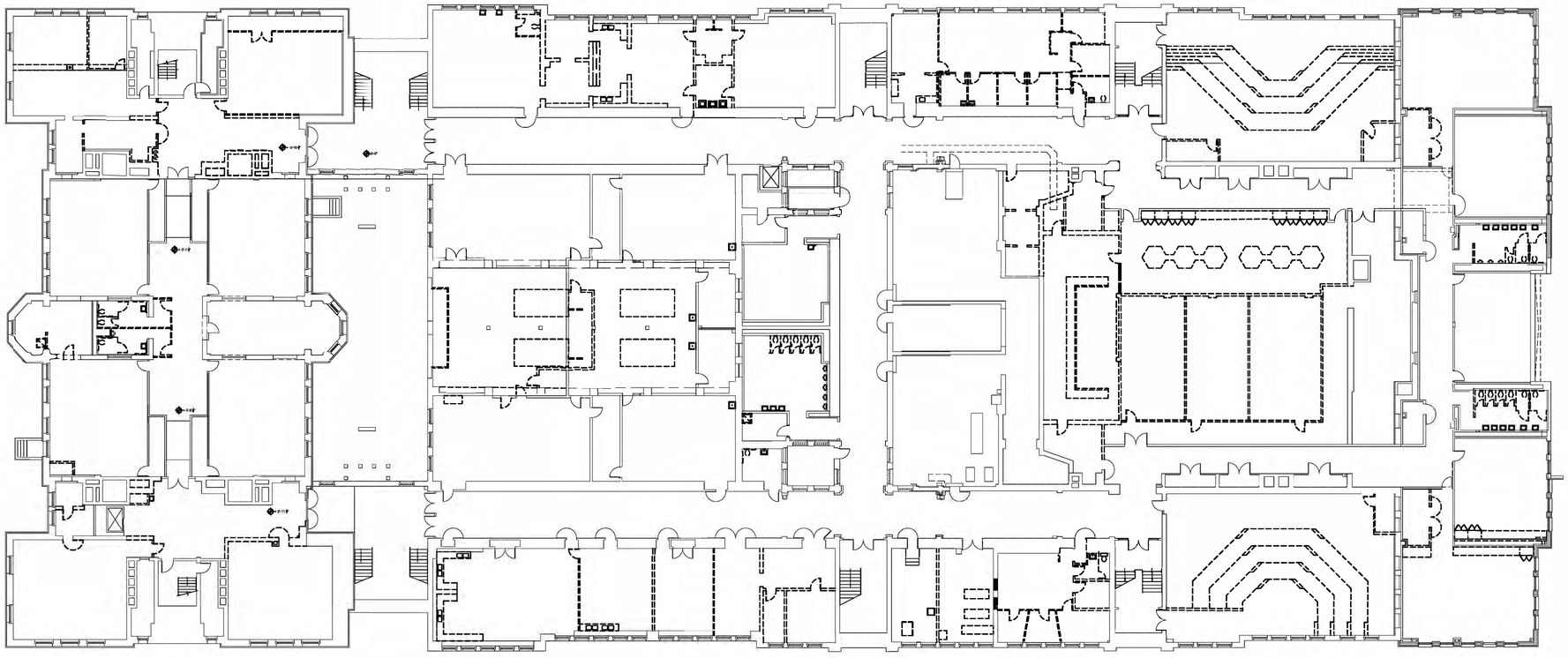
TOTAL PROJECT COST = $344,087,262

ESTIMATED CITY'S SHARE = $135,614,525





BSMNT. FLOOR - 1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 571.449.4000
F. 571.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 2

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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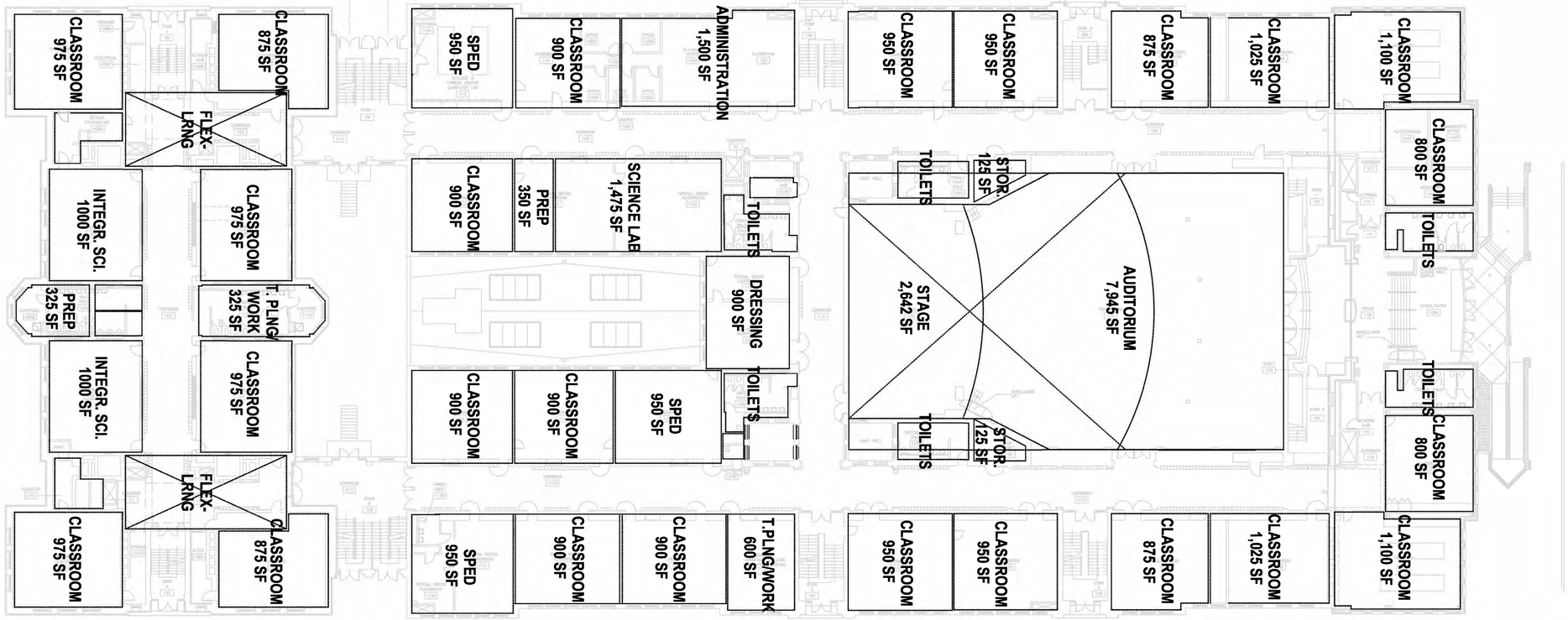
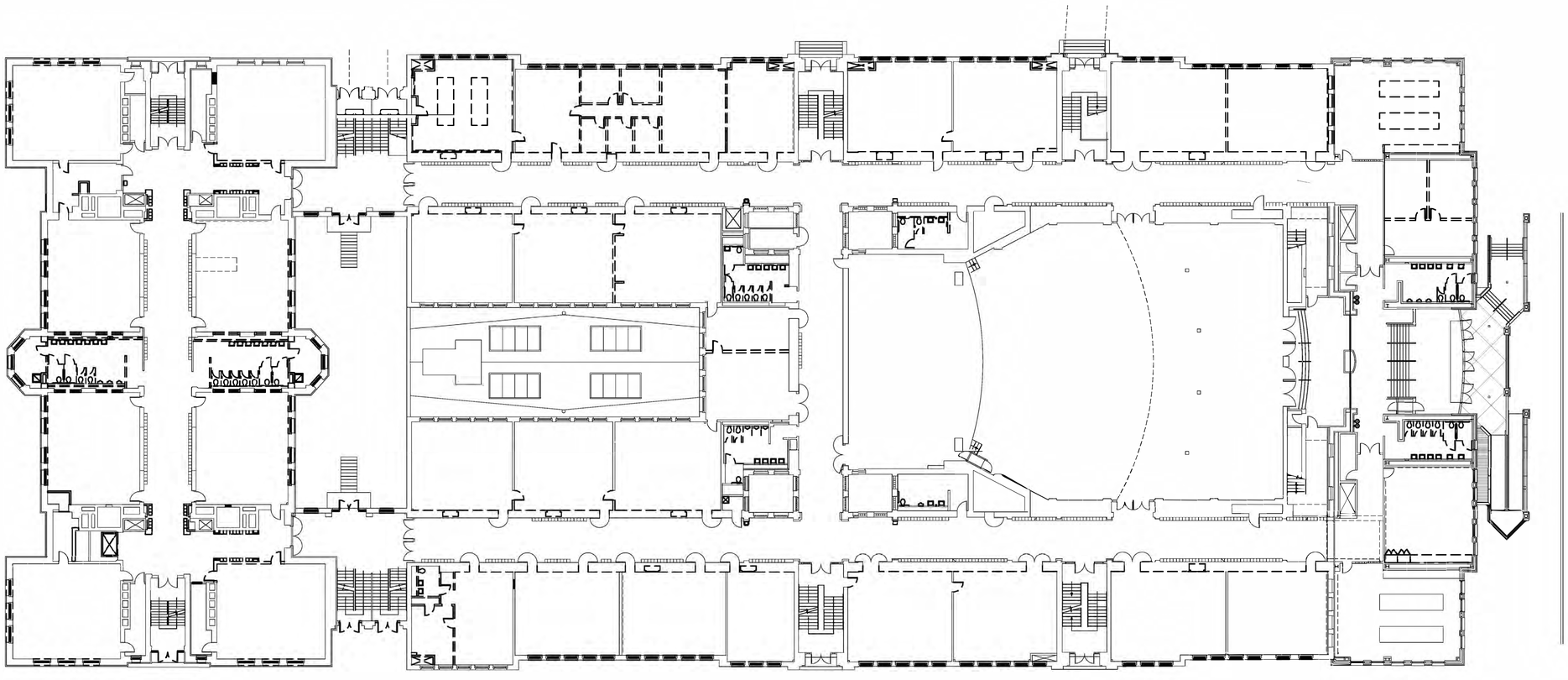


1ST FLOOR - 1922 BUILDING - RENOVATION FIT OUT



1ST FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

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SUITE 203
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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

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370 Faunce Corner Road, N. Darmouth, MA 02747

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Acoustical Consultant:
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PROJECT No: 67150

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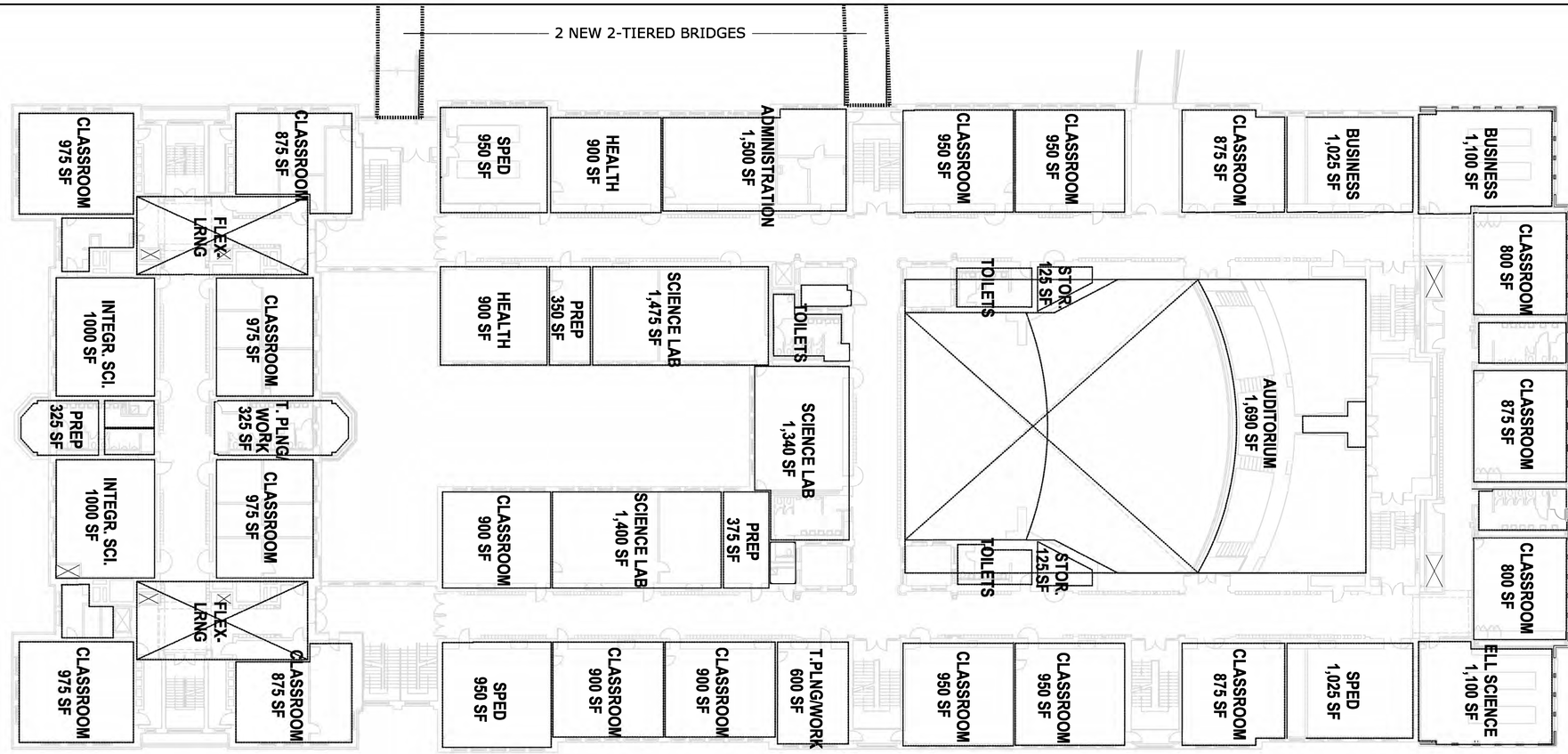
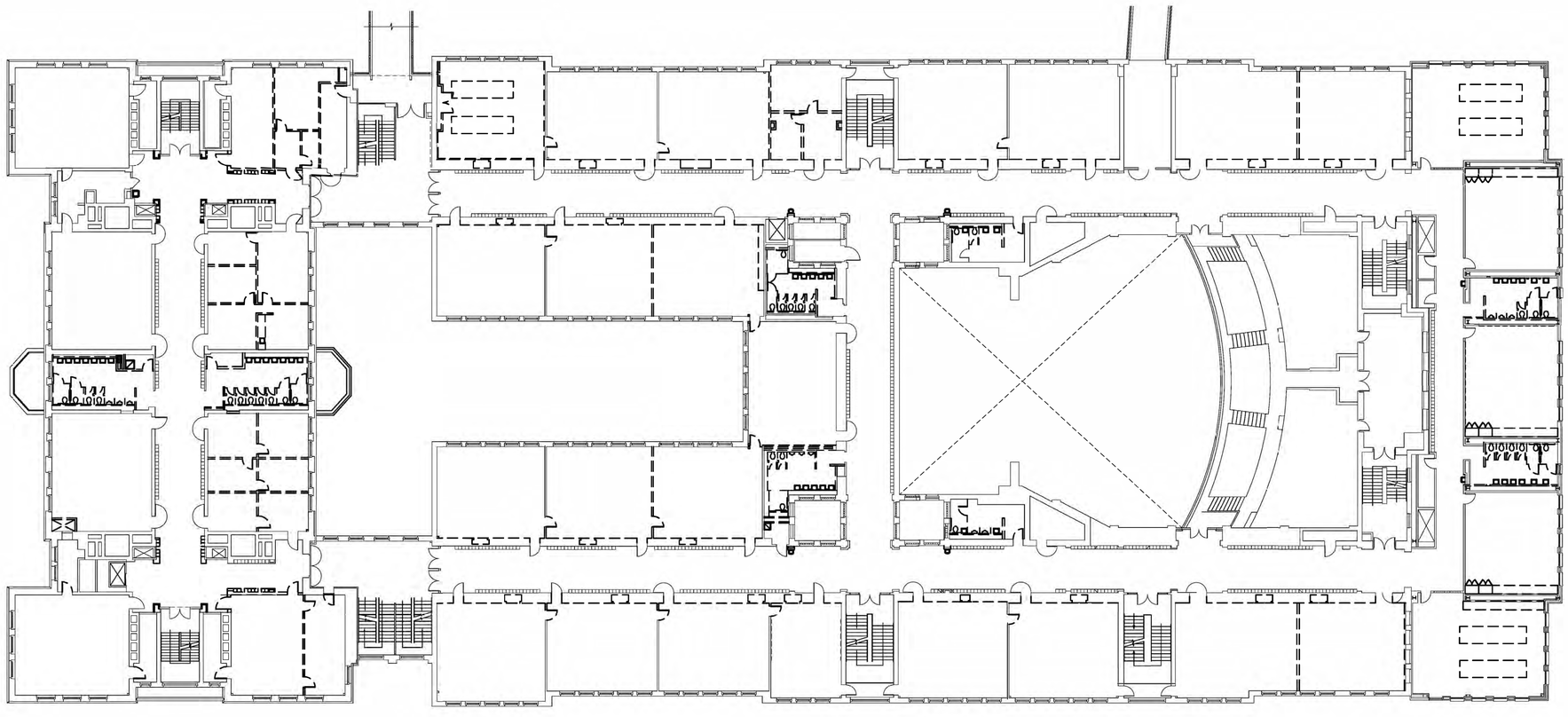


2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NOTE: NEW BRIDGES BETWEEN LORD AND COBURN, SULLIVAN, KOULOHERAS BUILDING IS APPROXIMATELY 175' LONG x 14' WIDE.

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

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LOWELL HIGH SCHOOL ADD/ RENO OPTION 2

50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

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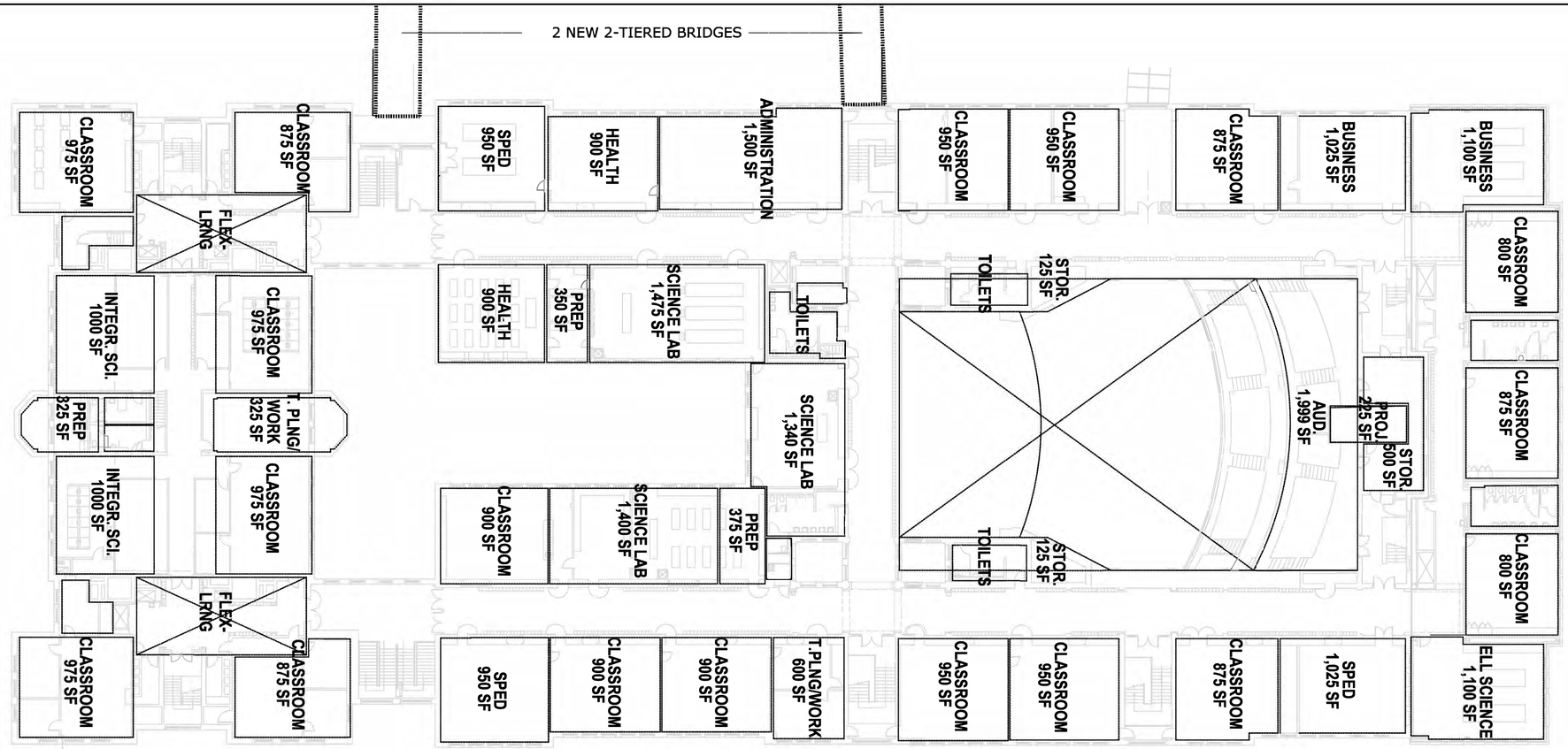
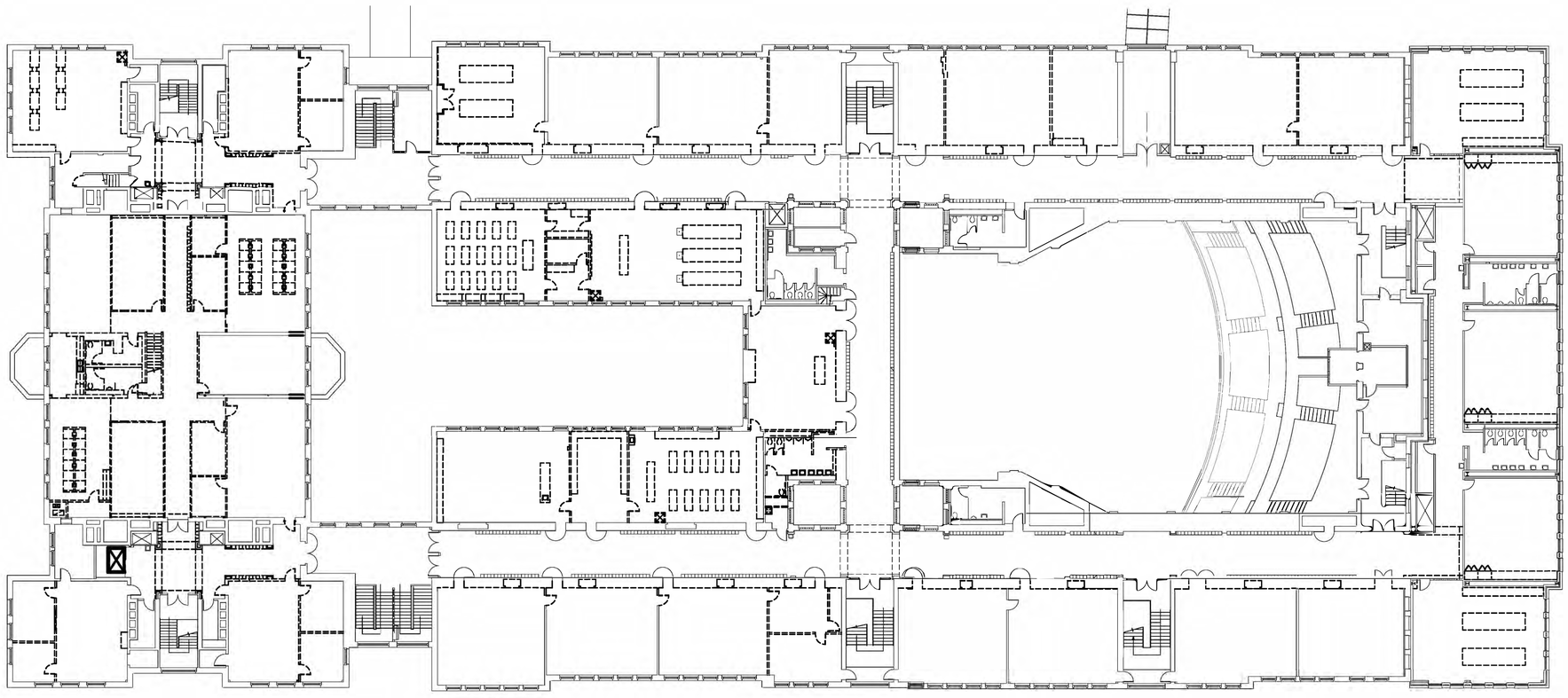


3RD FLOOR - 1922 BUILDING - RENOVATION FIT OUT



3RD FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NOTE: NEW BRIDGES BETWEEN LORD AND COBURN, SULLIVAN, KOULOHERAS BUILDING IS APPROXIMATELY 175' LONG x 14' WIDE.

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 2

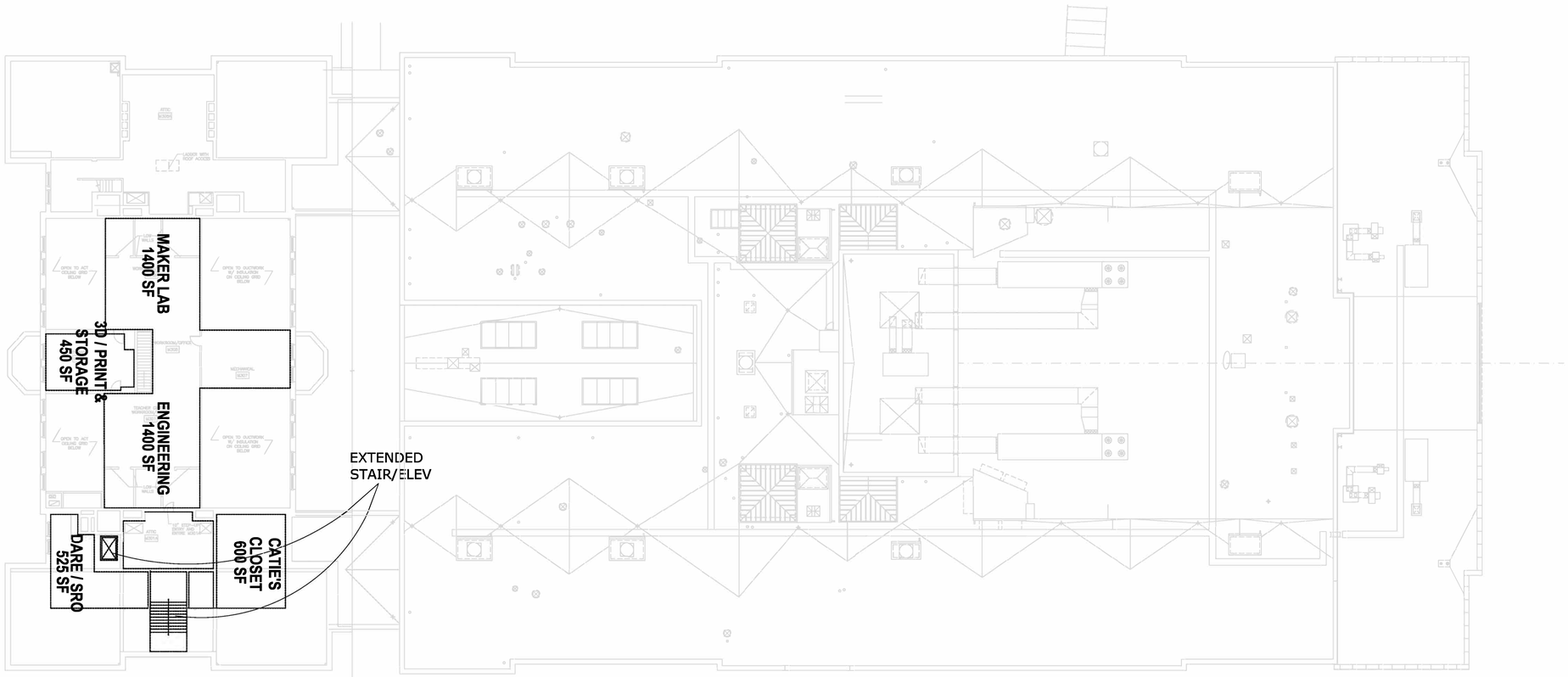
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

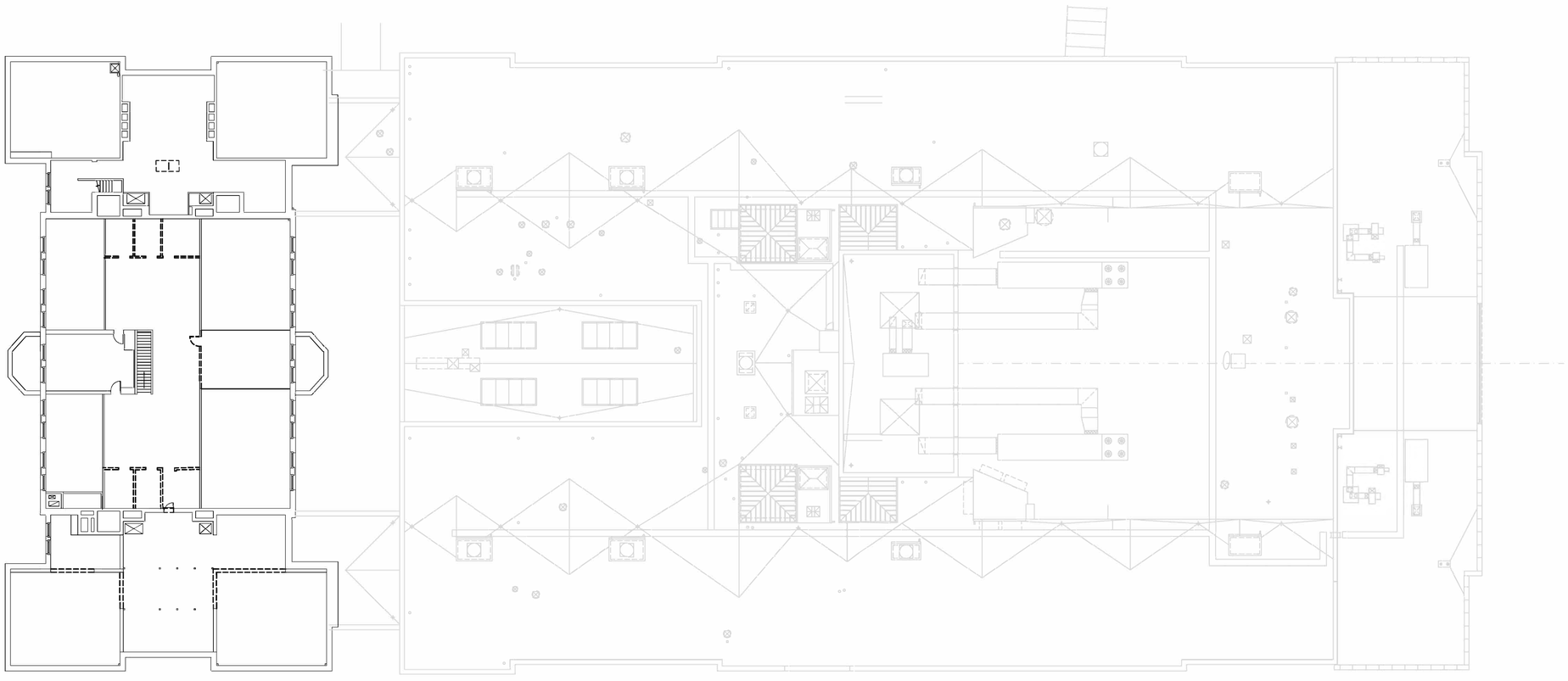
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
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F. 671.449.4049

Owner:
City of Lowell
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Skanska
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PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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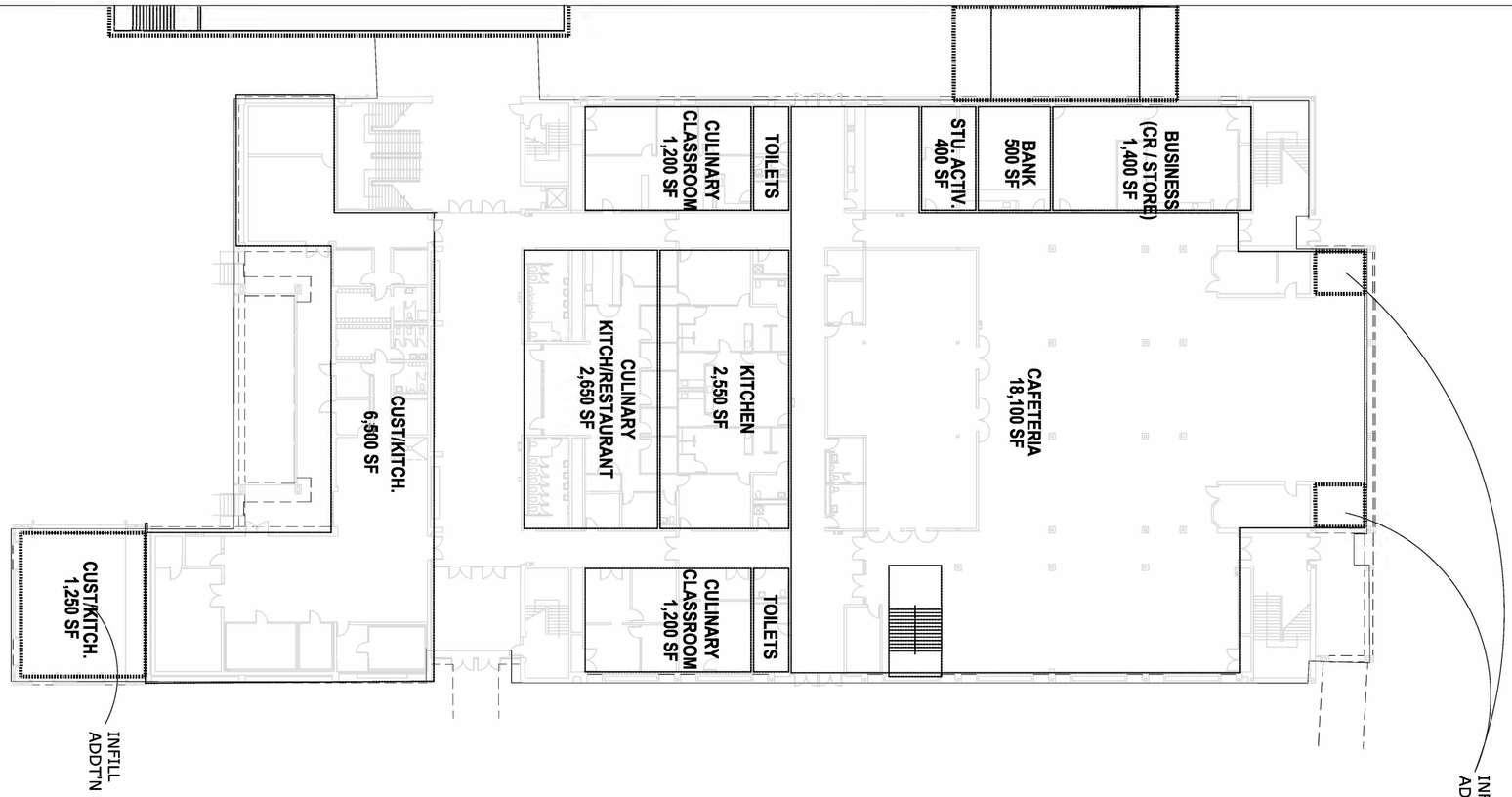
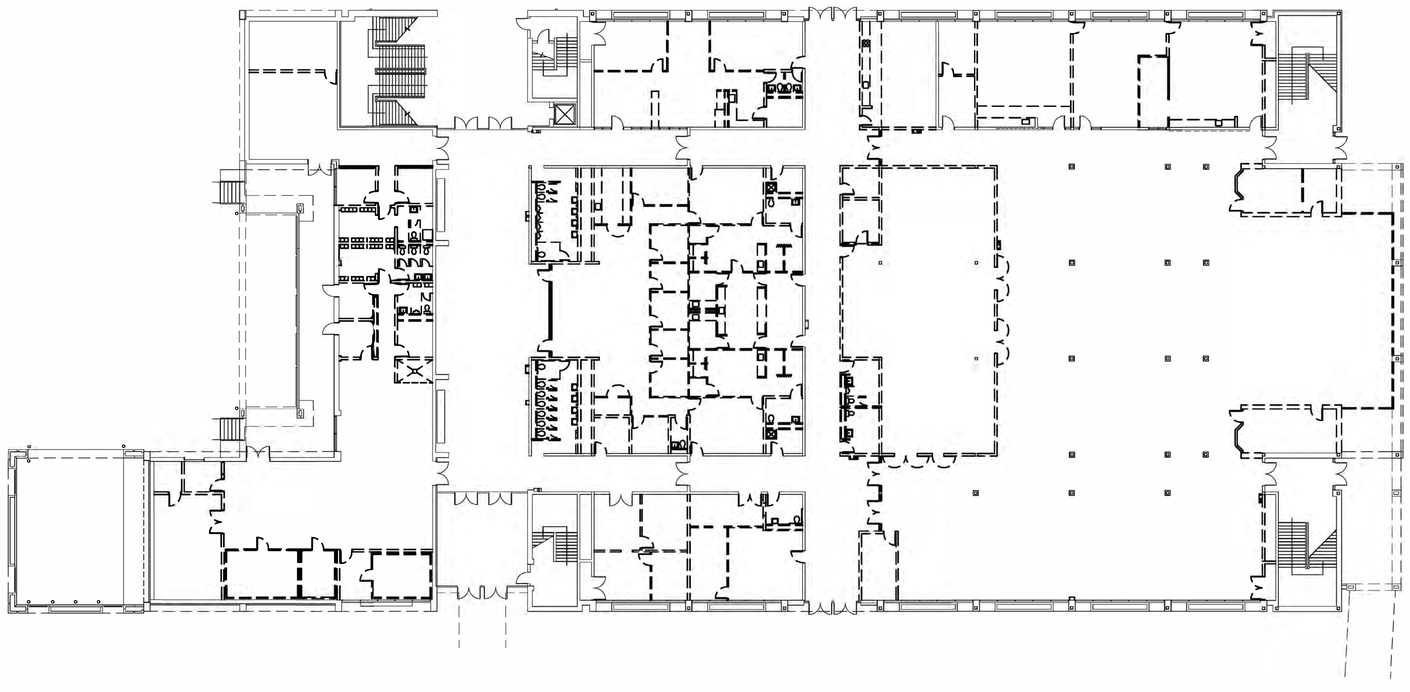


1ST FLOOR - LORD BUILDING - RENOVATION FIT OUT



1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

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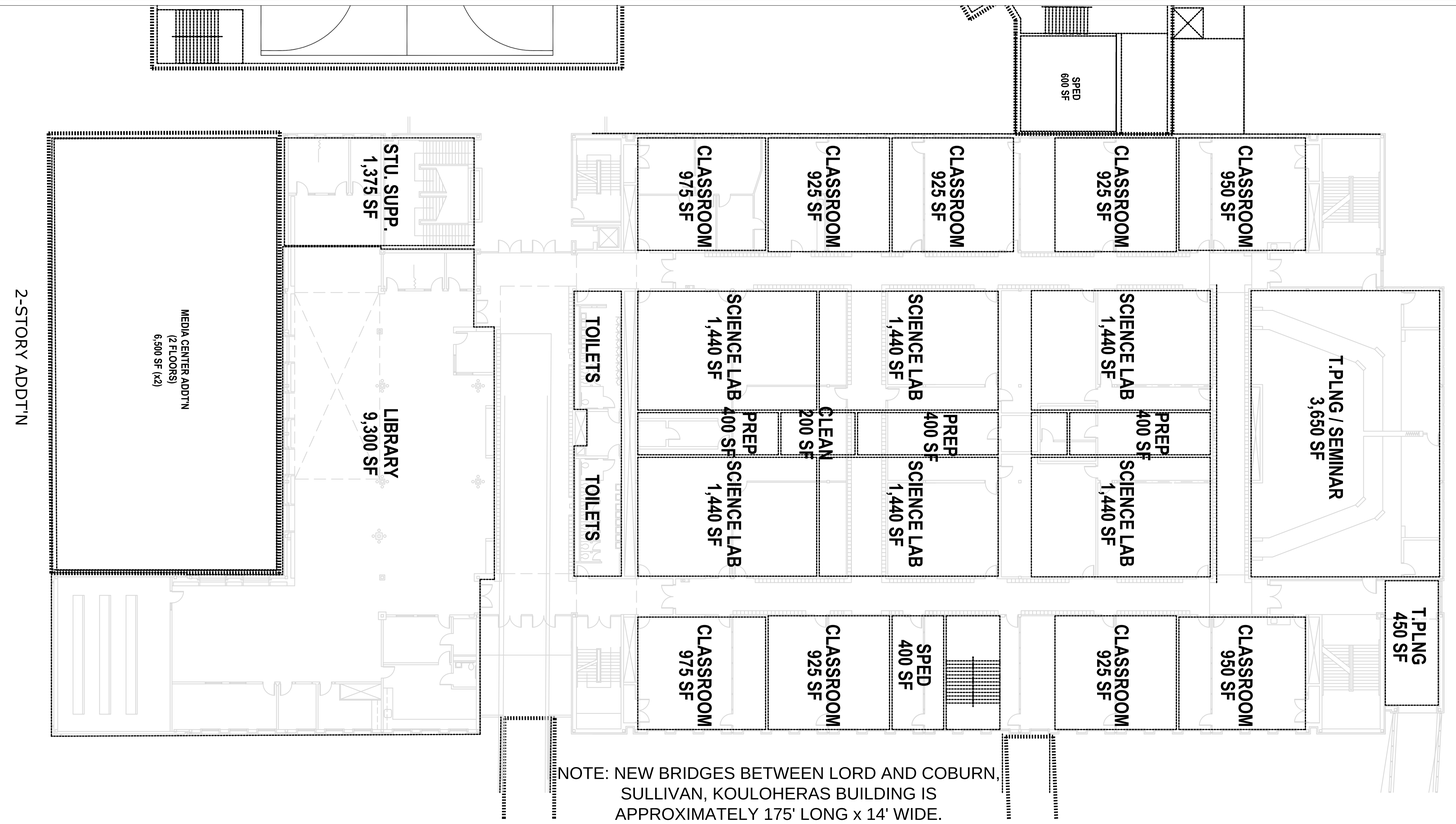
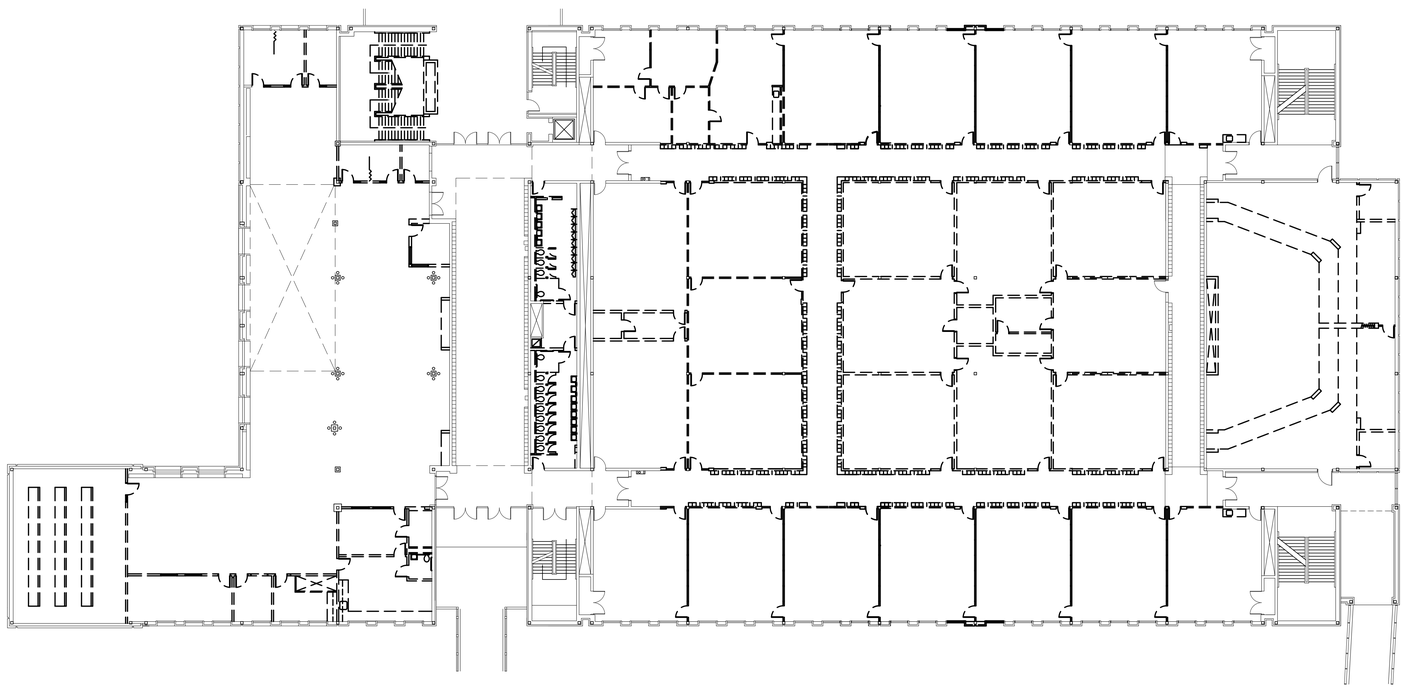


NOTE: NEW BRIDGES BETWEEN LORD AND COBURN, SULLIVAN, KOULOHERAS BUILDING IS APPROXIMATELY 175' LONG x 14' WIDE.

2ND FLOOR - LORD BUILDING - RENOVATION FIT OUT



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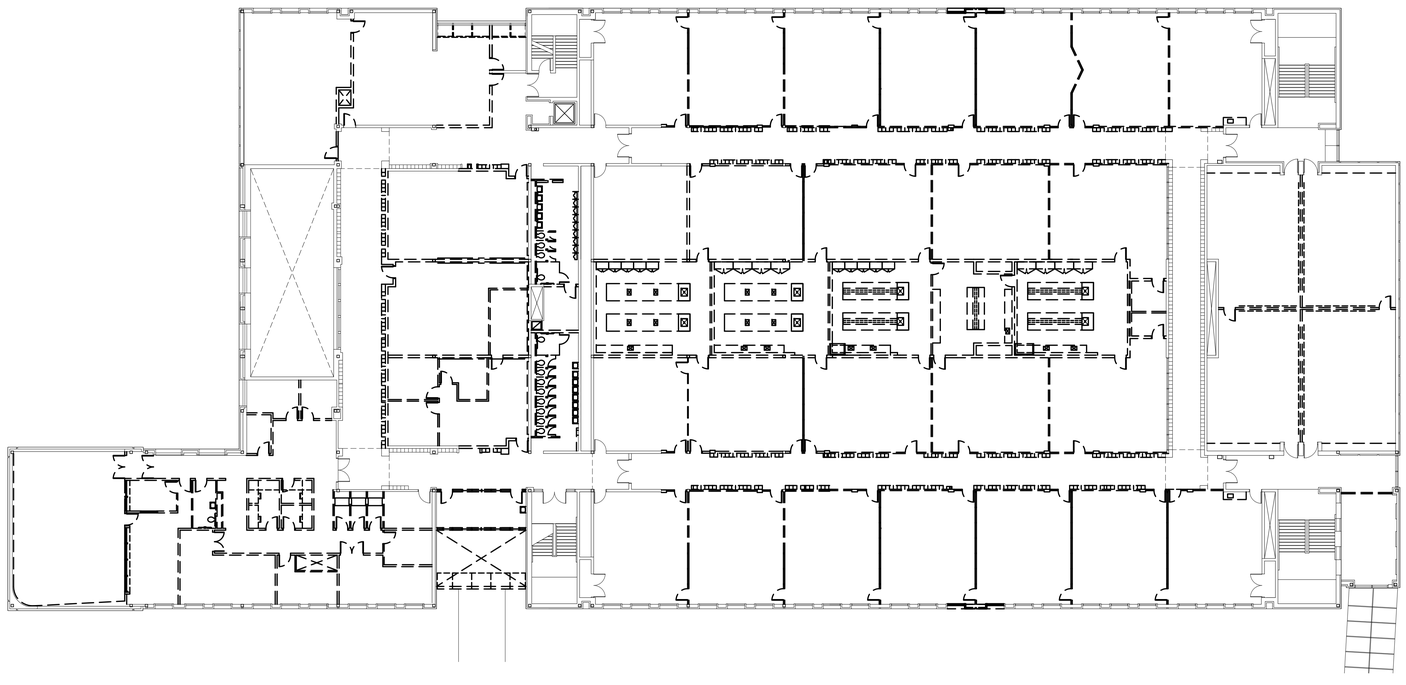
3RD FLOOR - LORD BUILDING - RENOVATION FIT OUT



3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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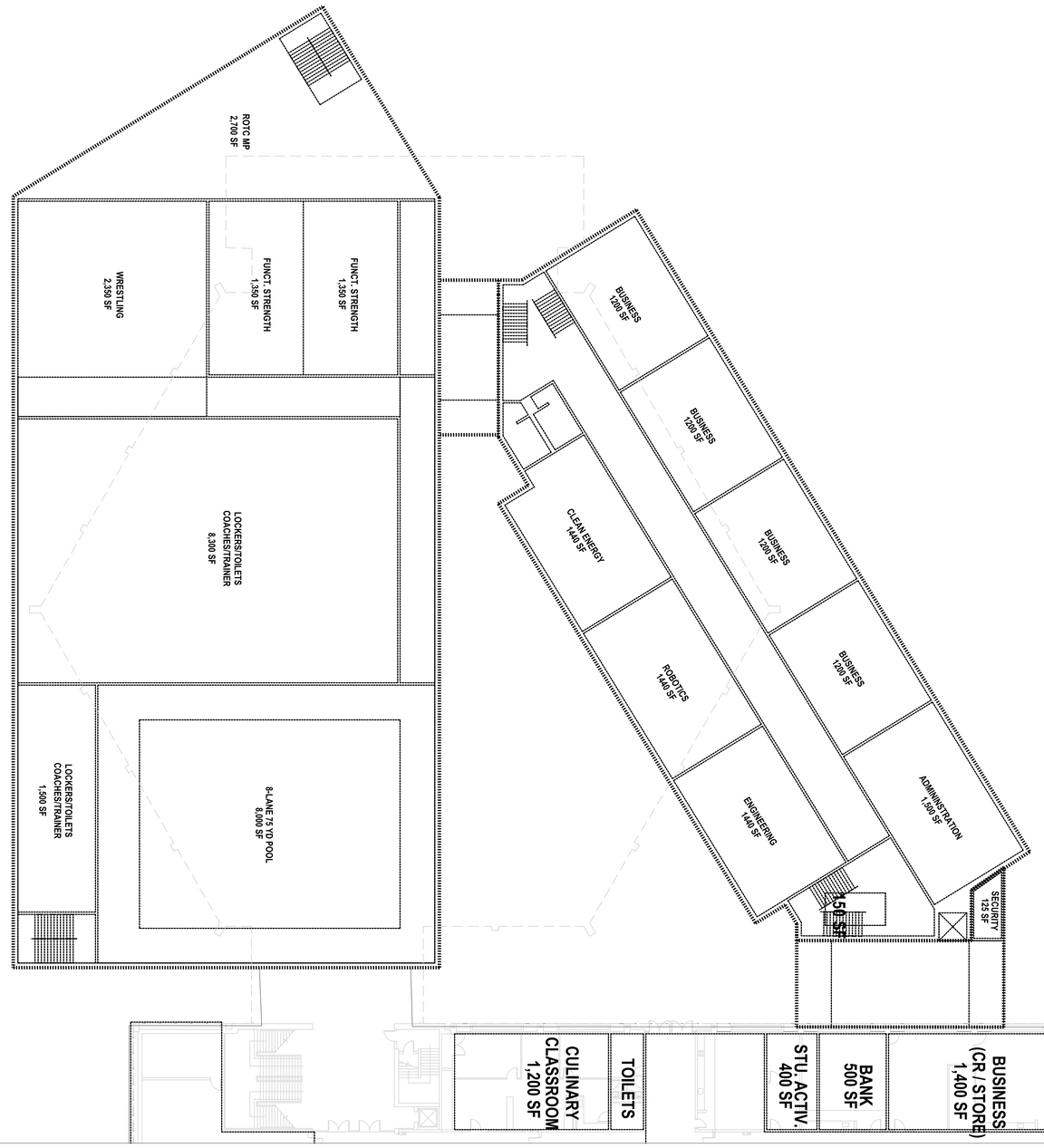
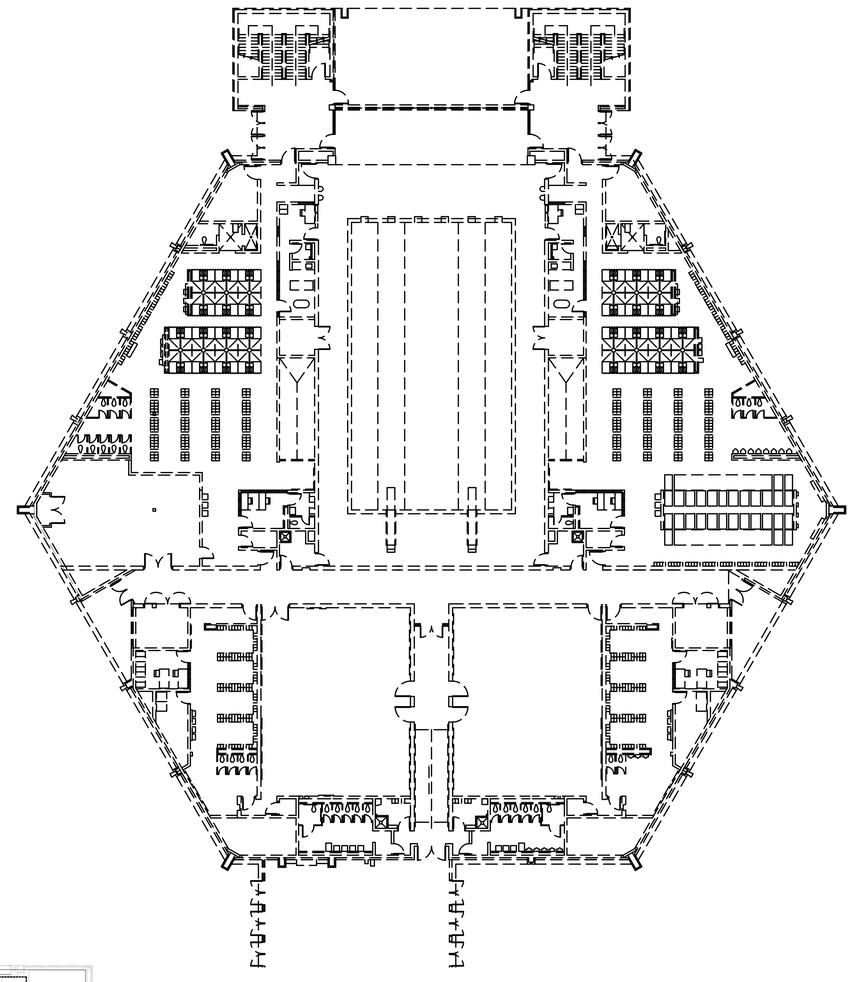


1ST FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT



1ST FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE - FULL BUILDING

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
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PROJECT TITLE:
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PROJECT No: 67150

DRAWING TITLE:

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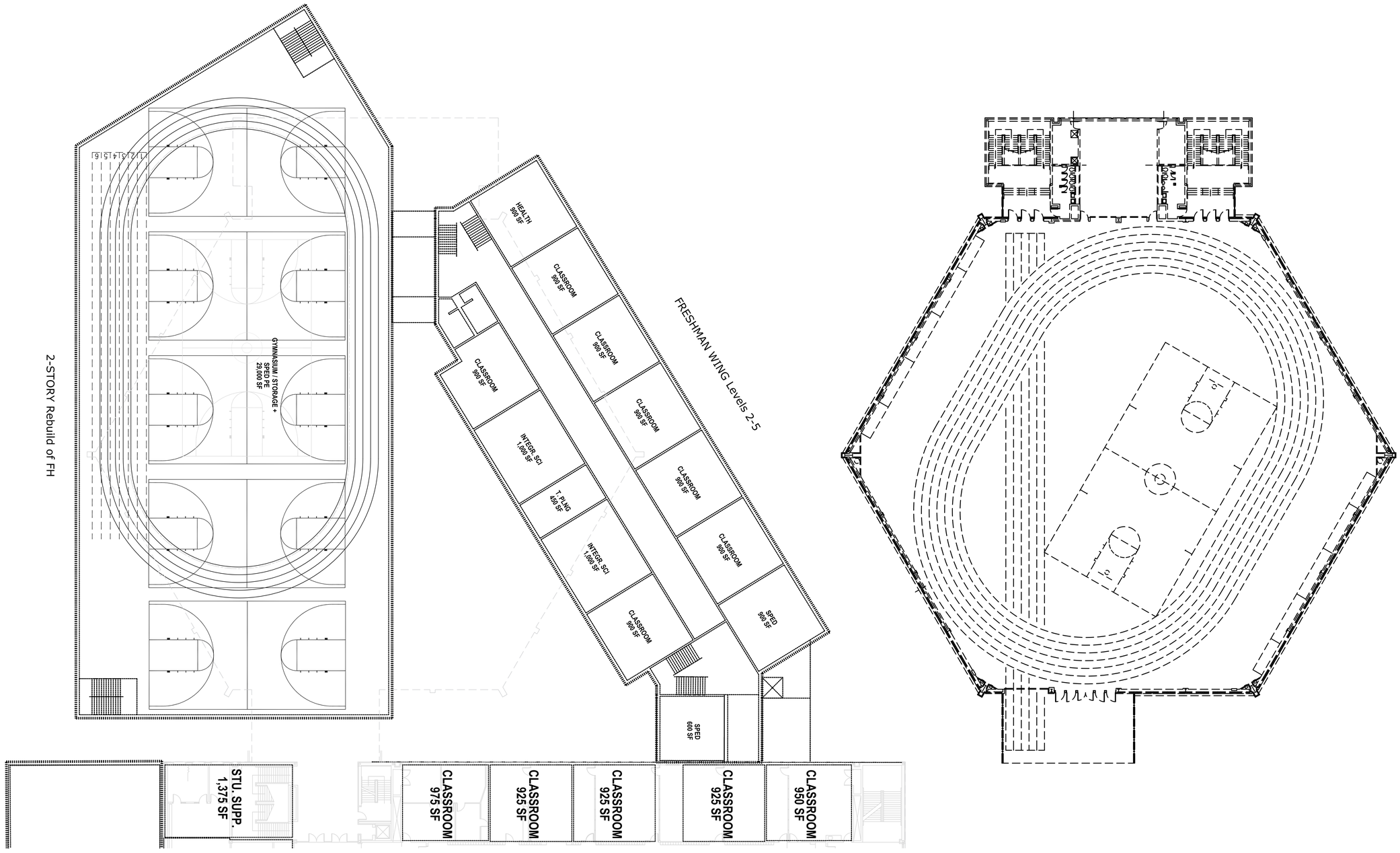

2ND FLOOR - FIELD HOUSE BUILDING - RENOVATION FIT OUT

2ND FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE - FULL BUILDING

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 2

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

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BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 638,700

RENOVATION AREA (GSF) = 447,500

ADDITION/ NEW AREA (GSF) = 191,200

NEW 2 STORY FIELD HS, 5 STORY FA WING + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW KITCH./LOADING (BUILT PHASE-1)
+ LIGHT WELLS = NO WINDOWLESS CR'S
+ LARGE GREEN SPACE CREATED

CONSTRUCTION

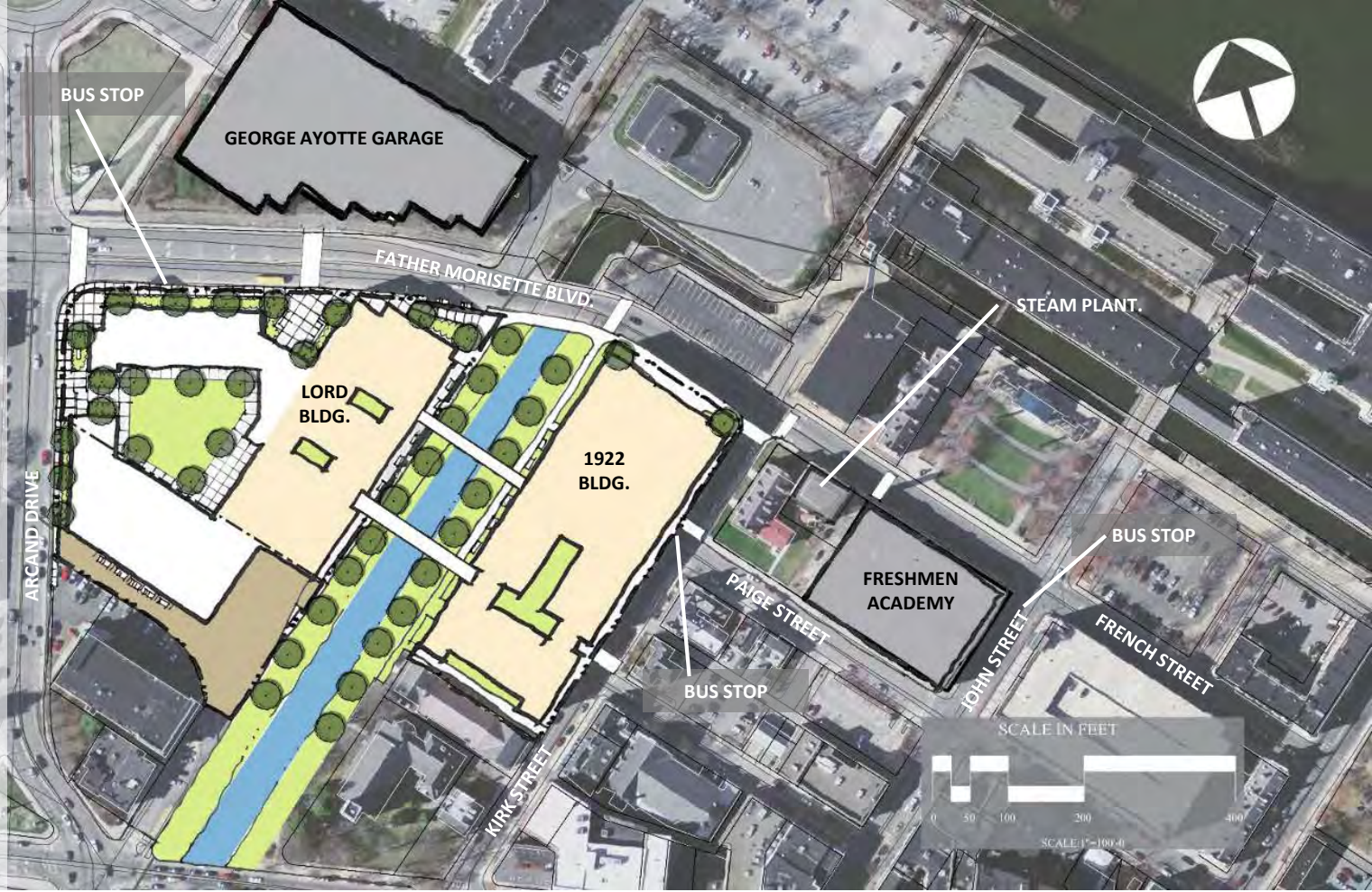
4½ YEAR PHASED PROJECT

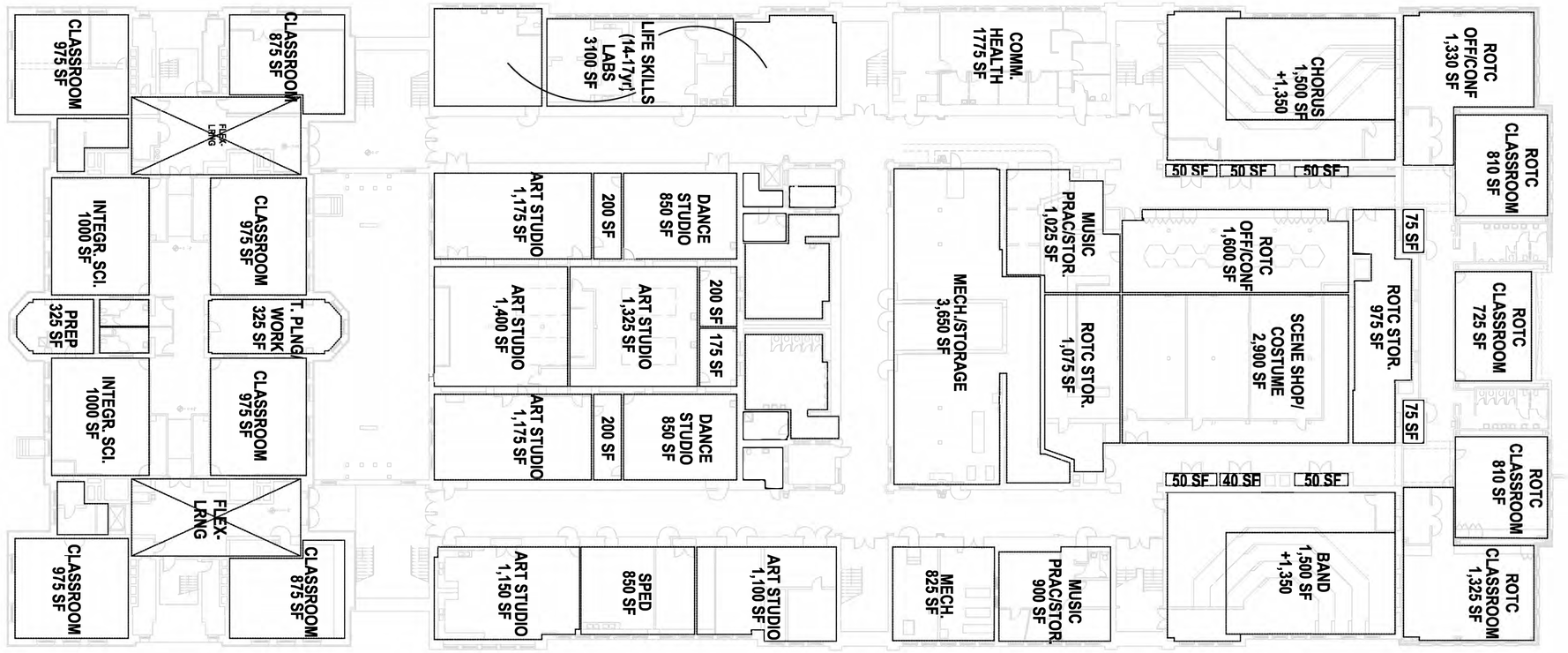
+ FEW MODULAR CLASSROOMS REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D

RELATIVE COSTS

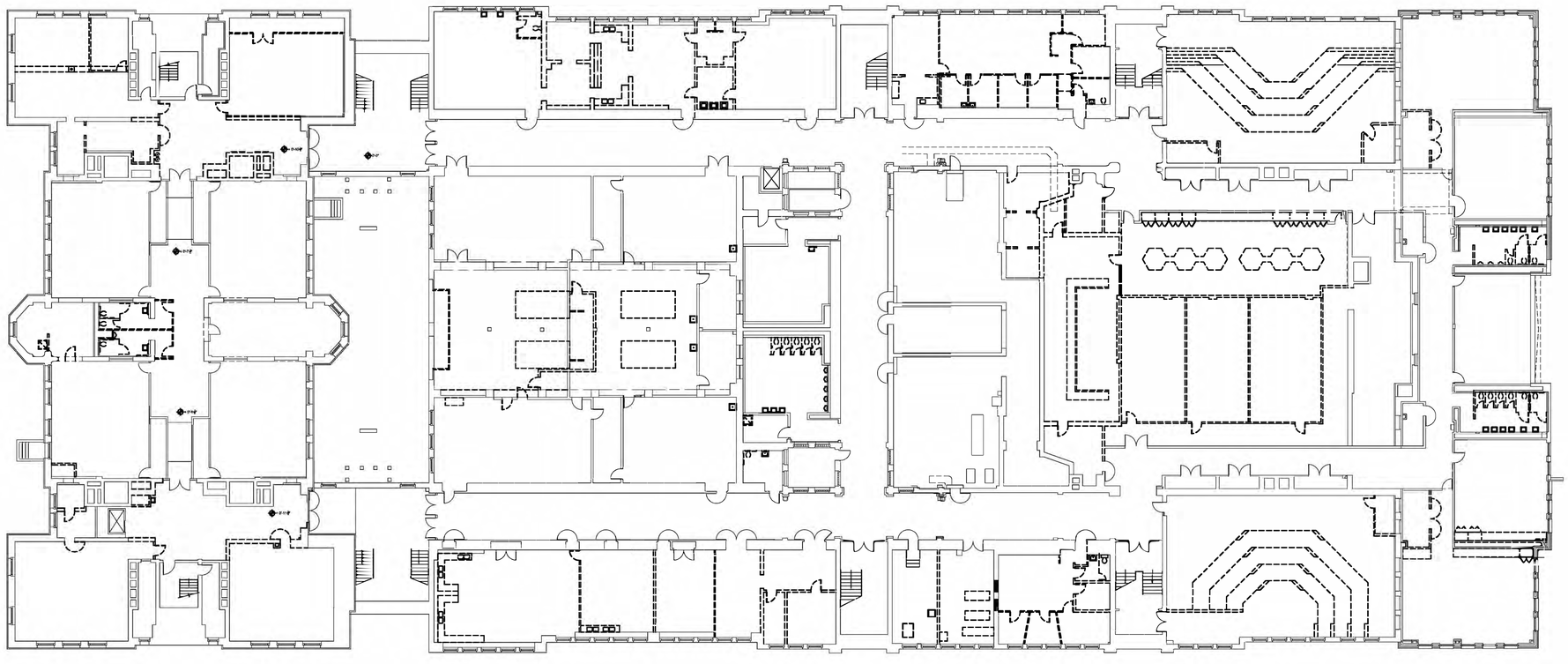
TOTAL PROJECT COST = $334,335,971

ESTIMATED CITY'S SHARE = $126,417,978





BSMNT. FLOOR - 1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.442.4080
F. 671.442.4040

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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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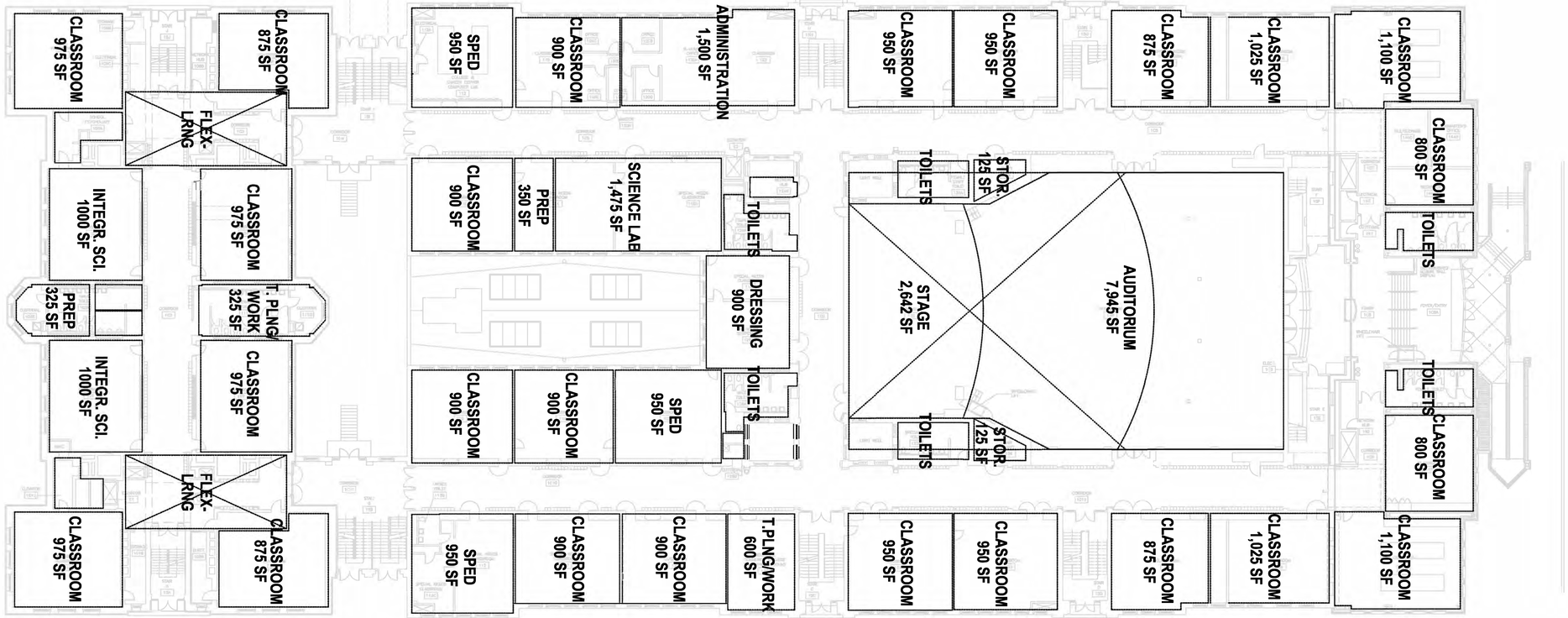
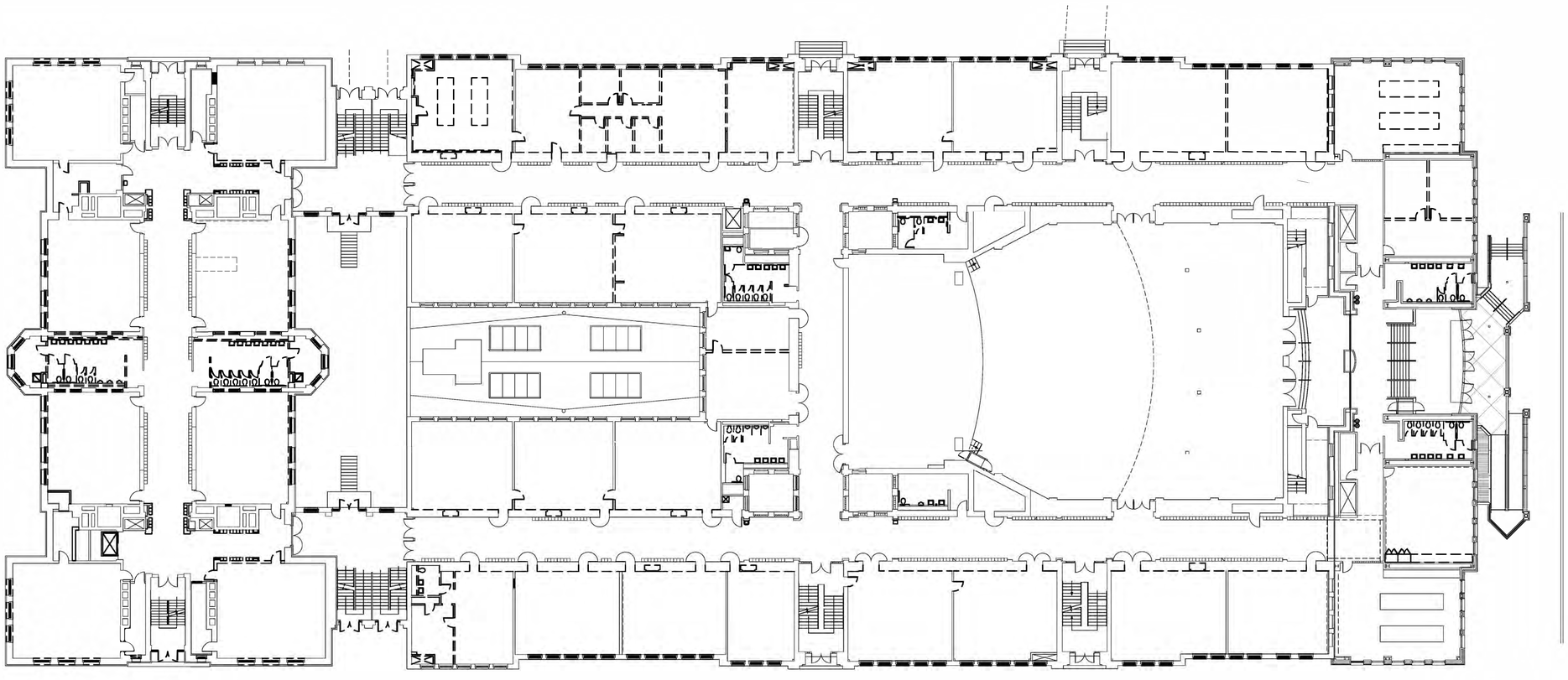


1ST FLOOR - 1922 BUILDING - RENOVATION FIT OUT



1ST FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO.	DATE	REVISION

SEAL

KEY PLAN

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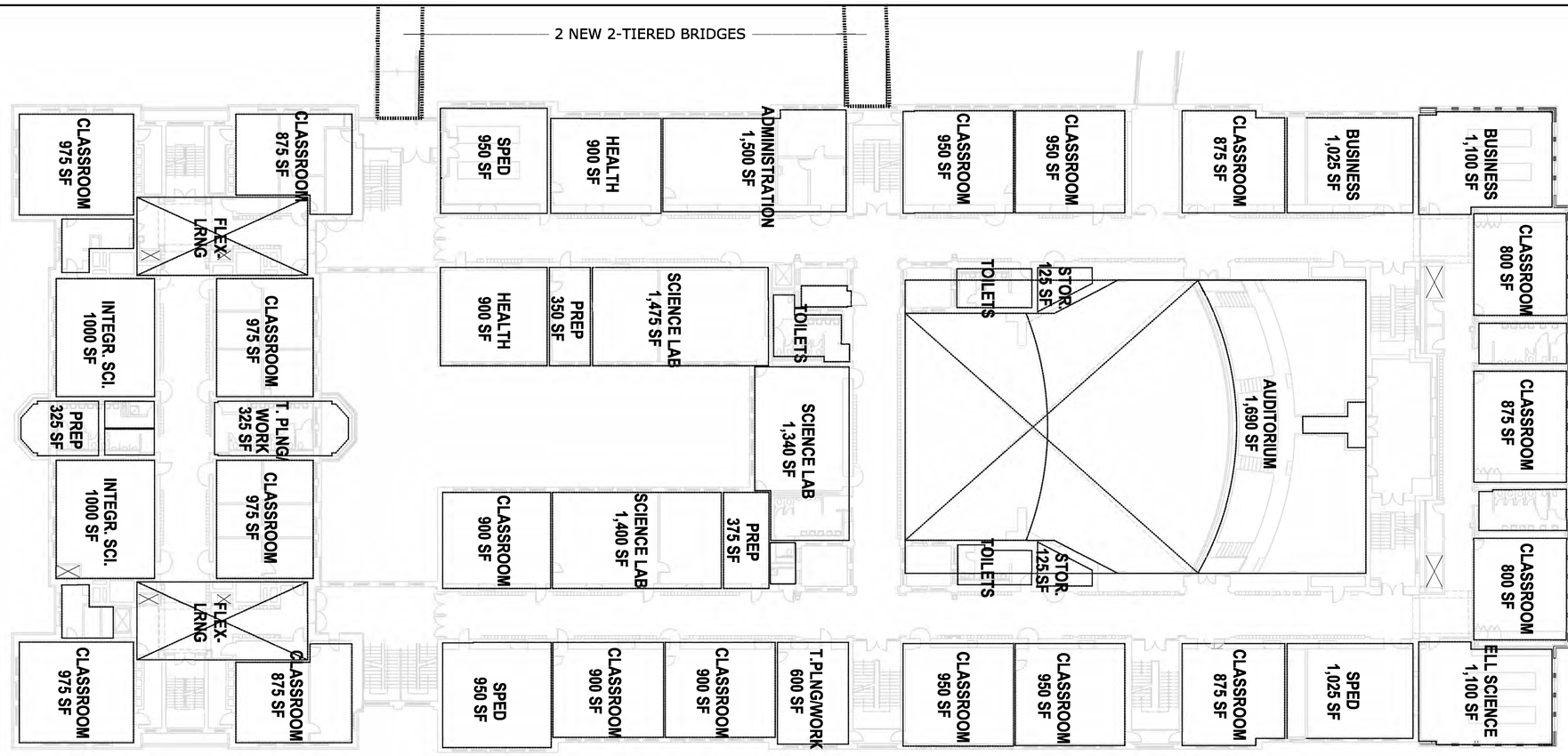
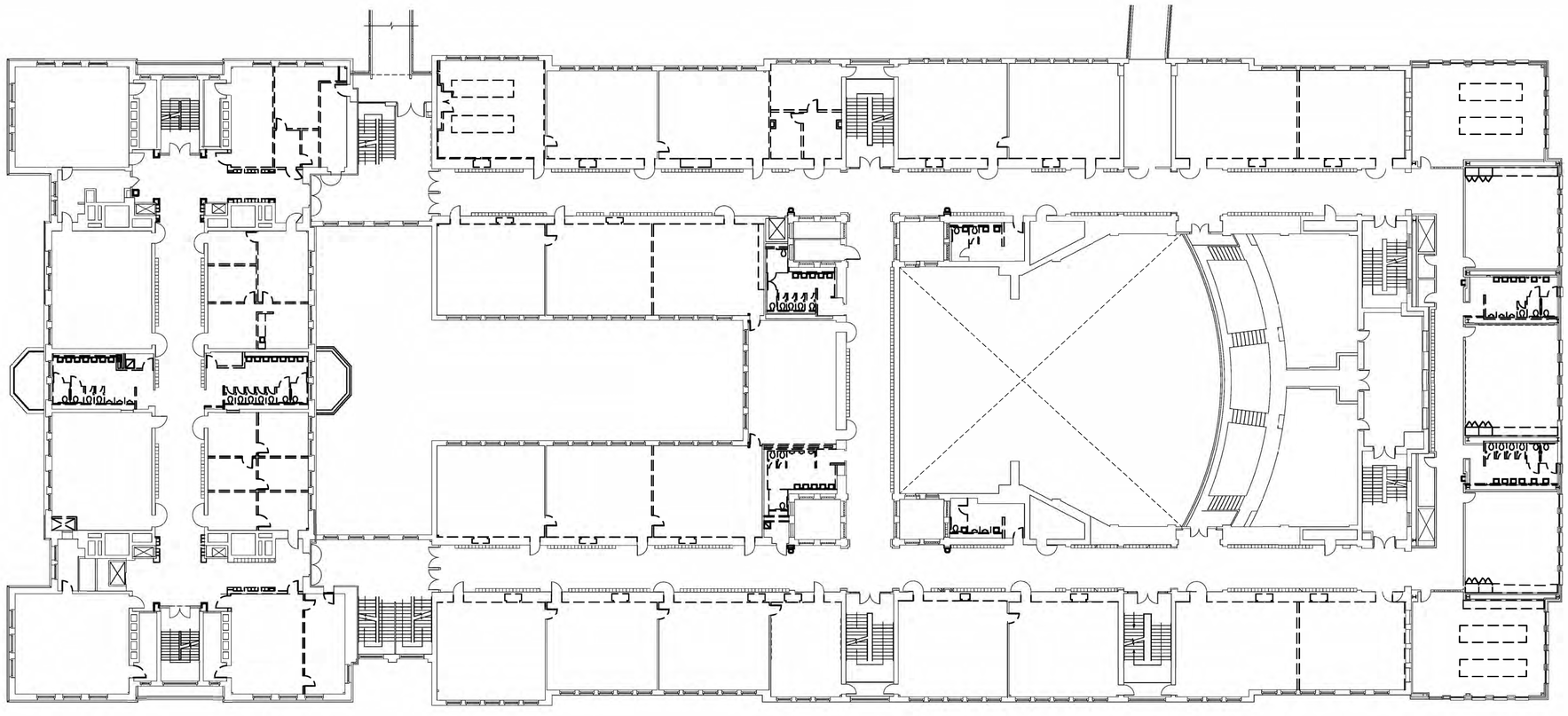


2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

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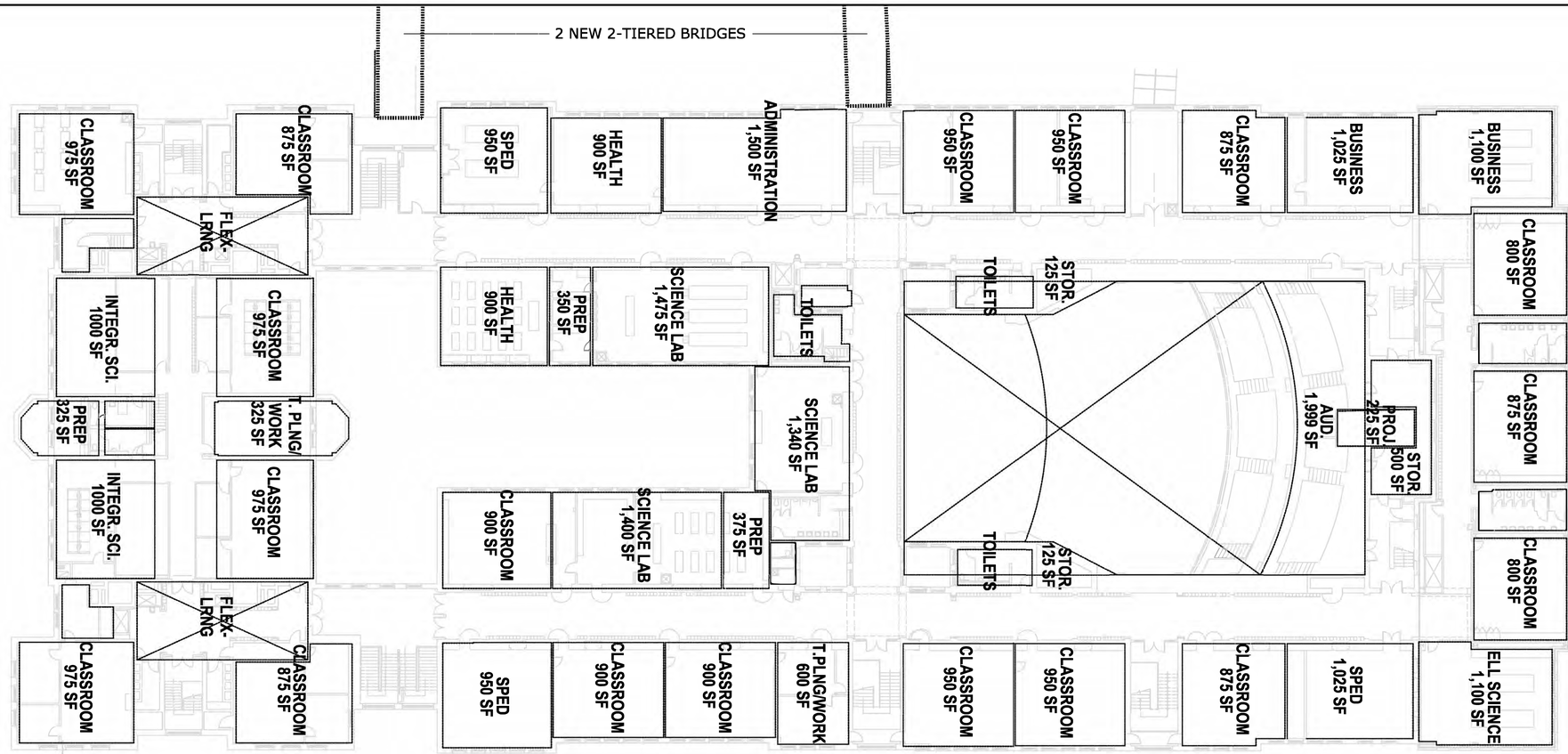
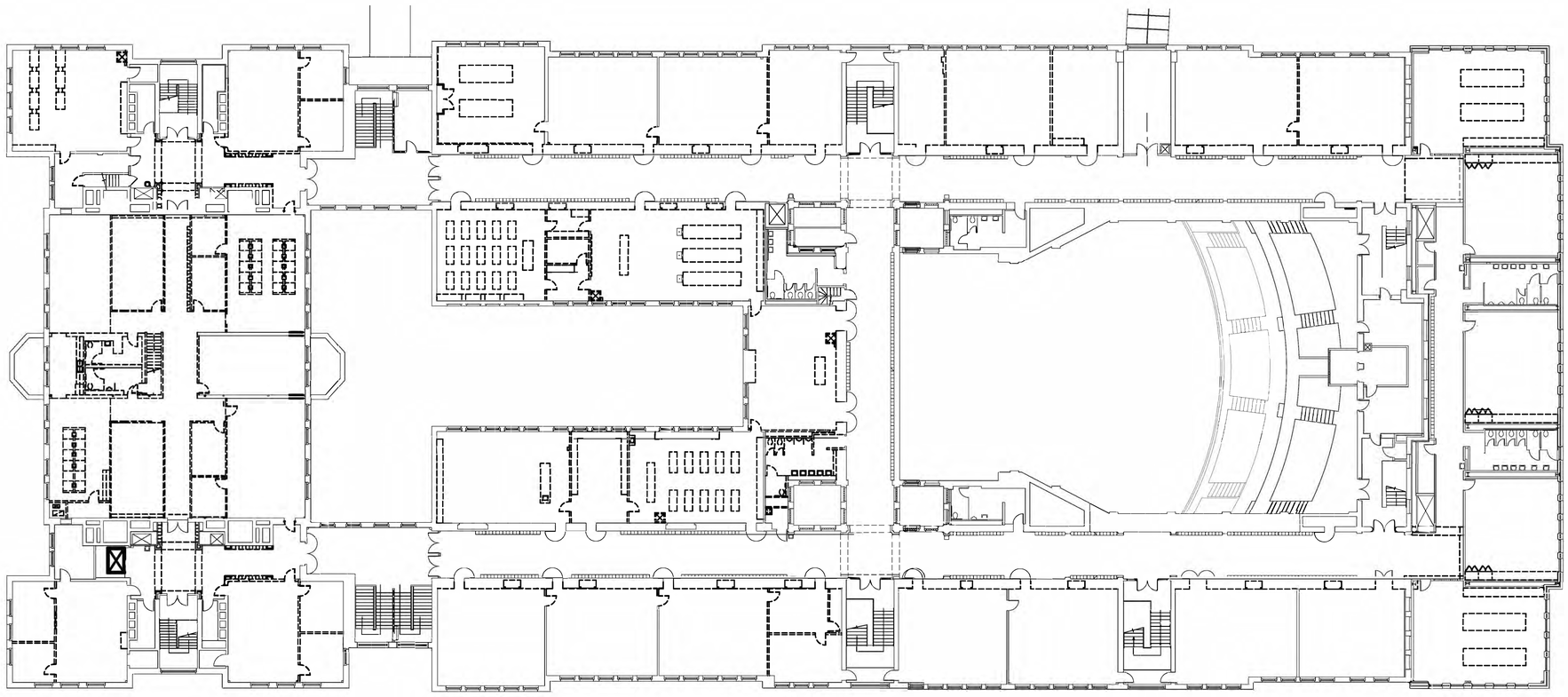


3RD FLOOR - 1922 BUILDING - RENOVATION FIT OUT



3RD FLOOR - **1922** BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01776

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

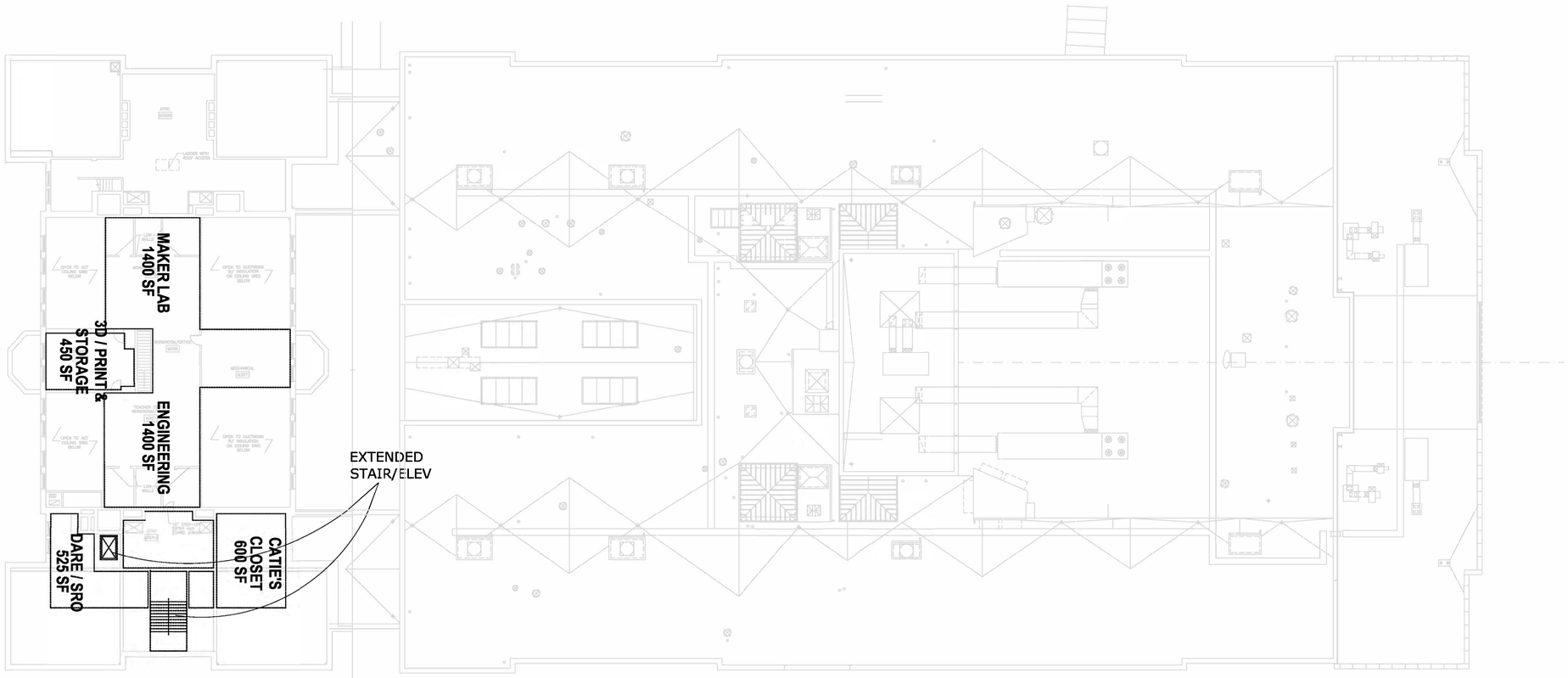
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

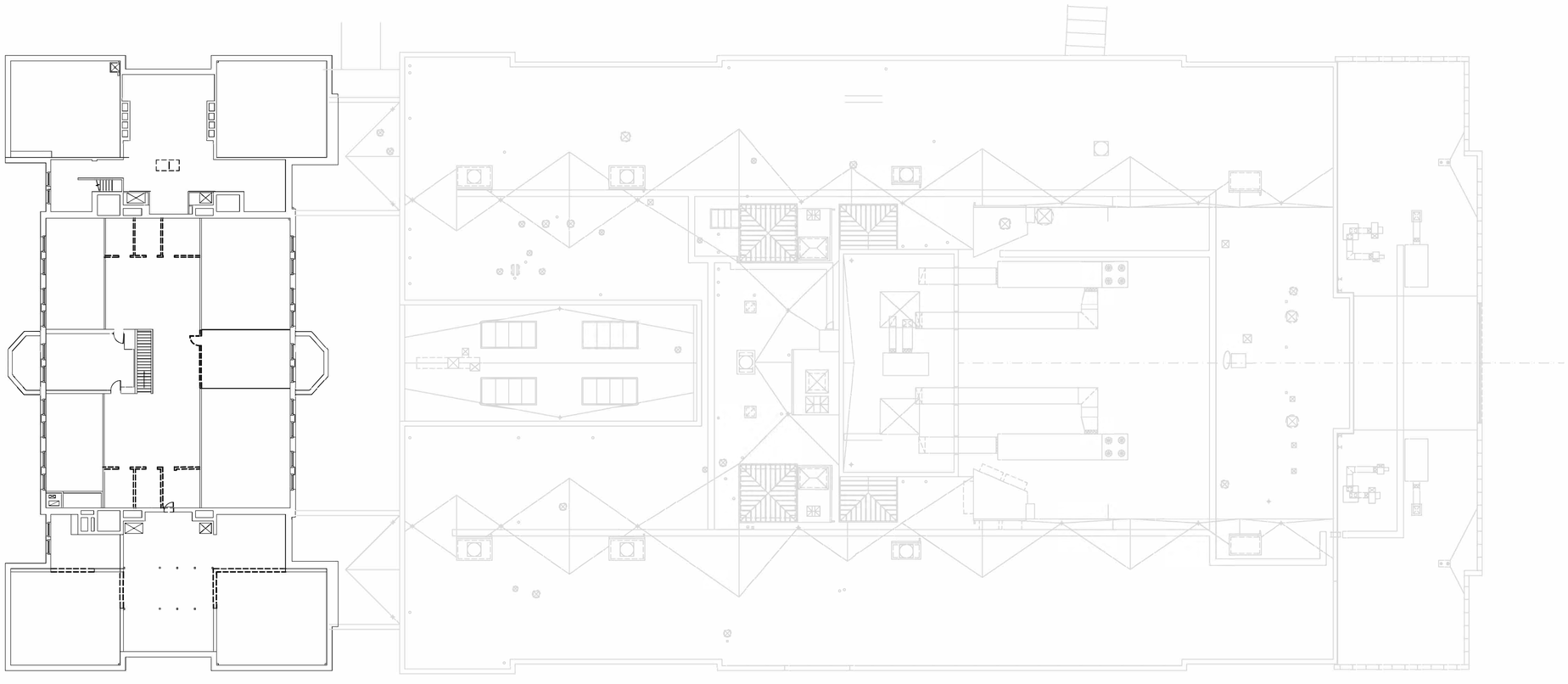
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/10/2017



4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 200
BOSTON, MA 02110
T. 971.449.4000
F. 971.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
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Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

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Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01178

PROJECT TITLE:
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50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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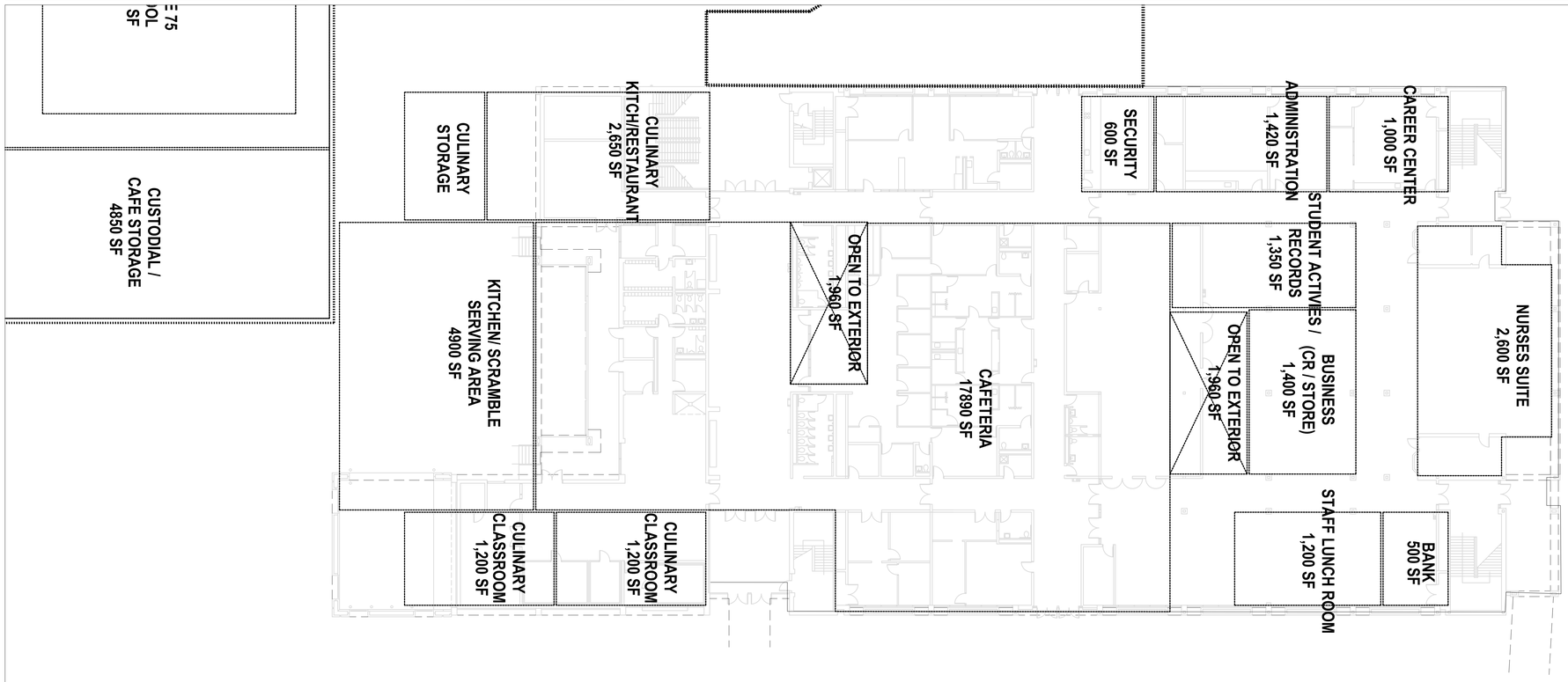
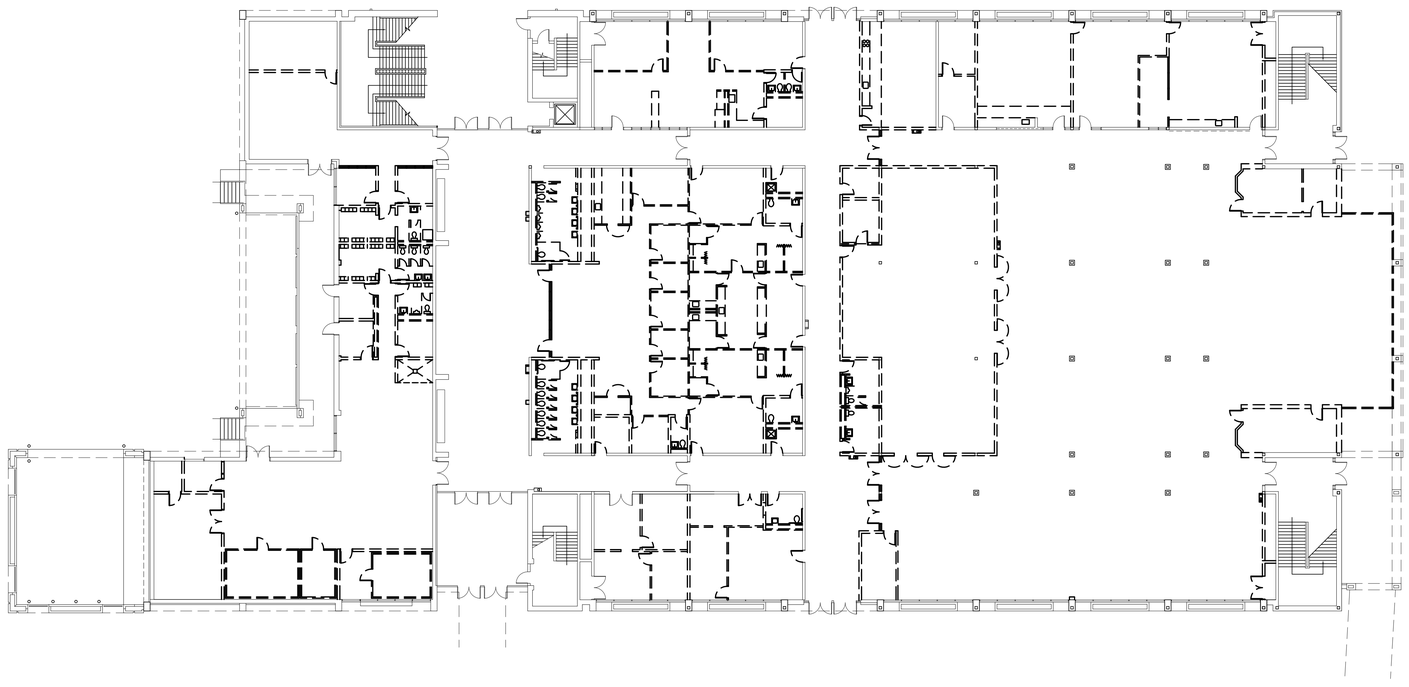


1ST FLOOR - LORD BUILDING - RENOVATION FIT OUT



1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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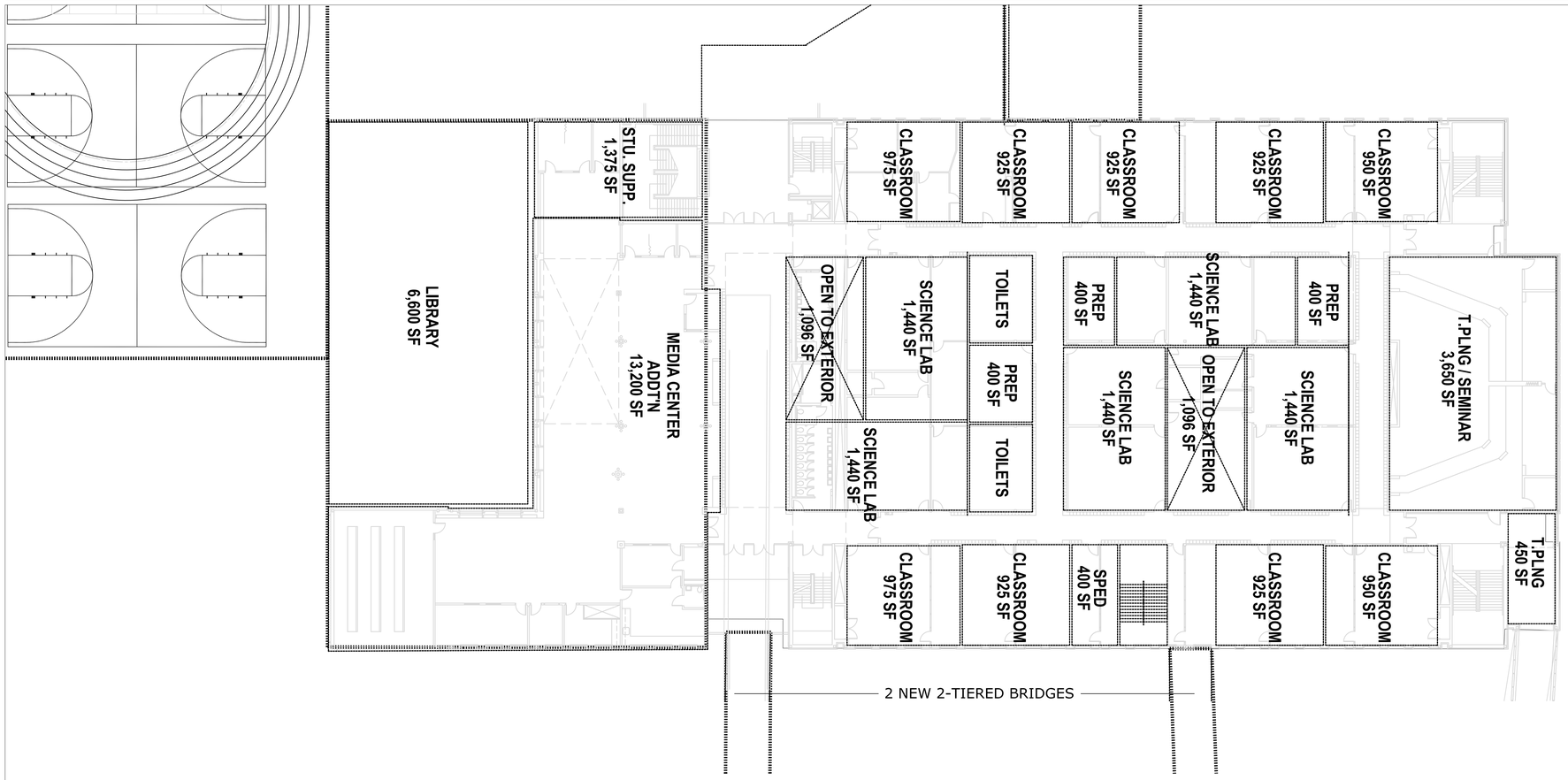
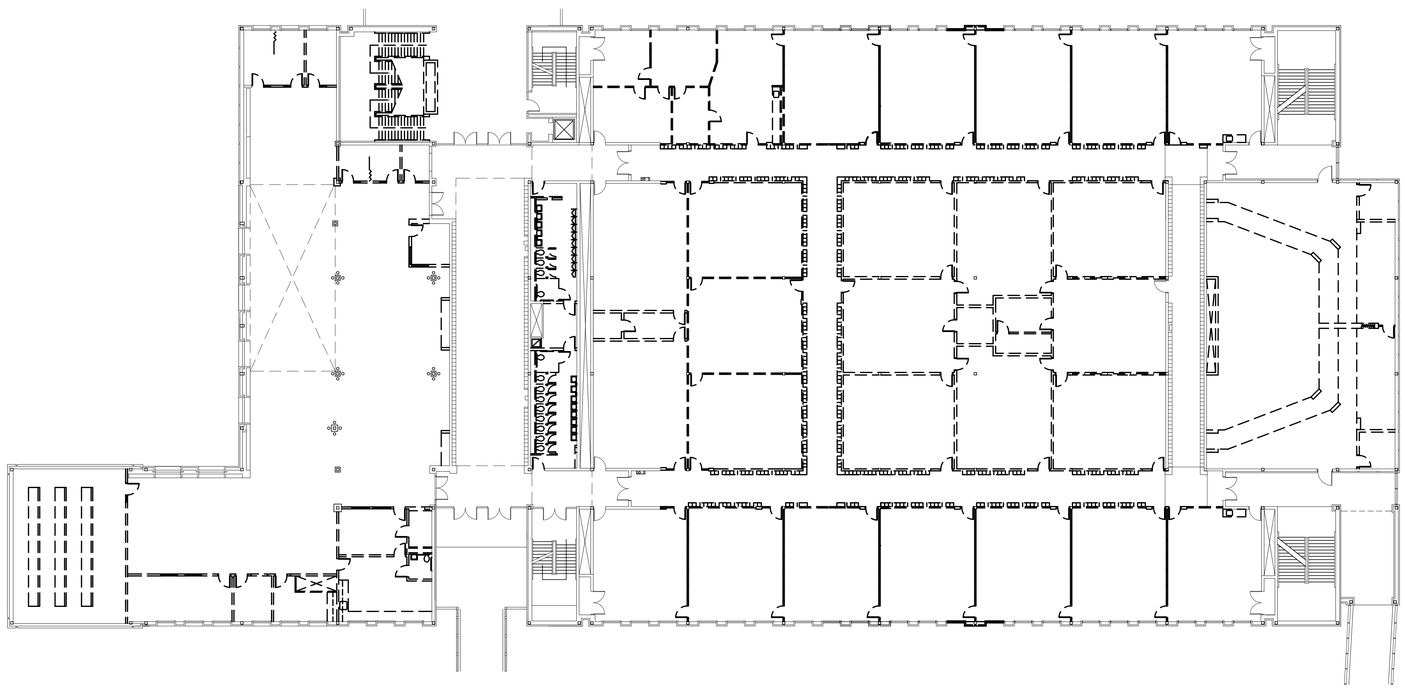


2ND FLOOR - LORD BUILDING - RENOVATION FIT OUT



2ND FLOOR - LORD BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

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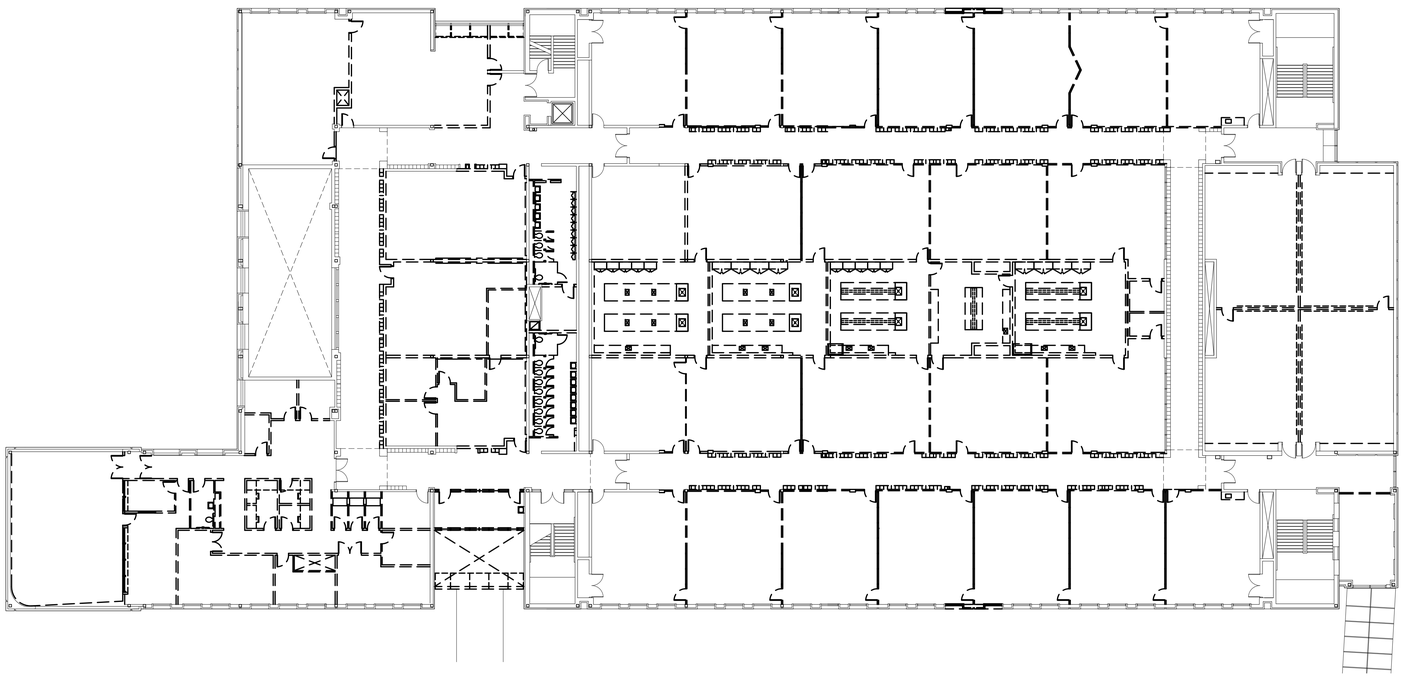
3RD FLOOR - LORD BUILDING - RENOVATION FIT OUT



3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE

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Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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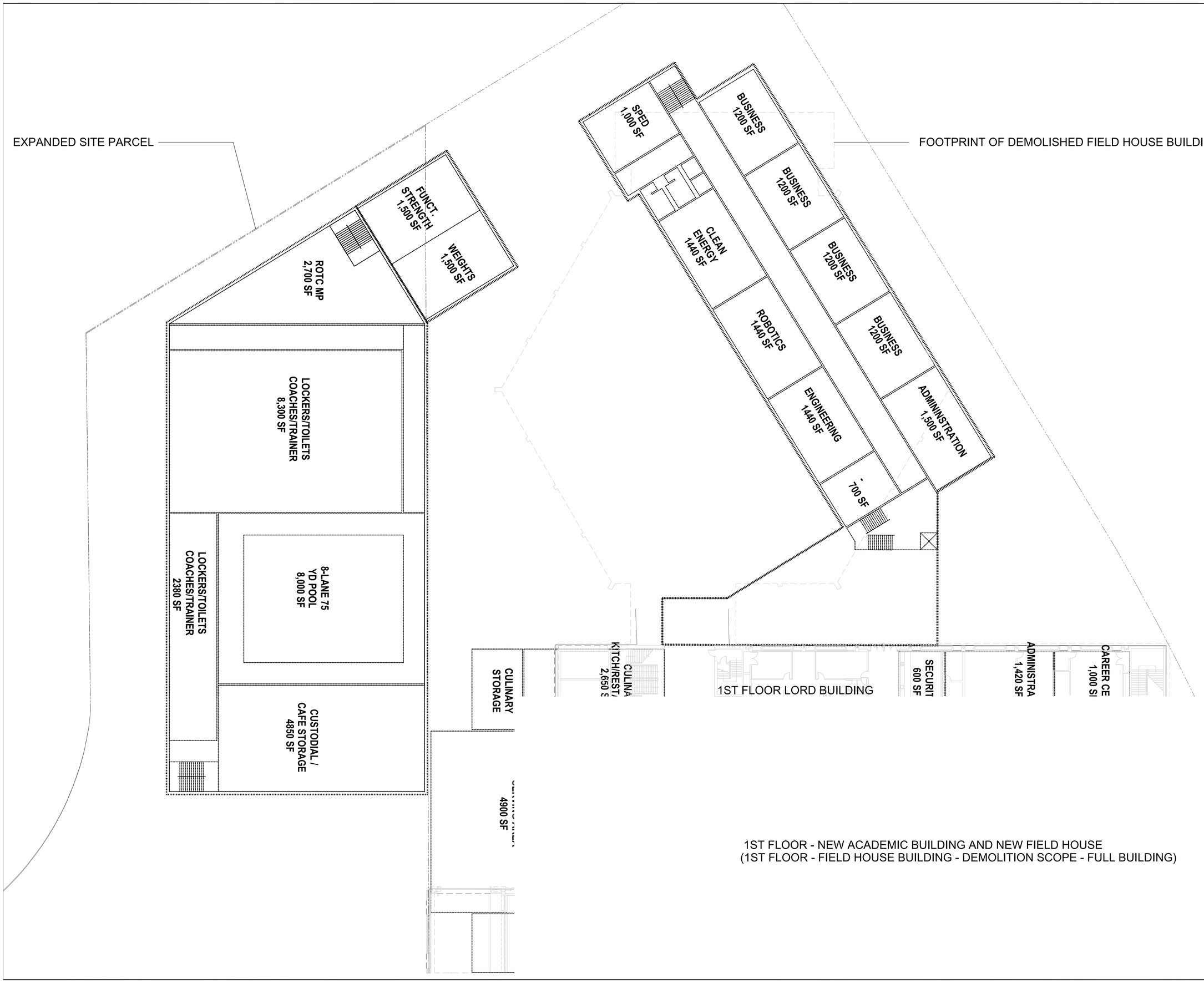

1ST FLOOR - NEW ACADEMIC BUILDING AND NEW FIELD HOUSE
(1ST FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE - FULL BUILDING)

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
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BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

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Construction Manager:
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2 Center Plaza, Boston, MA 02108

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150 Chestnut St., Providence, RI 02903

Structural:
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2150 Washington St., Newton, MA 02462

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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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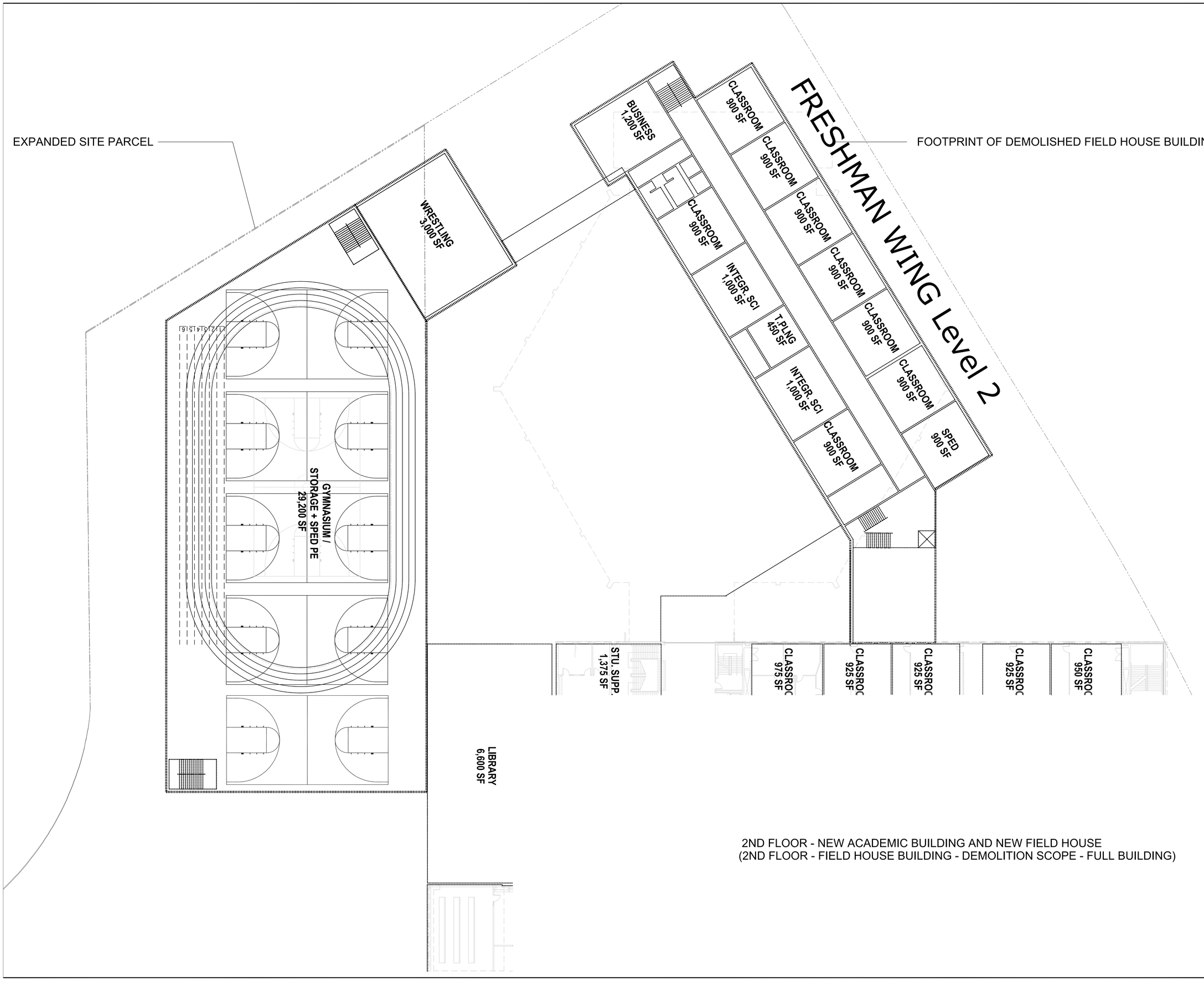
01/10/2017



2ND FLOOR - NEW ACADEMIC BUILDING AND NEW FIELD HOUSE
(2ND FLOOR - FIELD HOUSE BUILDING - DEMOLITION SCOPE - FULL BUILDING)

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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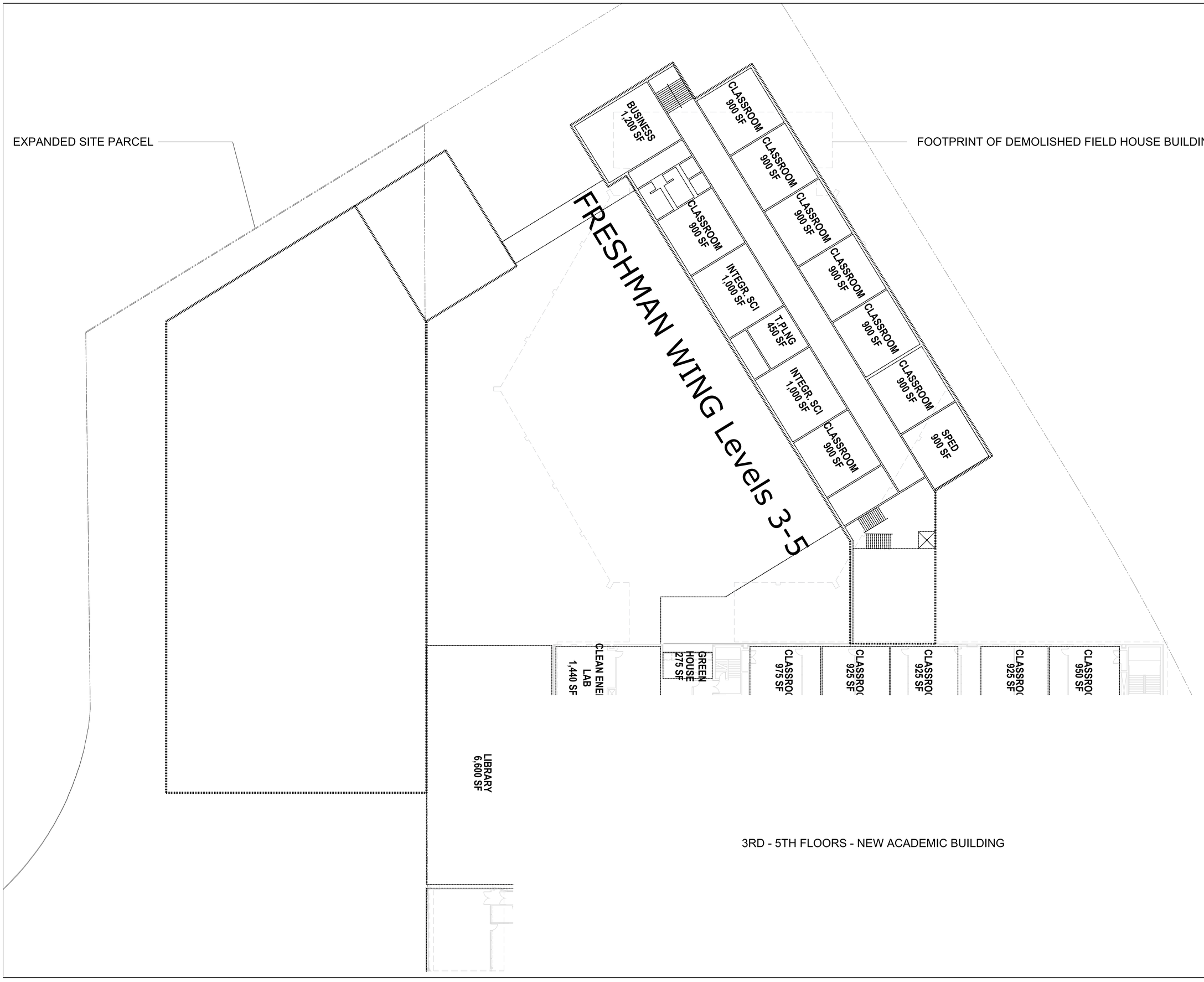
01/10/2017



NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 3

50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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01/10/2017

BUILDABLE ACREAGE = 6.0

BUILDING (GSF) = 619,000

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 306,200

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 2, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

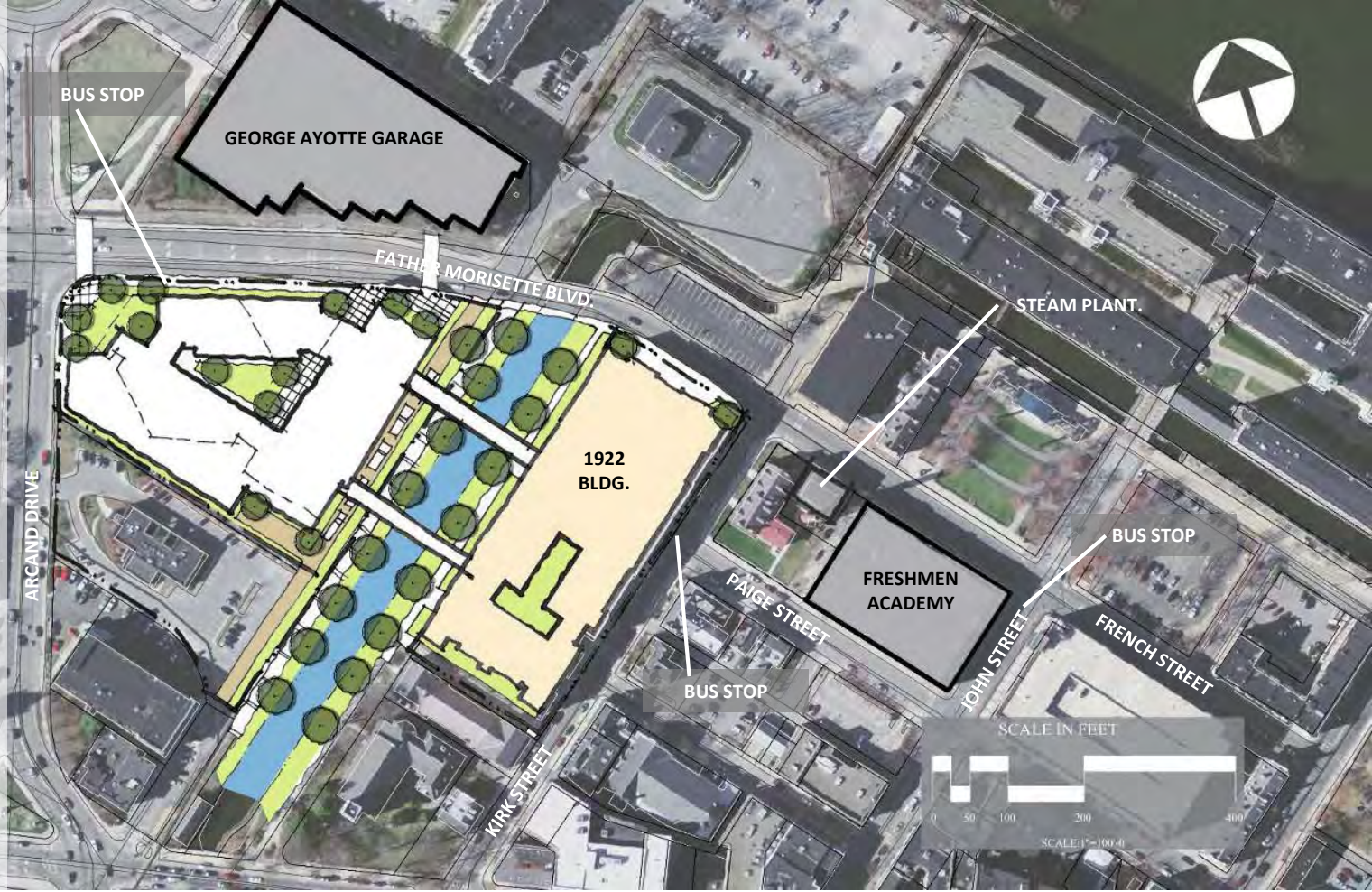
3 YEAR PHASED PROJECT

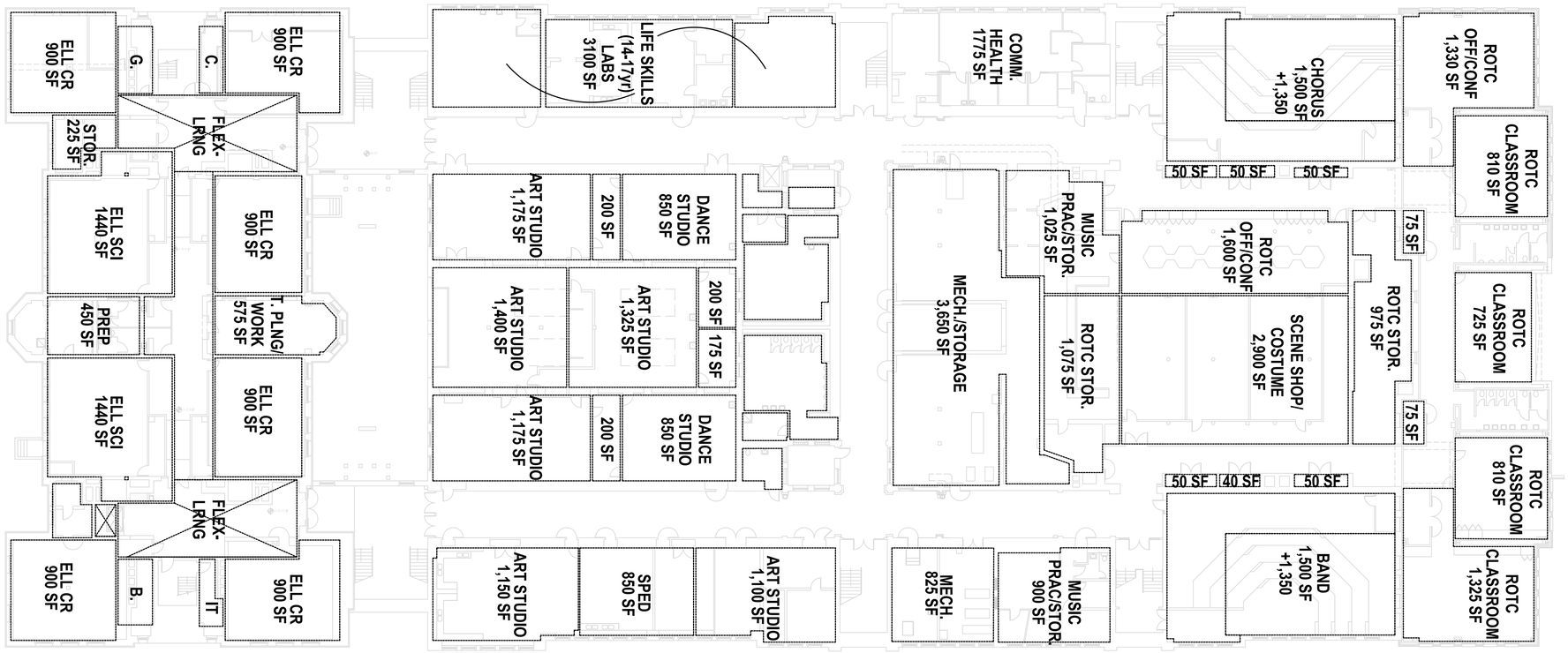
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQUIRED
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

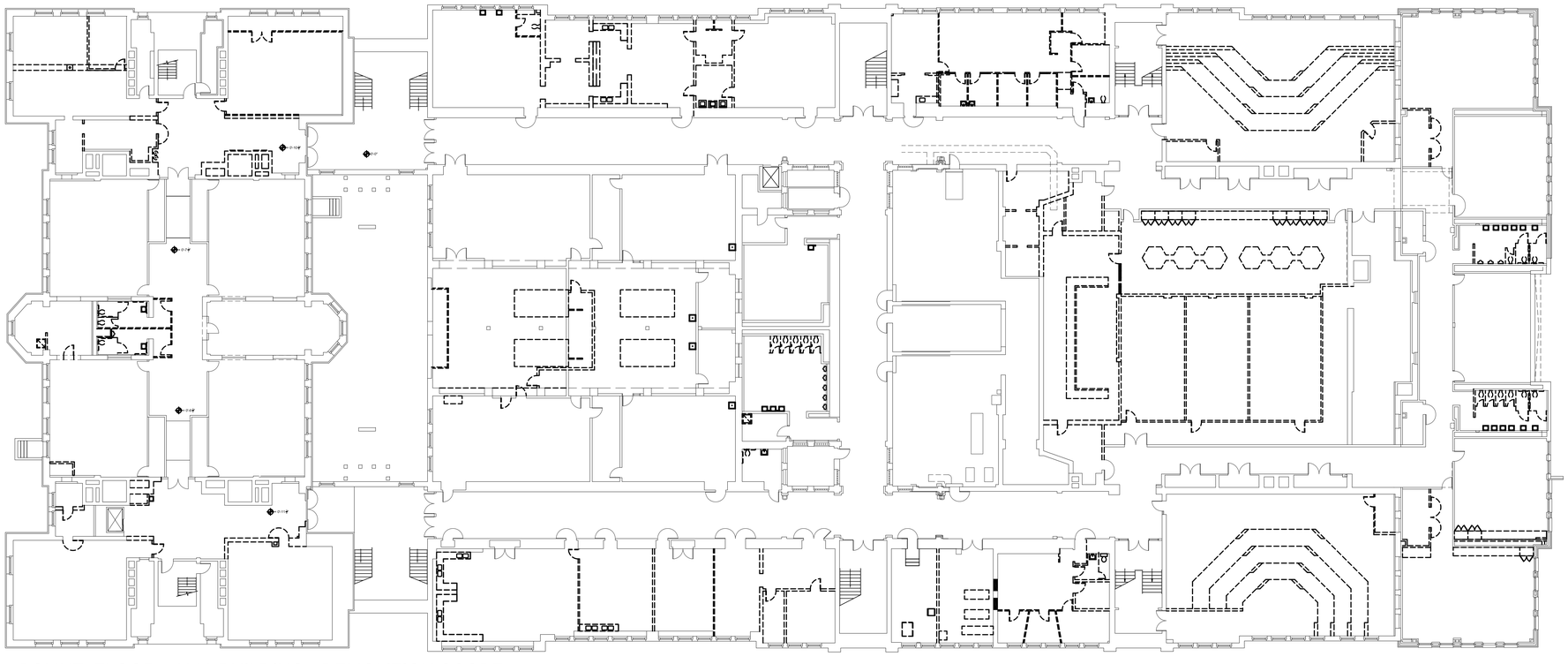
TOTAL PROJECT COST = $376,371,511

ESTIMATED CITY'S SHARE = $165,786,170





BSMNT. FLOOR -1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 4

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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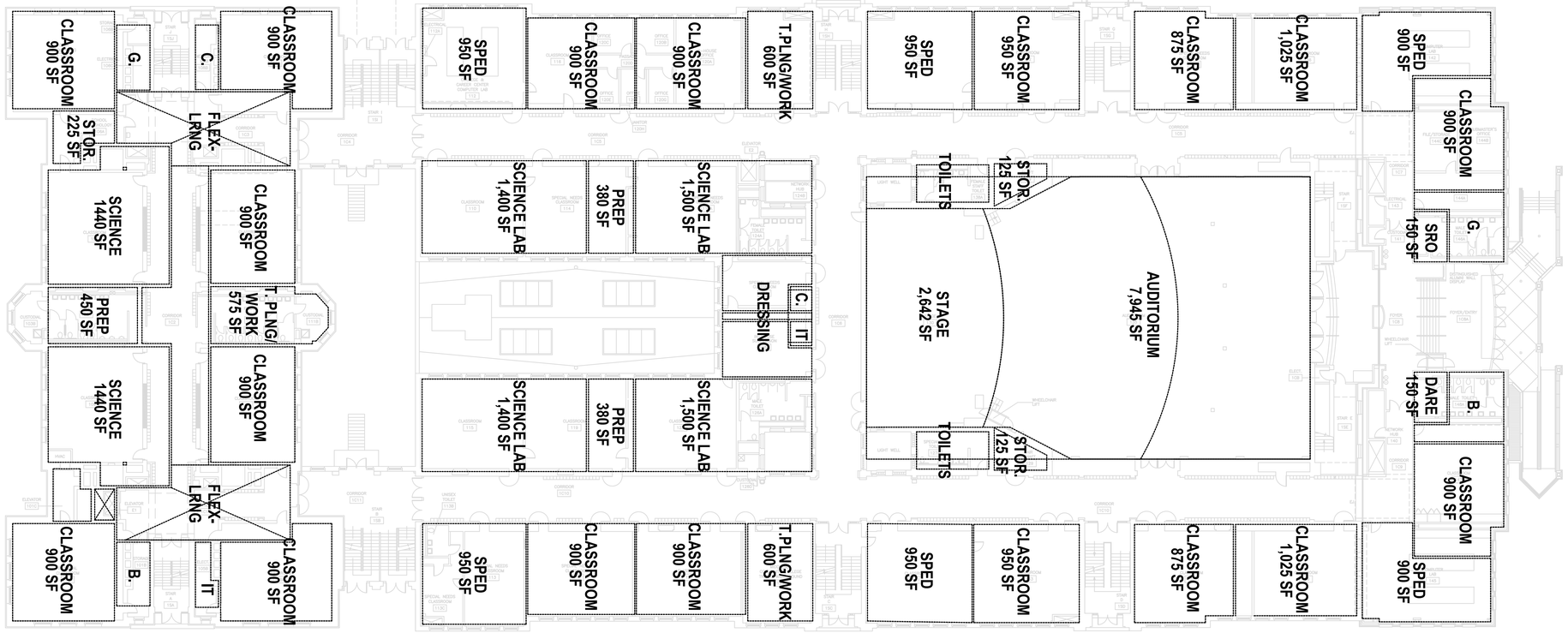
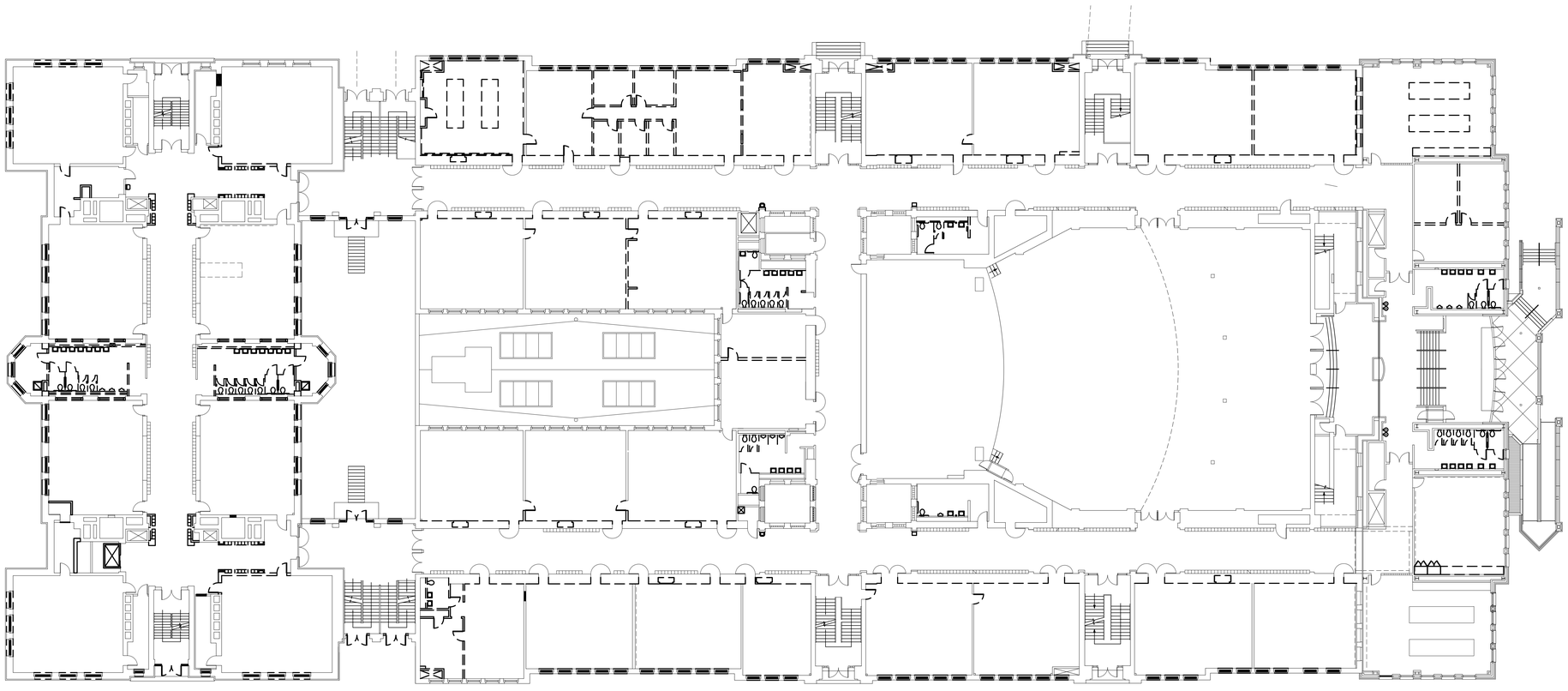


1ST FLOOR - 1922 BUILDING - RENOVATION FIT OUT



1ST FLOOR - 1922 BUIDLING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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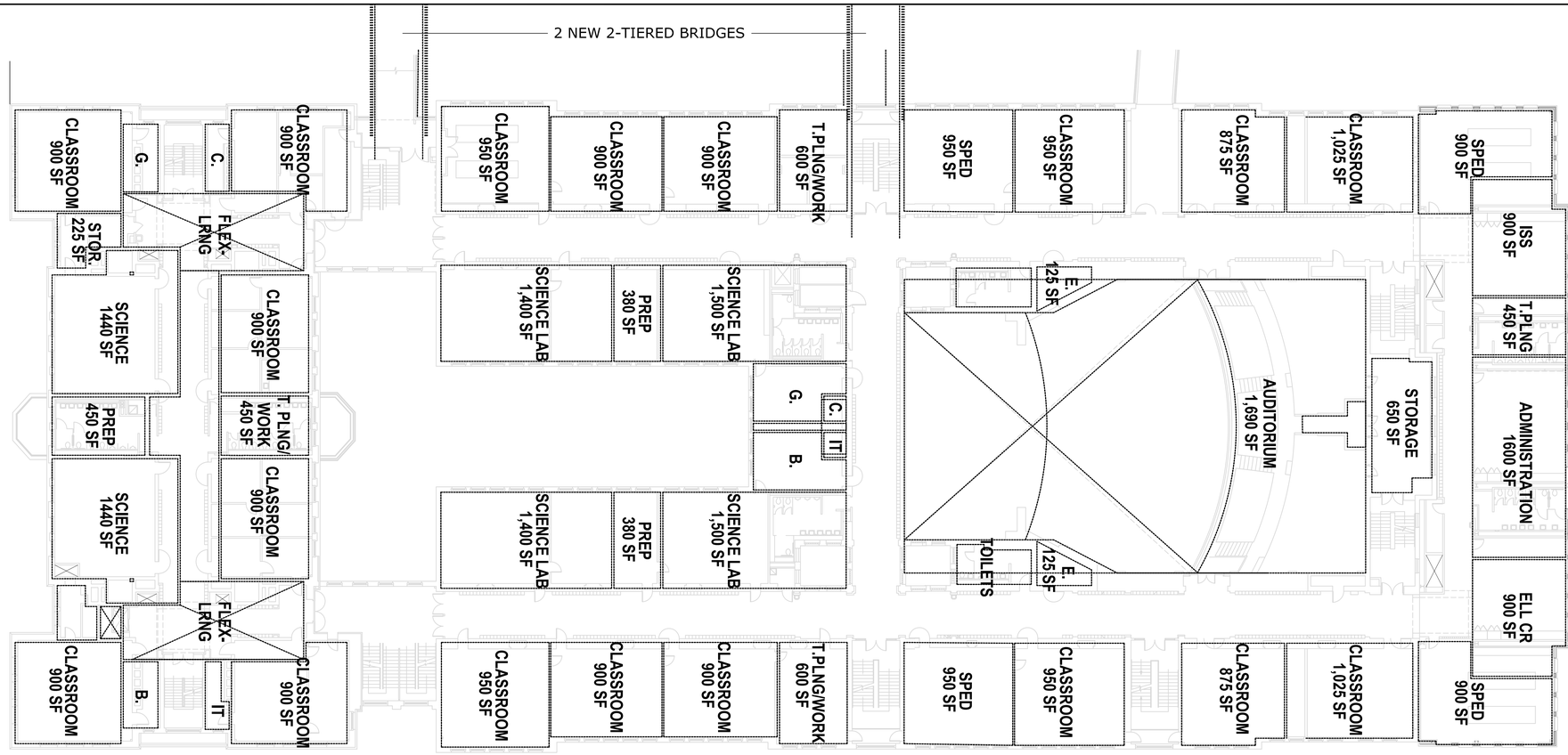
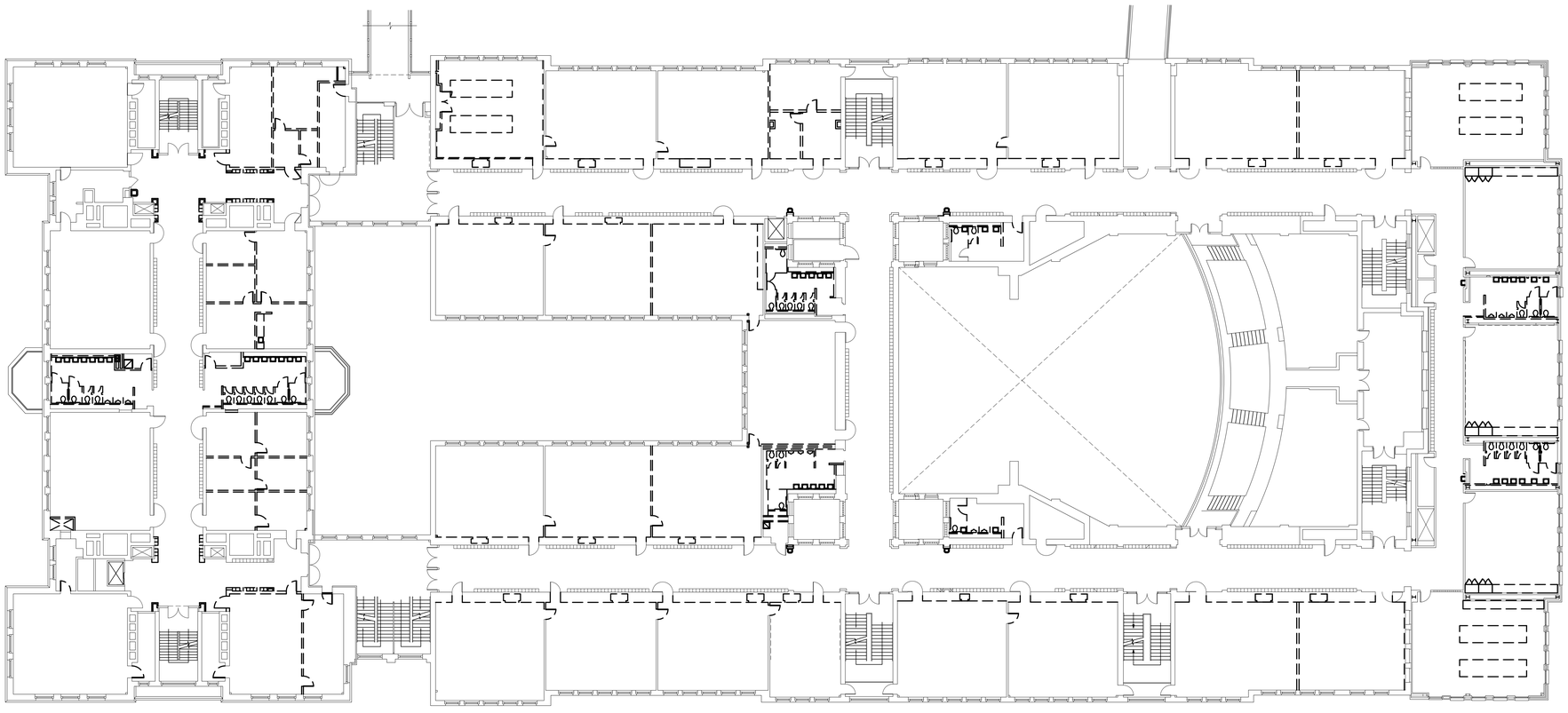


2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL ADD/ RENO OPTION 4

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

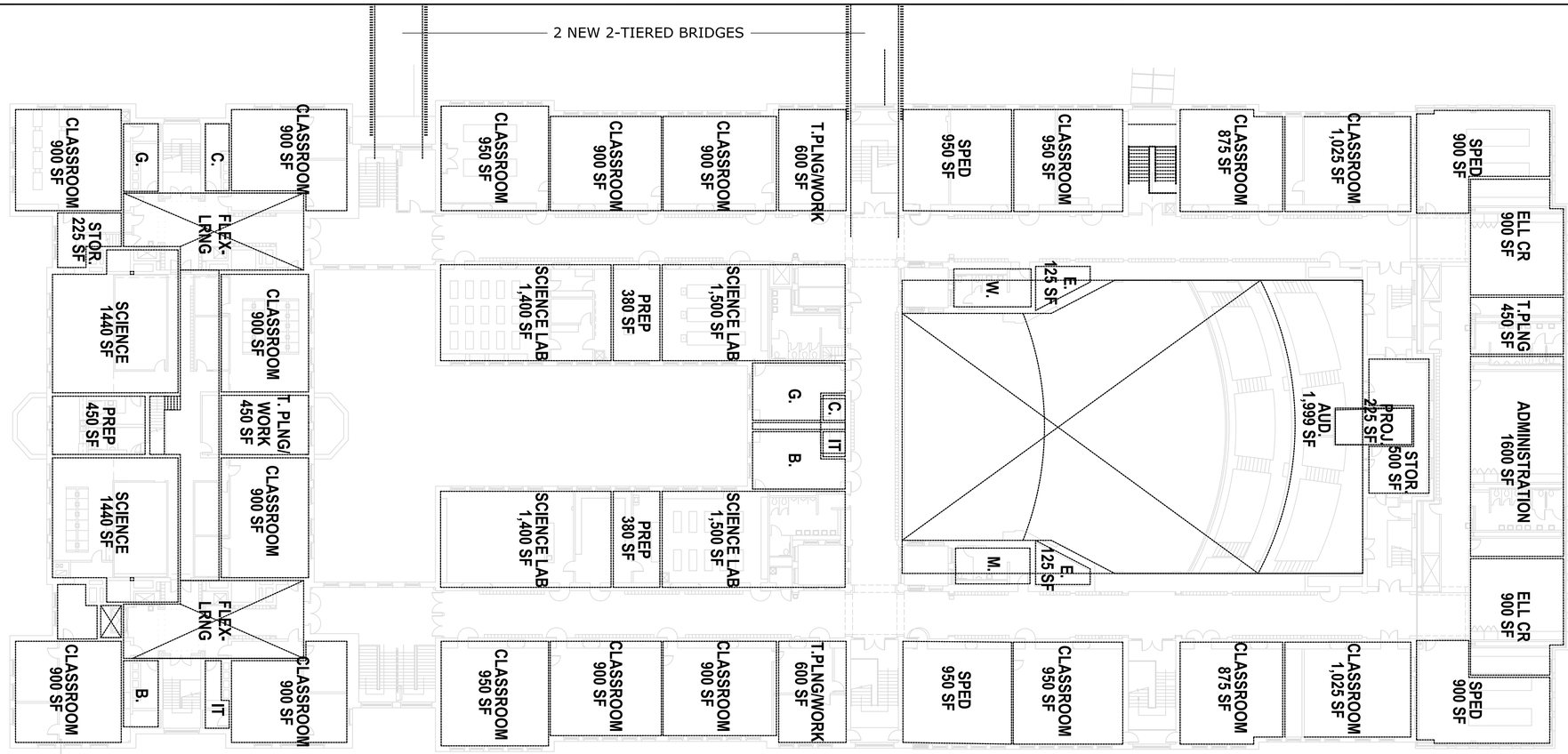
PROJECT No: 67150

DRAWING TITLE:

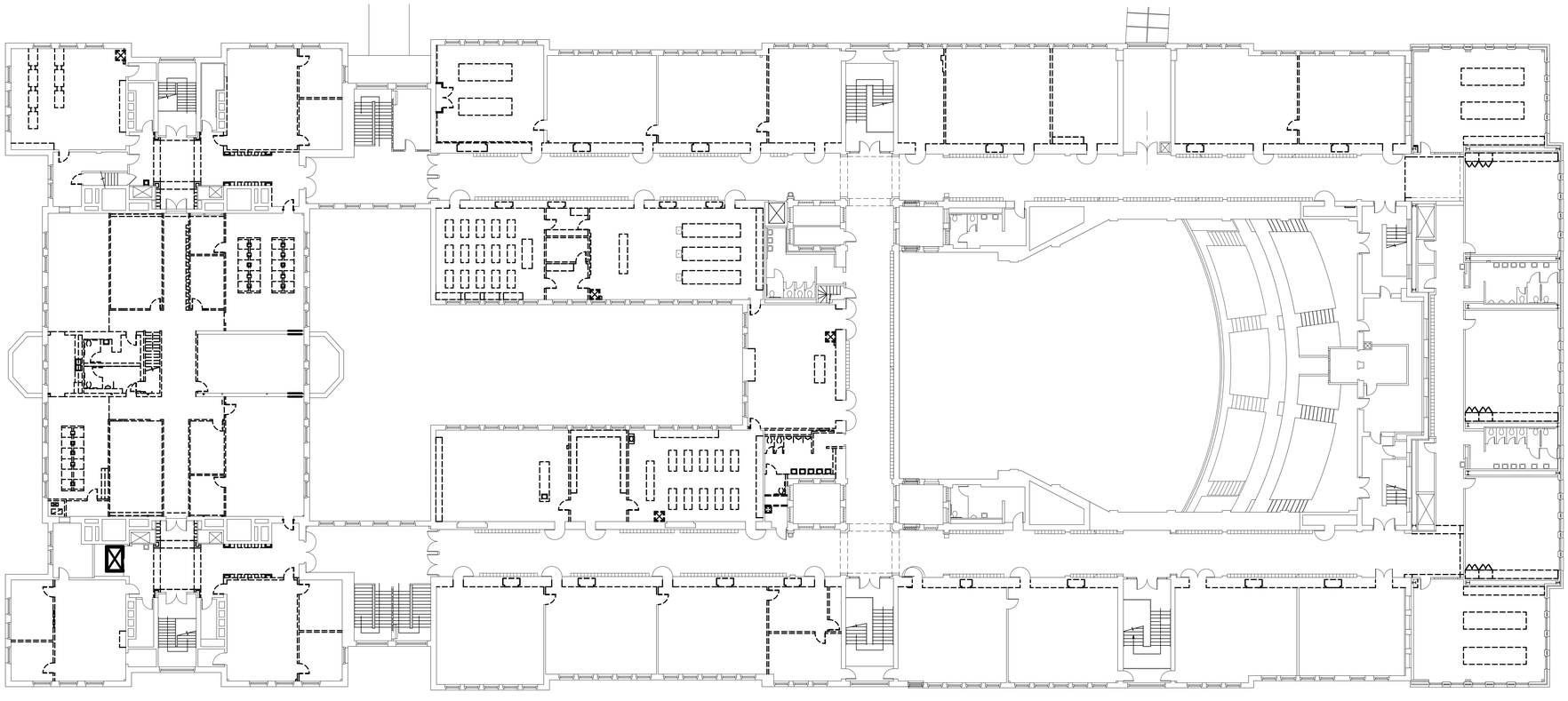
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY

01/20/2017



3RD FLOOR - 1922 BUILDING - RENOVATION FIT OUT



3RD FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
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Acoustical Consultant:
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PROJECT No: 67150

DRAWING TITLE:

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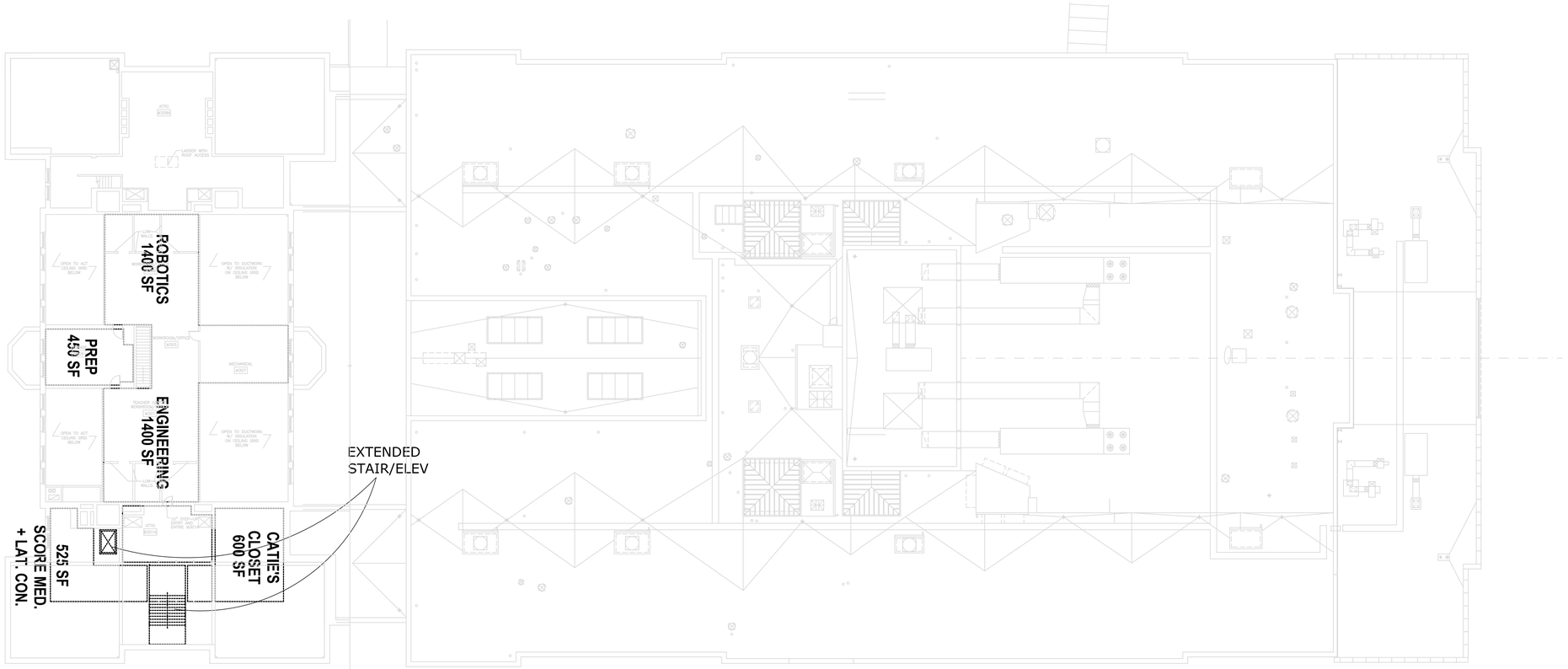
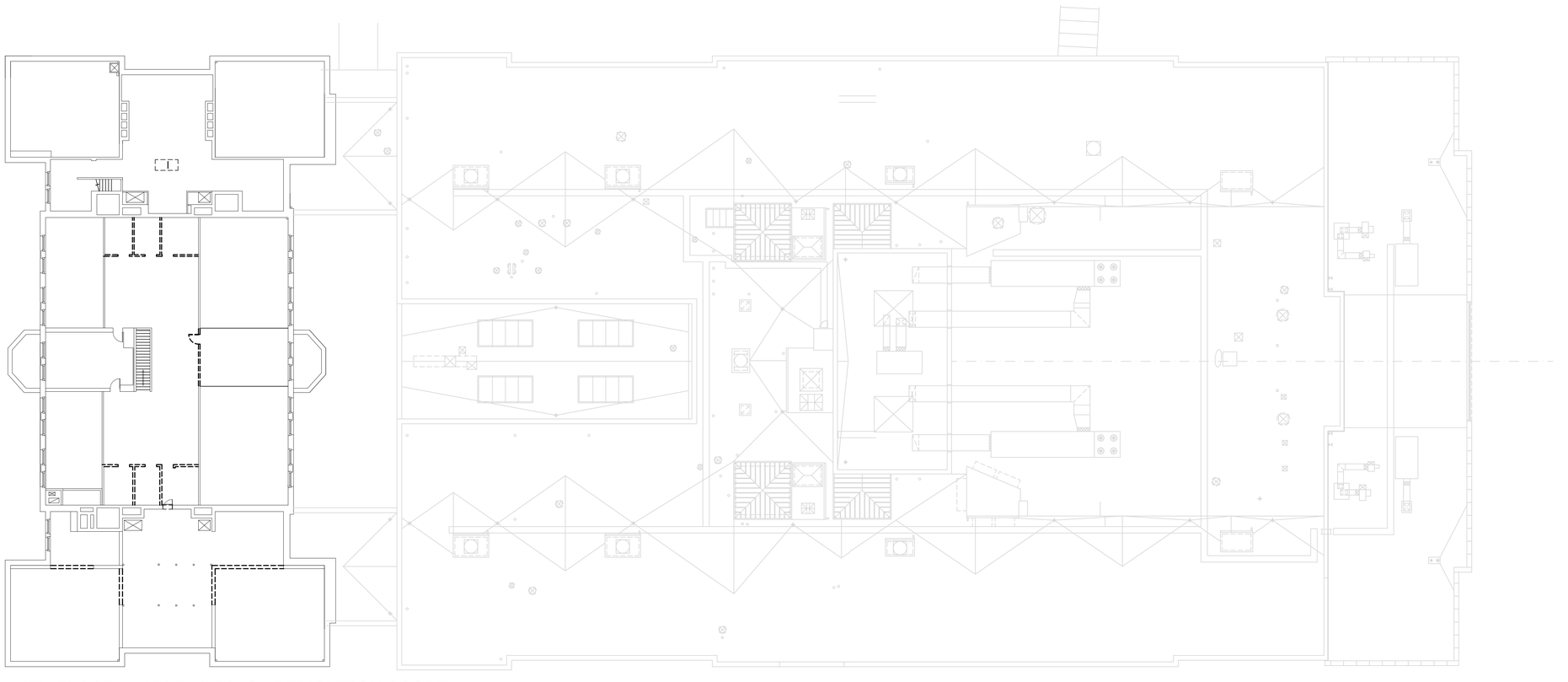


4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
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F. 671.449.4049

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375 Merrimack St., Lowell, MA 01852

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PROJECT TITLE:
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PROJECT No: 67150

DRAWING TITLE:

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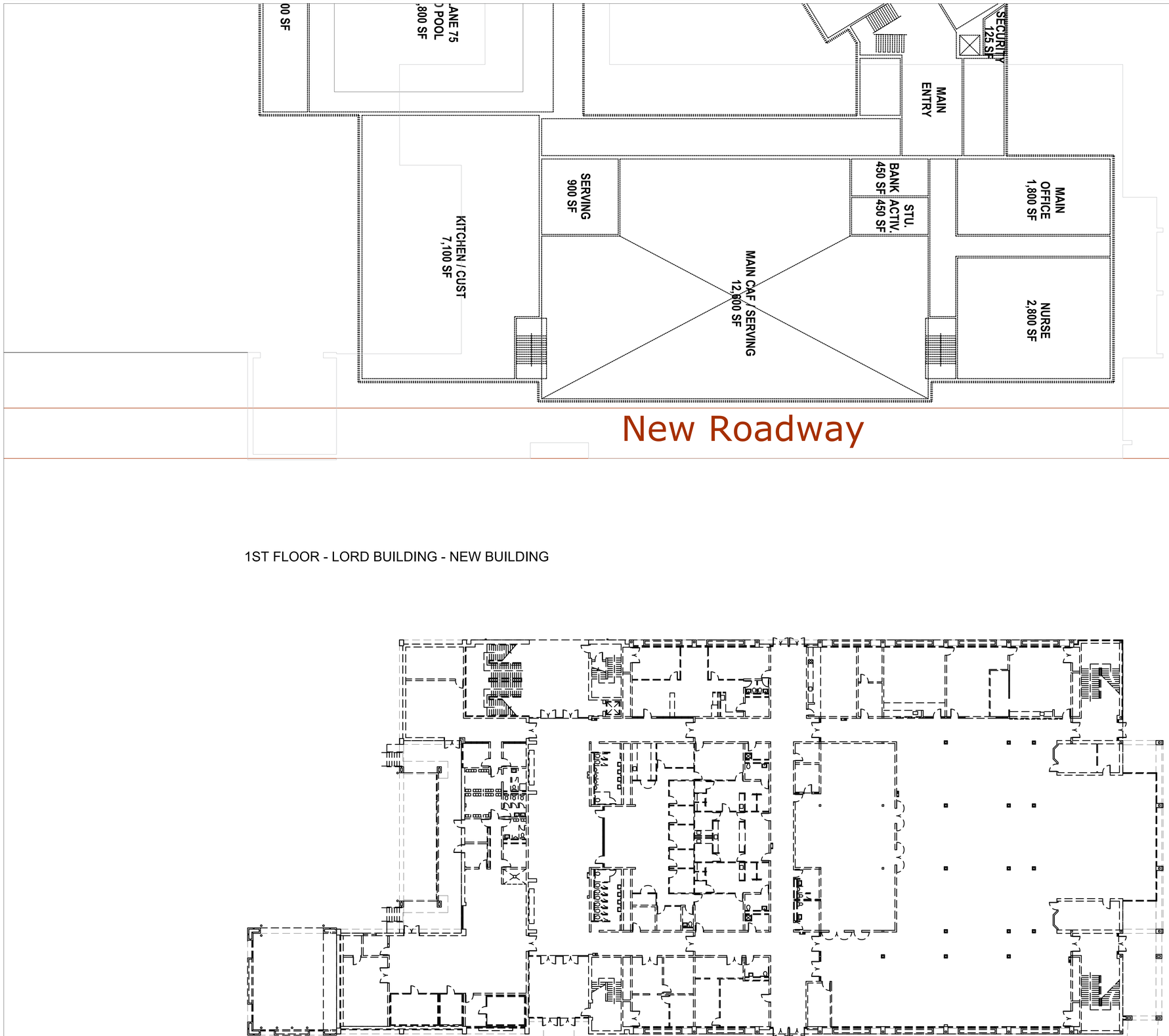

1ST FLOOR - LORD BUILDING - NEW BUILDING

1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

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50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

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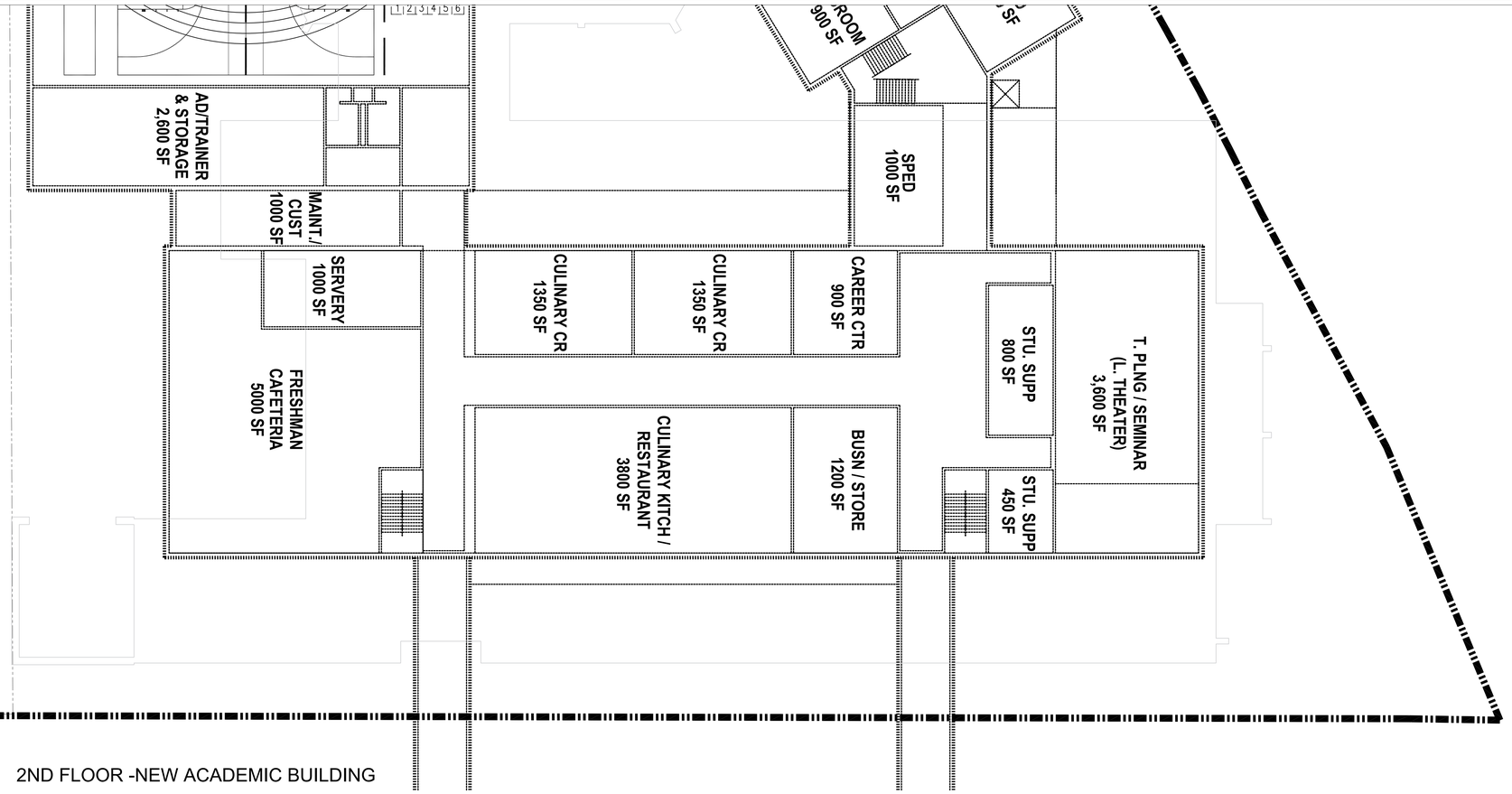
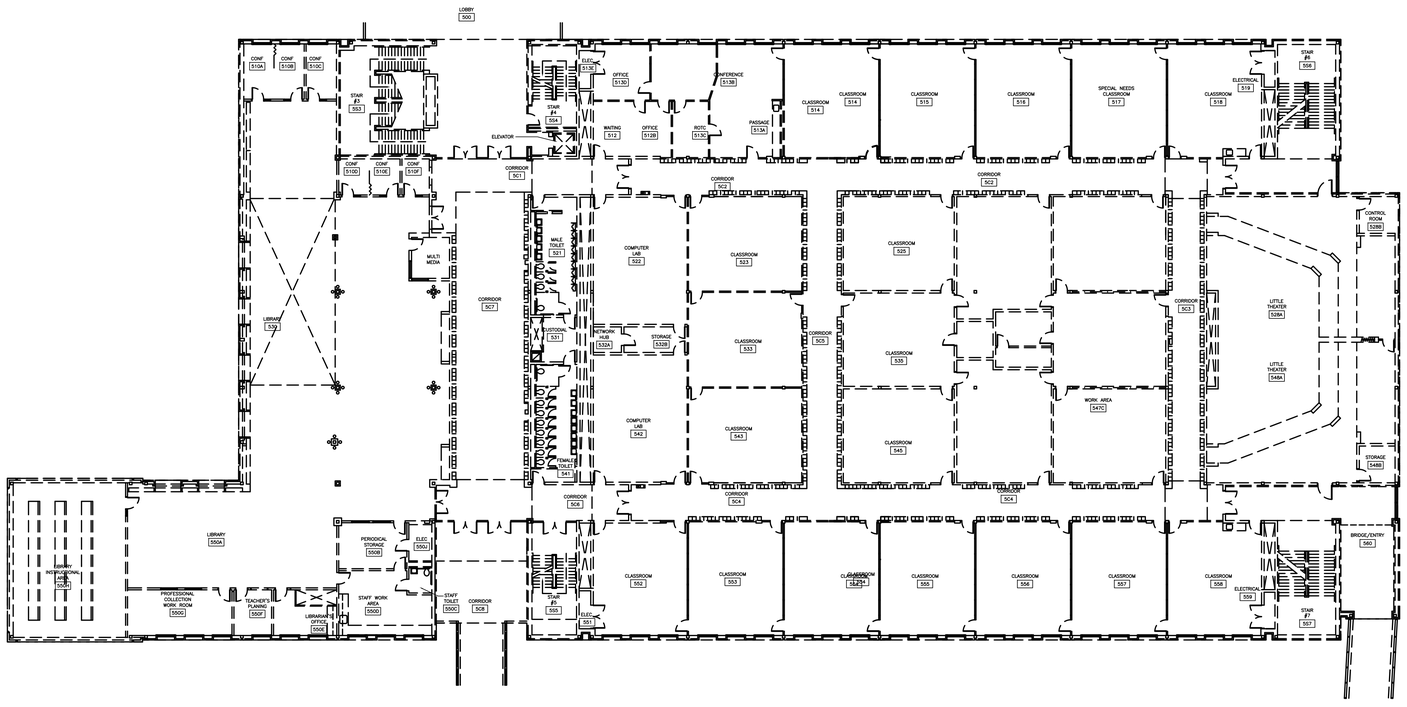


2ND FLOOR -NEW ACADEMIC BUILDING



2ND FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

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PROJECT No: 67150

DRAWING TITLE:

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NOT FOR CONSTRUCTION
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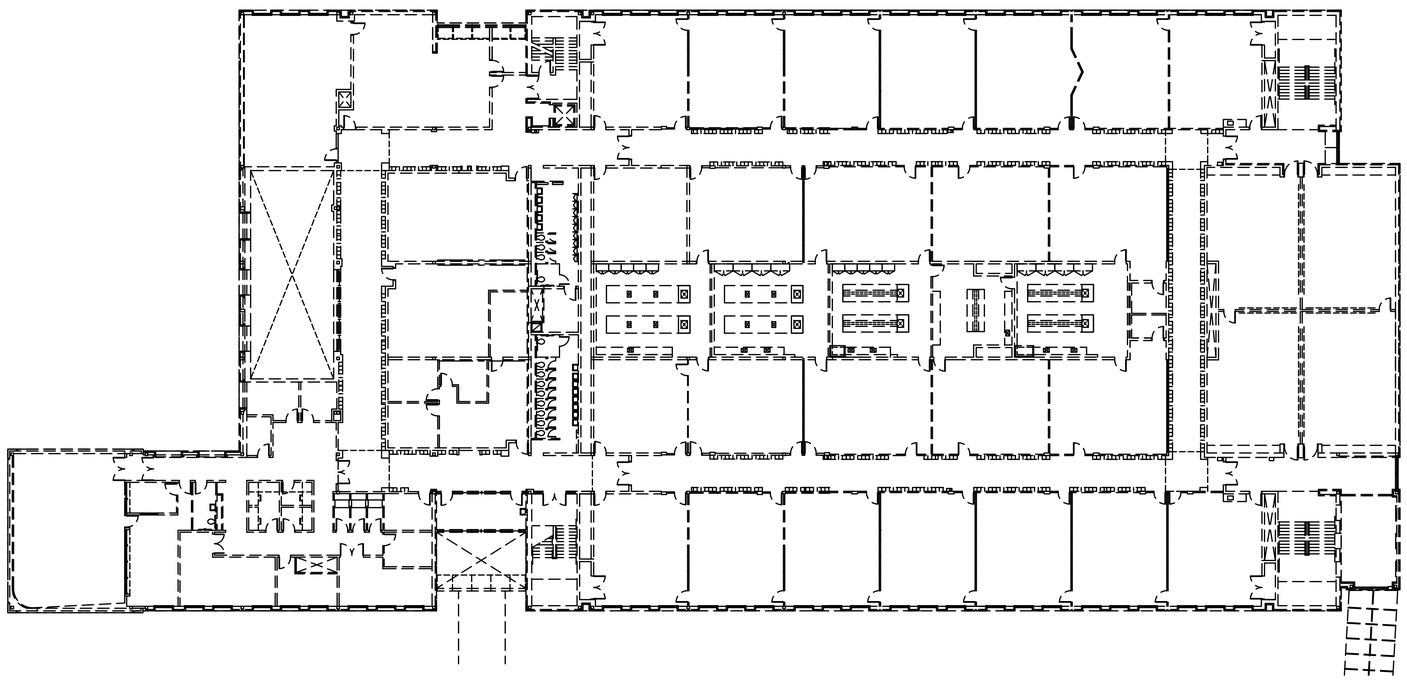
01/20/2017



3RD FLOOR - LORD BUILDING - NEW ACADEMIC BUILDING



3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

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PROJECT TITLE:
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50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

DRAWING TITLE:

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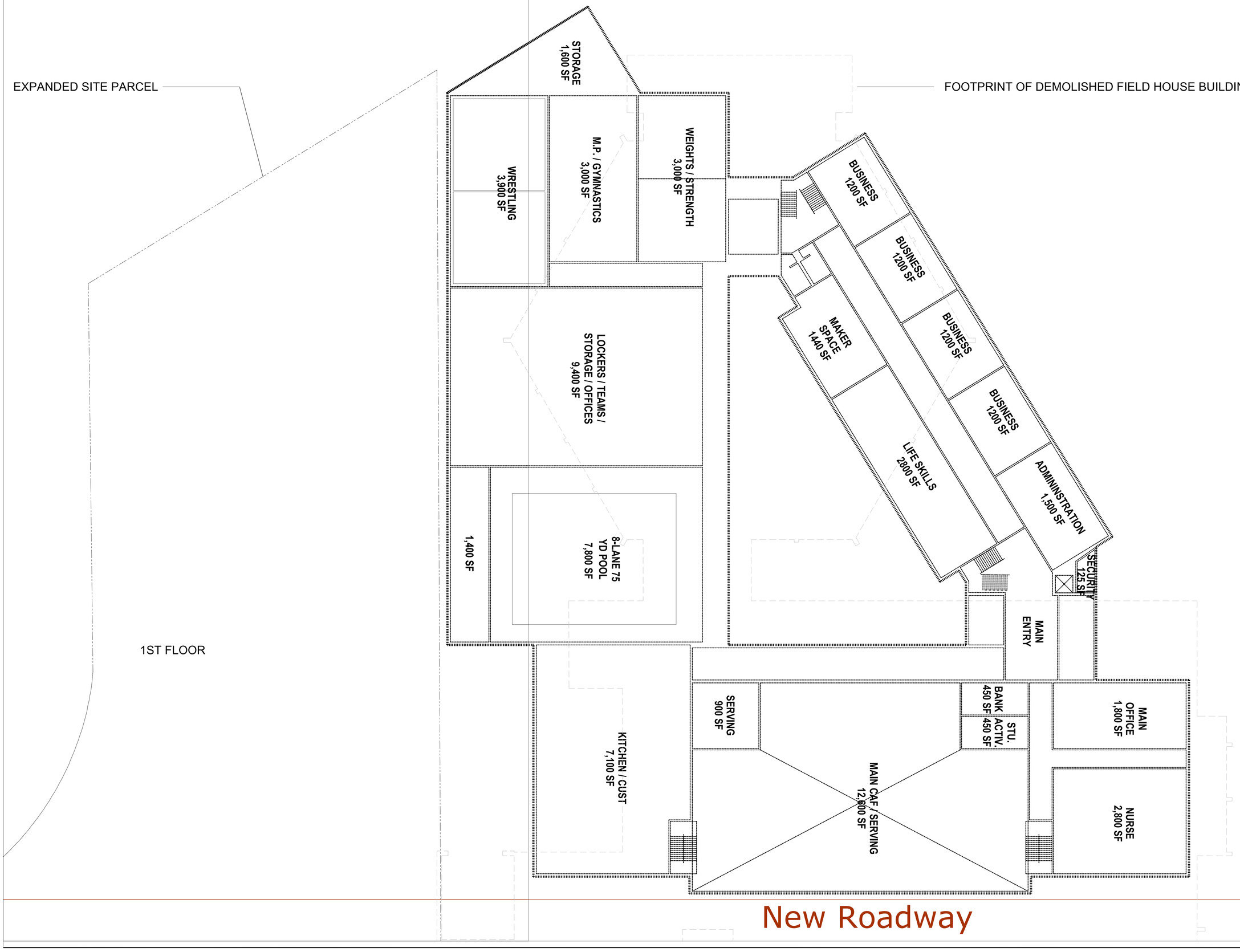

NO. DATE REVISION

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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 4

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

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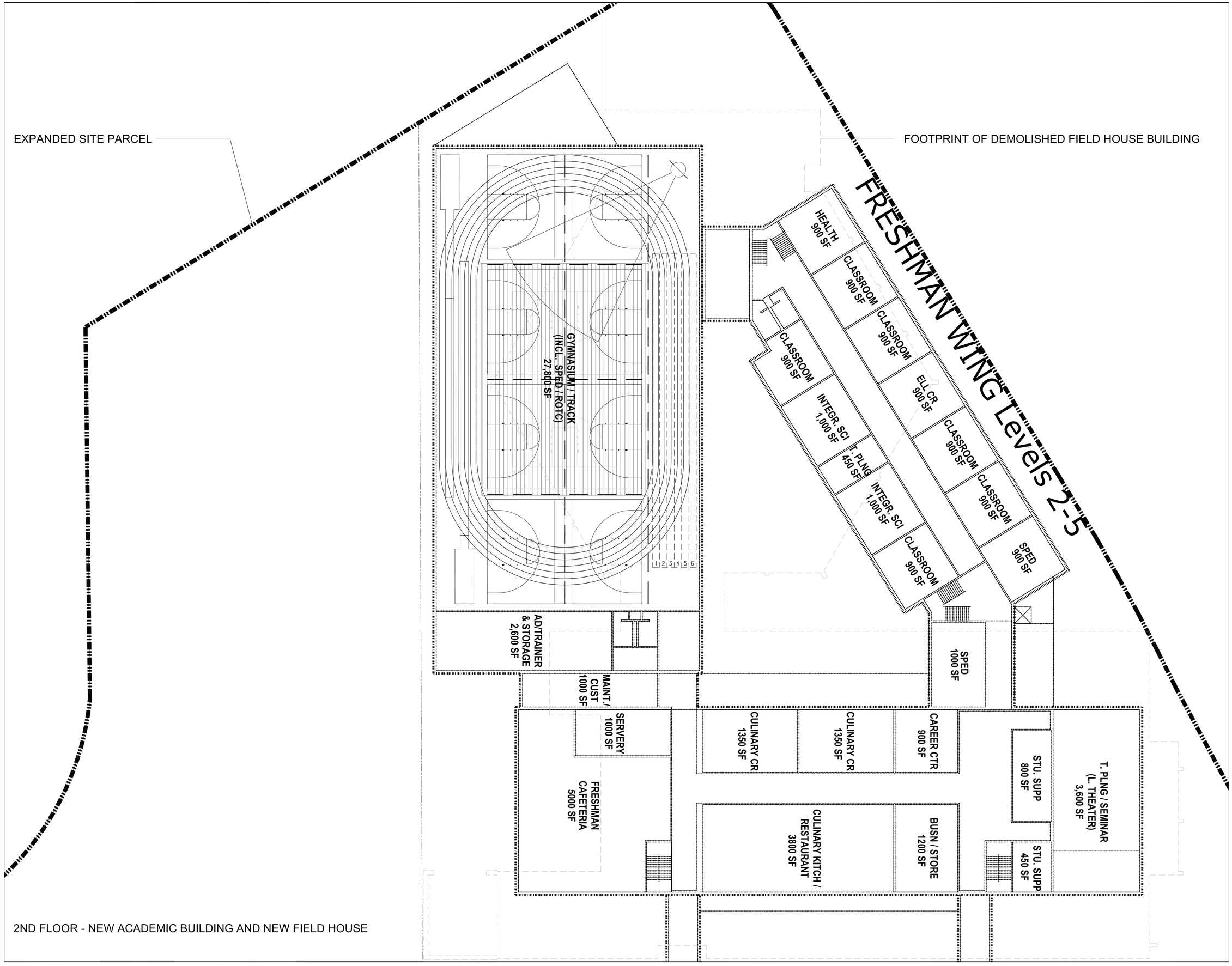

2ND FLOOR - NEW ACADEMIC BUILDING AND NEW FIELD HOUSE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

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Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

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Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 4

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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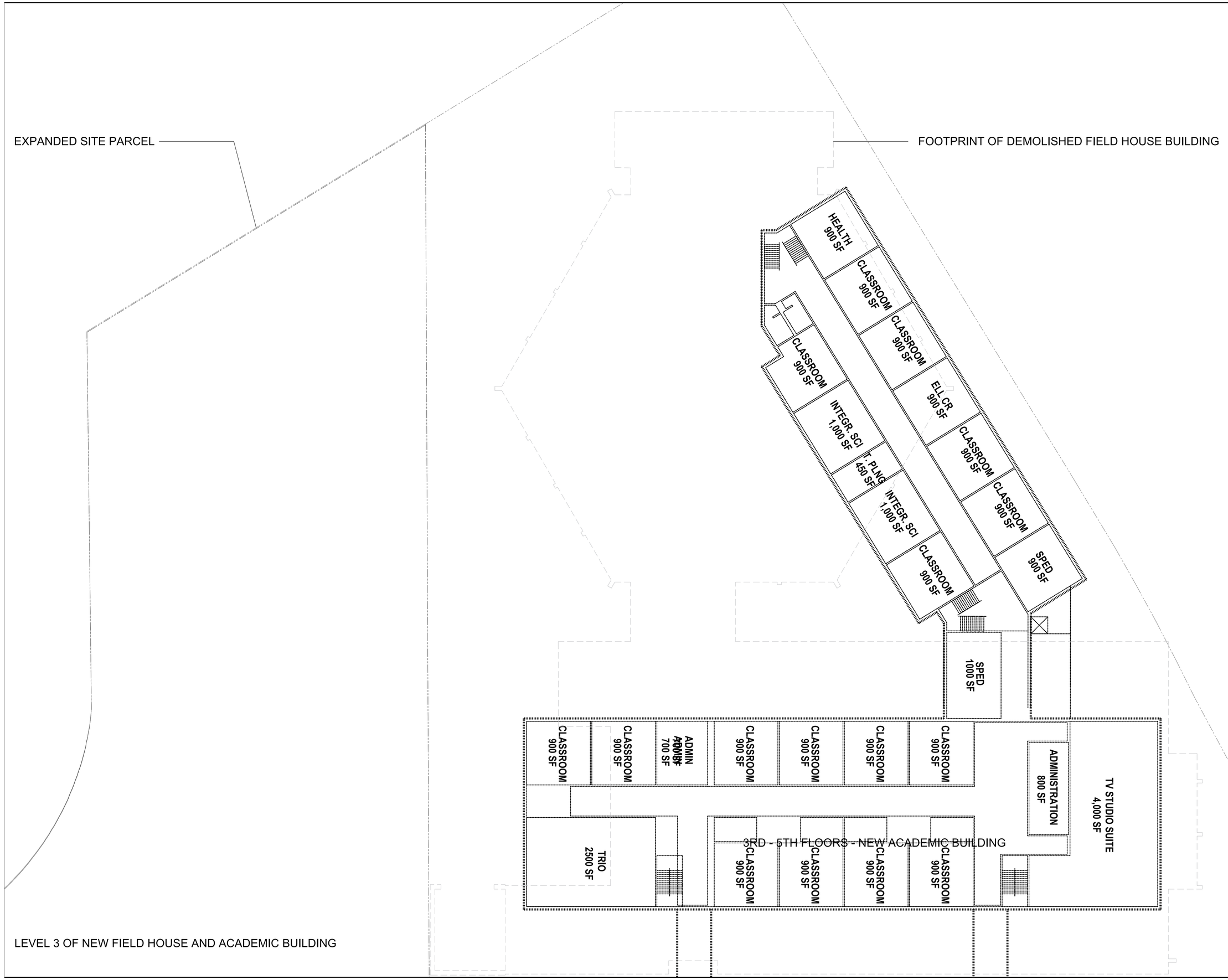
01/20/2017



LEVEL 3 OF NEW FIELD HOUSE AND ACADEMIC BUILDING

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

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Nitsch Engineering
2 Center Plaza, Boston, MA 02108

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Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

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529 Main Street, Boston, MA 02129

Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
ADD/ RENO
OPTION 4

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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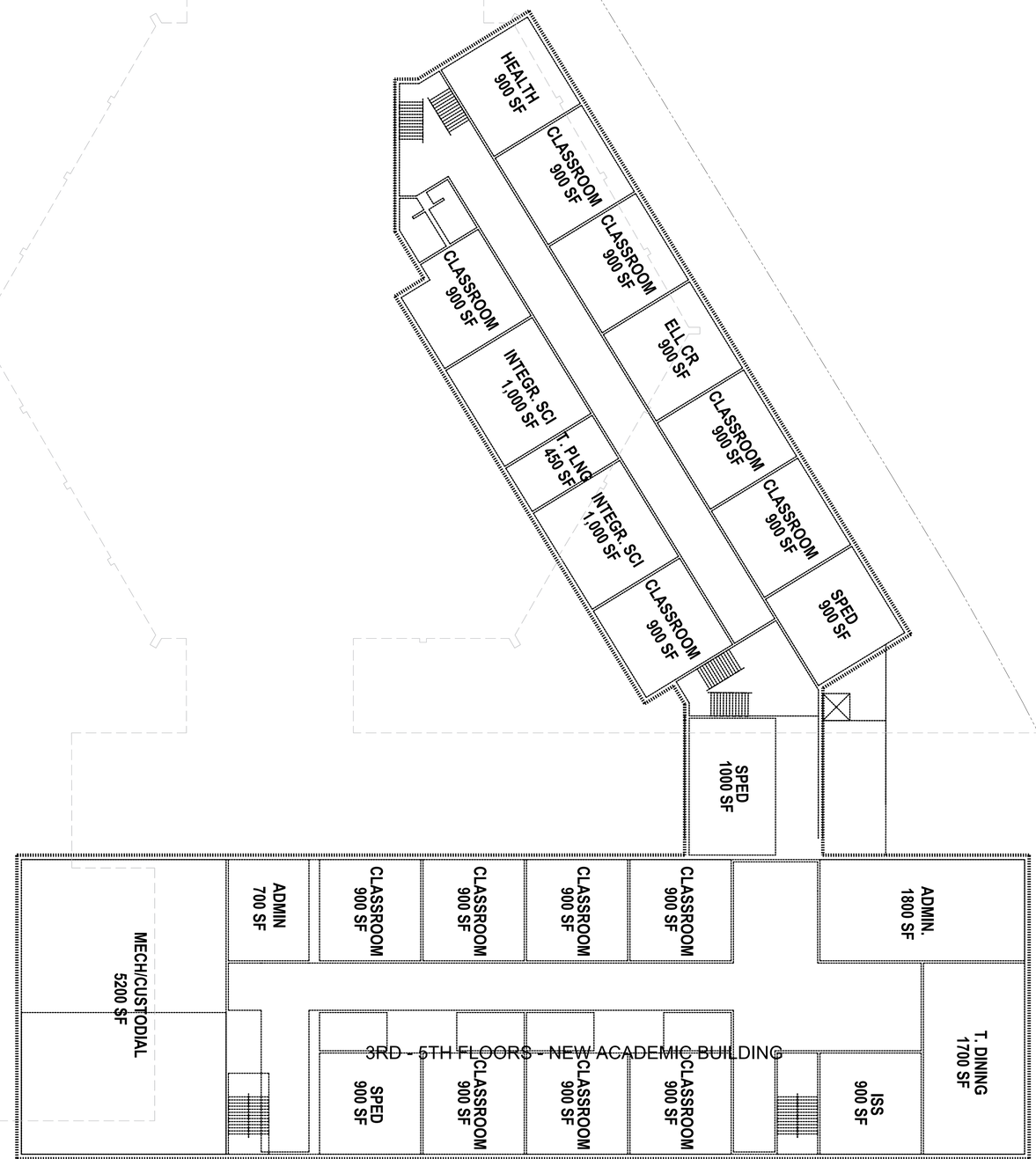
01/20/2017

EXPANDED SITE PARCEL

FOOTPRINT OF DEMOLISHED FIELD HOUSE BUILDING



LEVEL 4 OF NEW FIELD HOUSE AND ACADEMIC BUILDING

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

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Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

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Mechanical & Plumbing Consultant Address

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PROJECT TITLE:
LOWELL
HIGH SCHOOL
ADD/ RENO
OPTION 4

50 FATHER MORISSETTE BLVD,
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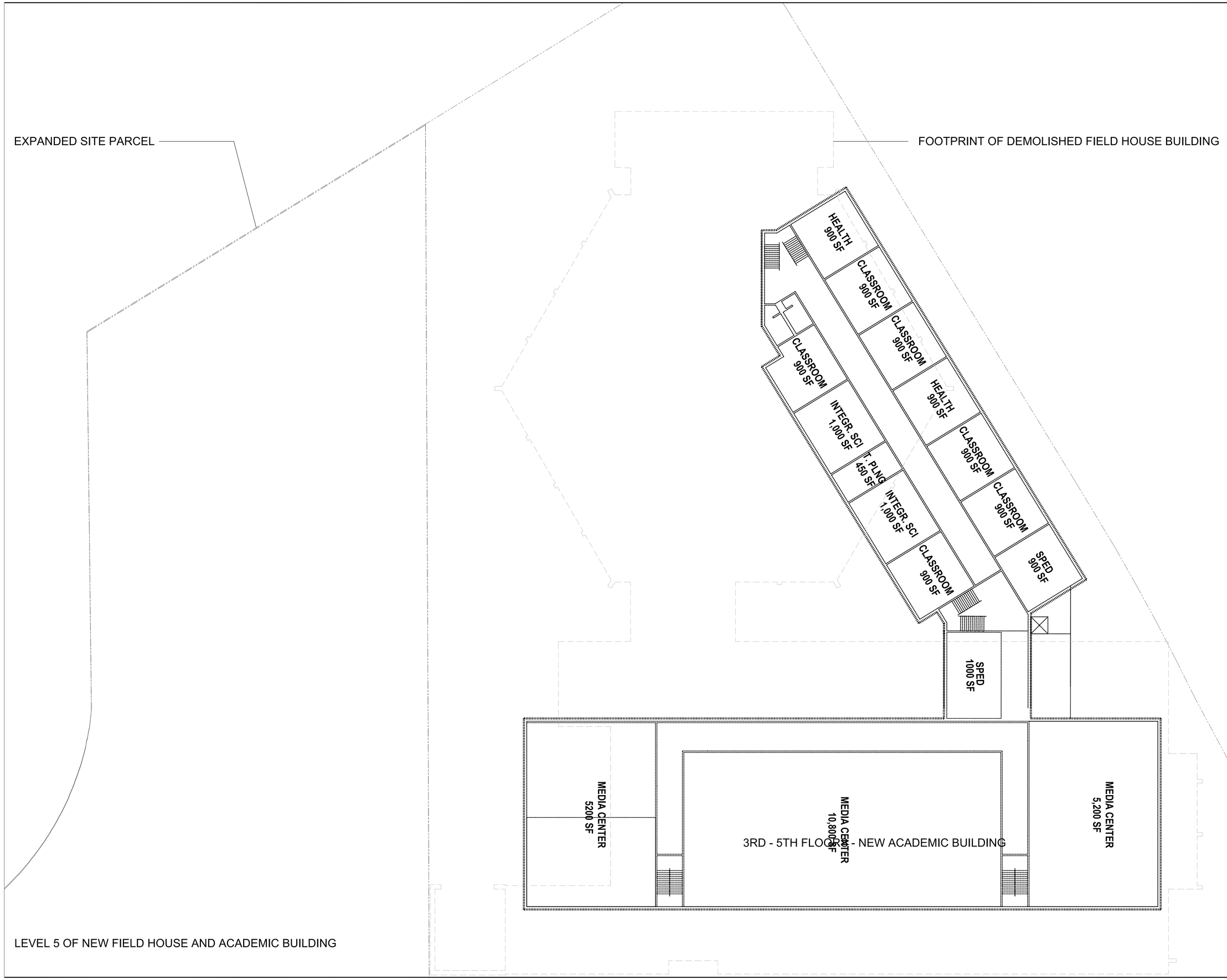

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BUILDABLE ACREAGE = 7.4

BUILDING (GSF) = 620,900

RENOVATION AREA (GSF) = 312,800

ADDITION/ NEW AREA (GSF) = 308,100

NEW 2 STORY FIELD HS, 5 STORY OTHERS + 2 STORY BRIDGES

PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS OPTION 3, EXCEPT;

+ NEW LORD BLDG ALLOWS THRU-ROAD
+ NO WINDOWLESS CLASSROOMS
+/- CAFETERIA SPLIT ON 2 FLOORS, CREATING SEPARATE FRESHMAN AREA
- MANY PUBLIC USE PROGRAMS FORCED ONTO UPPER FLOORS

CONSTRUCTION

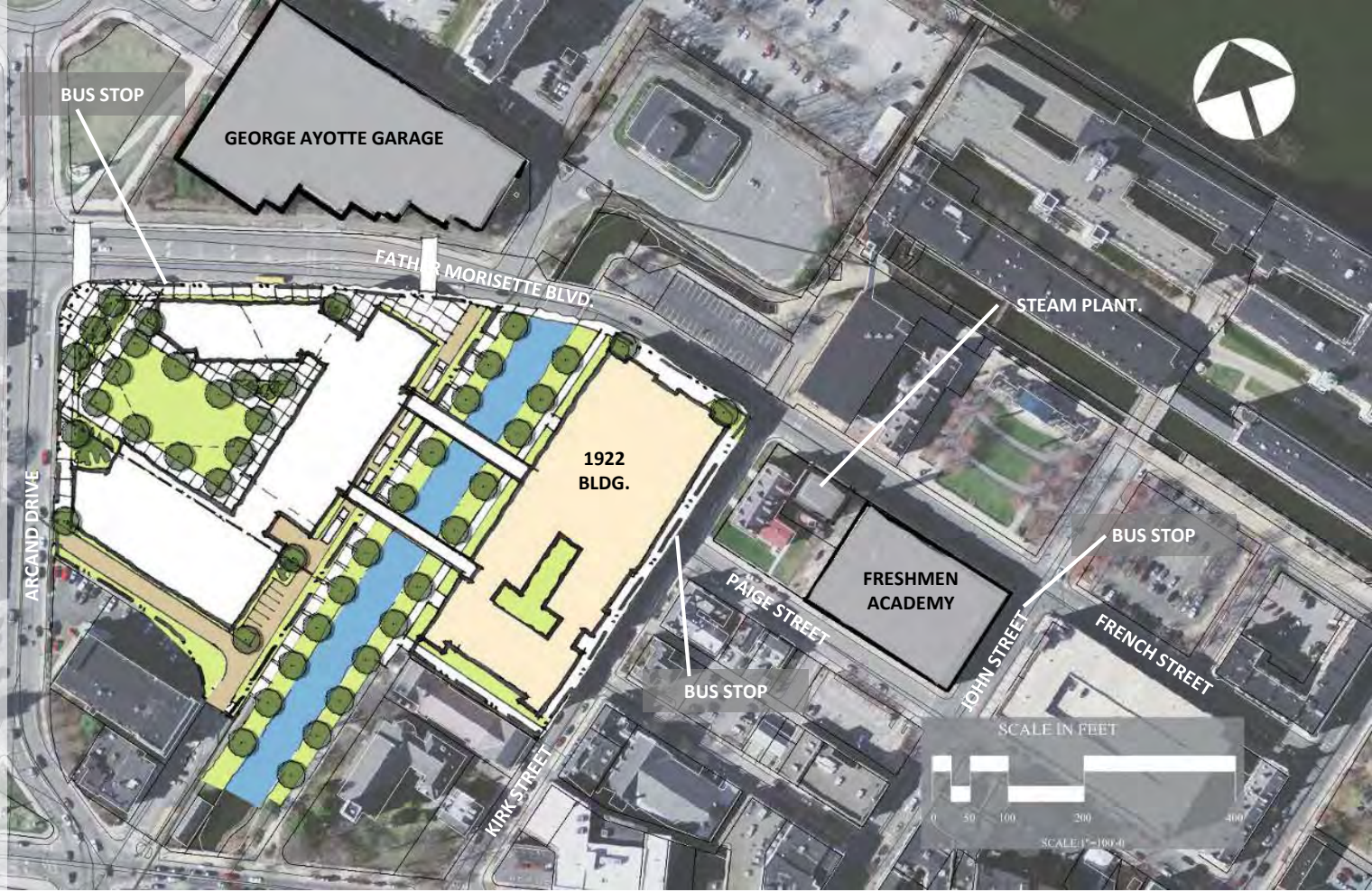
3½ YEAR PHASED PROJECT

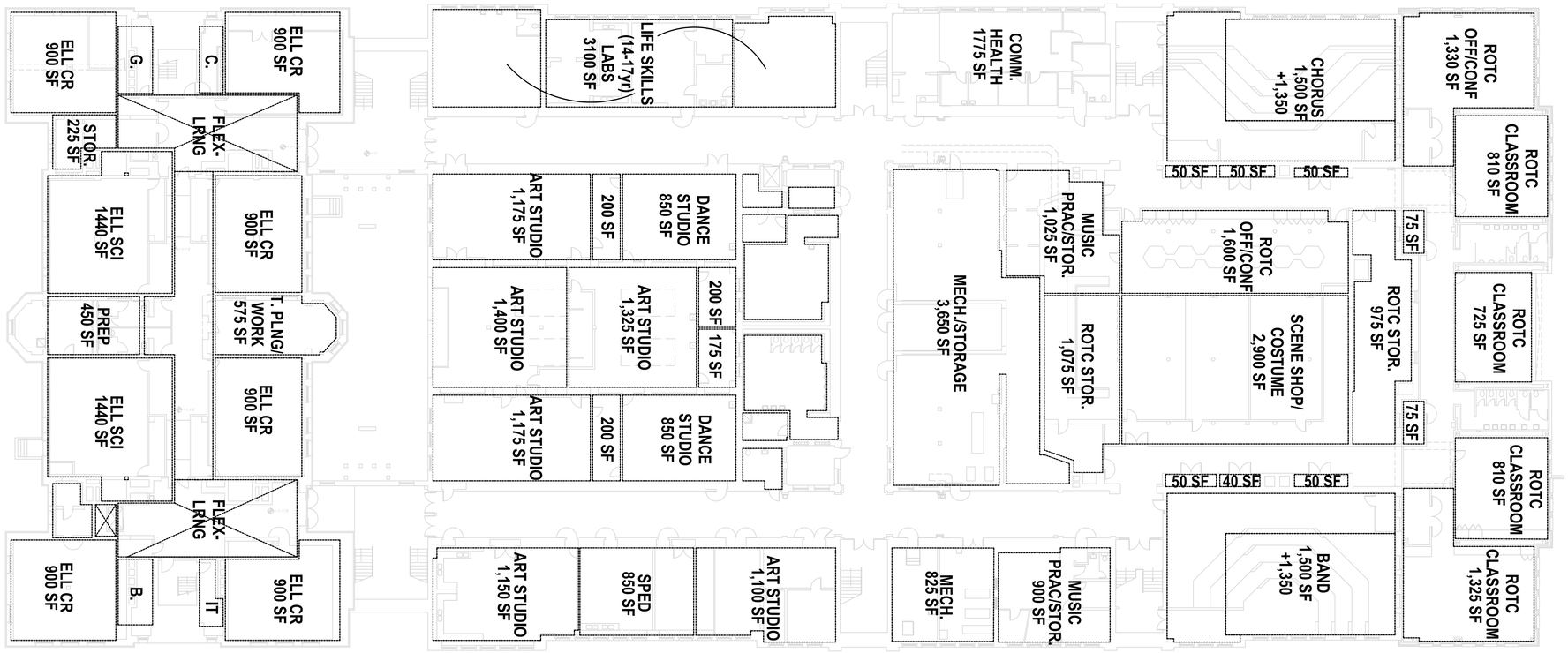
- EXTENSIVE MODULAR CR'S REQ'D
+ NO TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

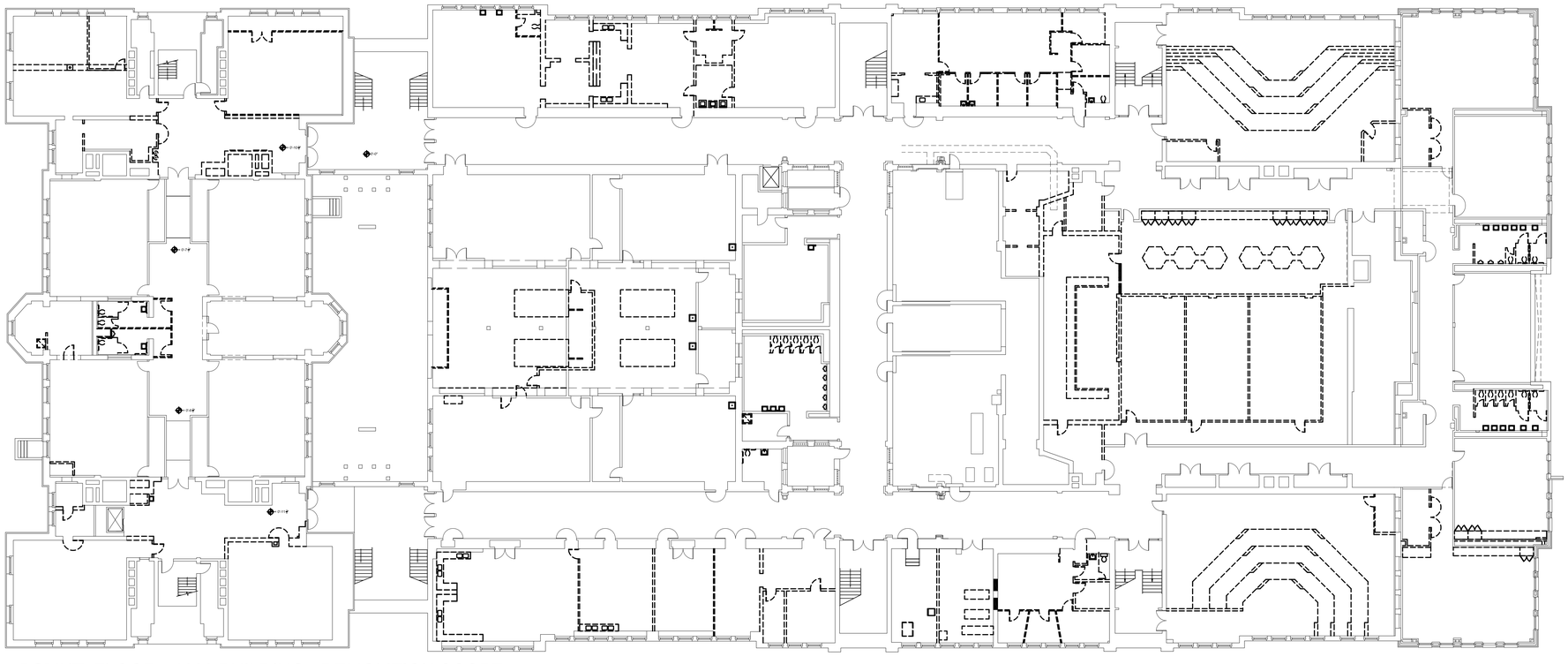
TOTAL PROJECT COST = $386,376,693

ESTIMATED CITY'S SHARE = $173,976,178





BSMNT. FLOOR -1922 BUILDING - RENOVATION FIT OUT



BSMNT. FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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50 FRANKLIN STREET
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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

50 FATHER MORISSETTE BLVD,
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DRAWING TITLE:

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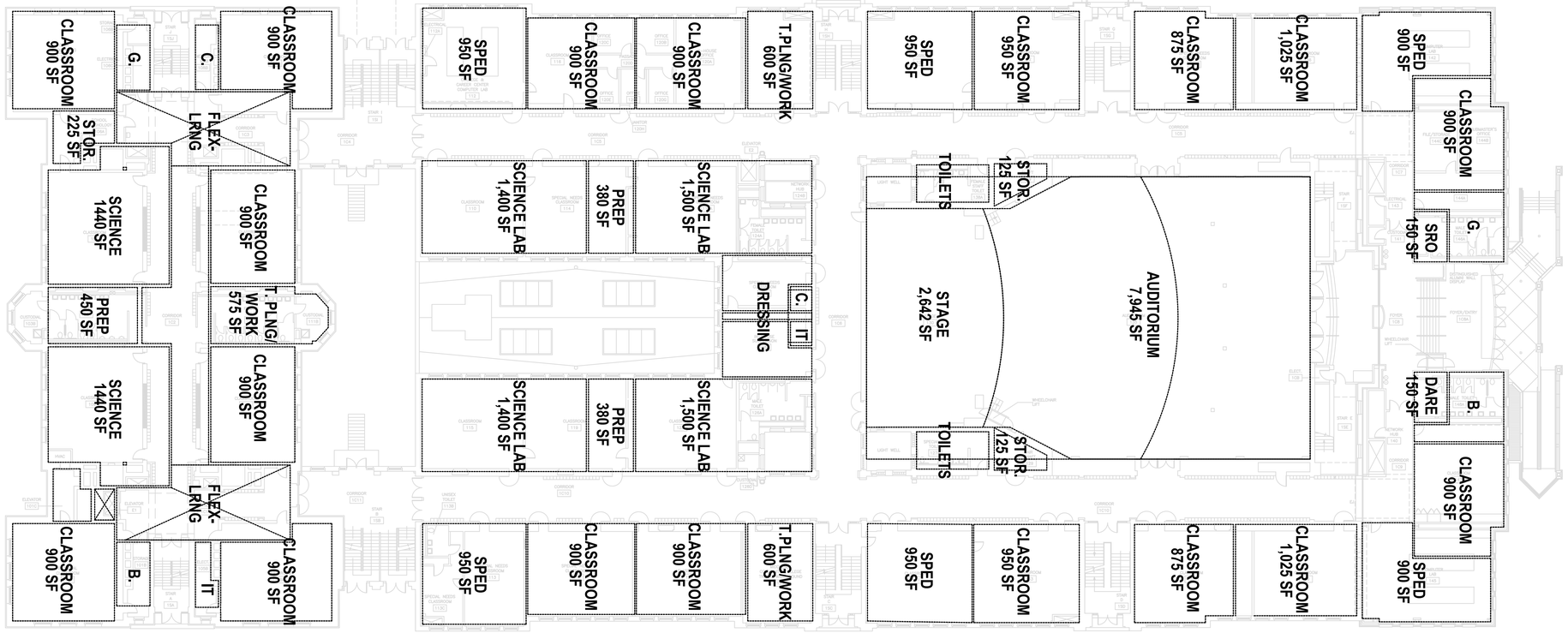
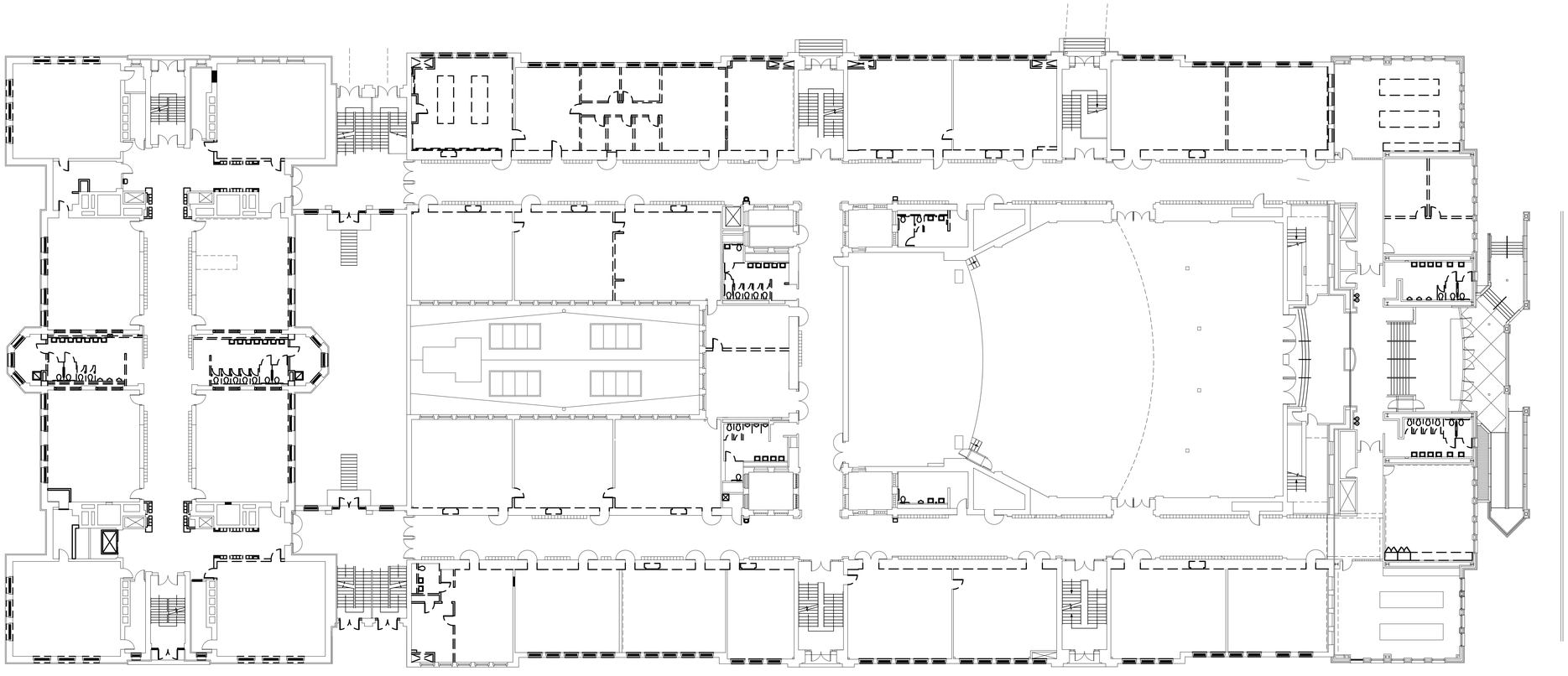


1ST FLOOR - 1922 BUILDING - RENOVATION FIT OUT



1ST FLOOR - 1922 BUIDLING - DEMOLITION SCOPE

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2159 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

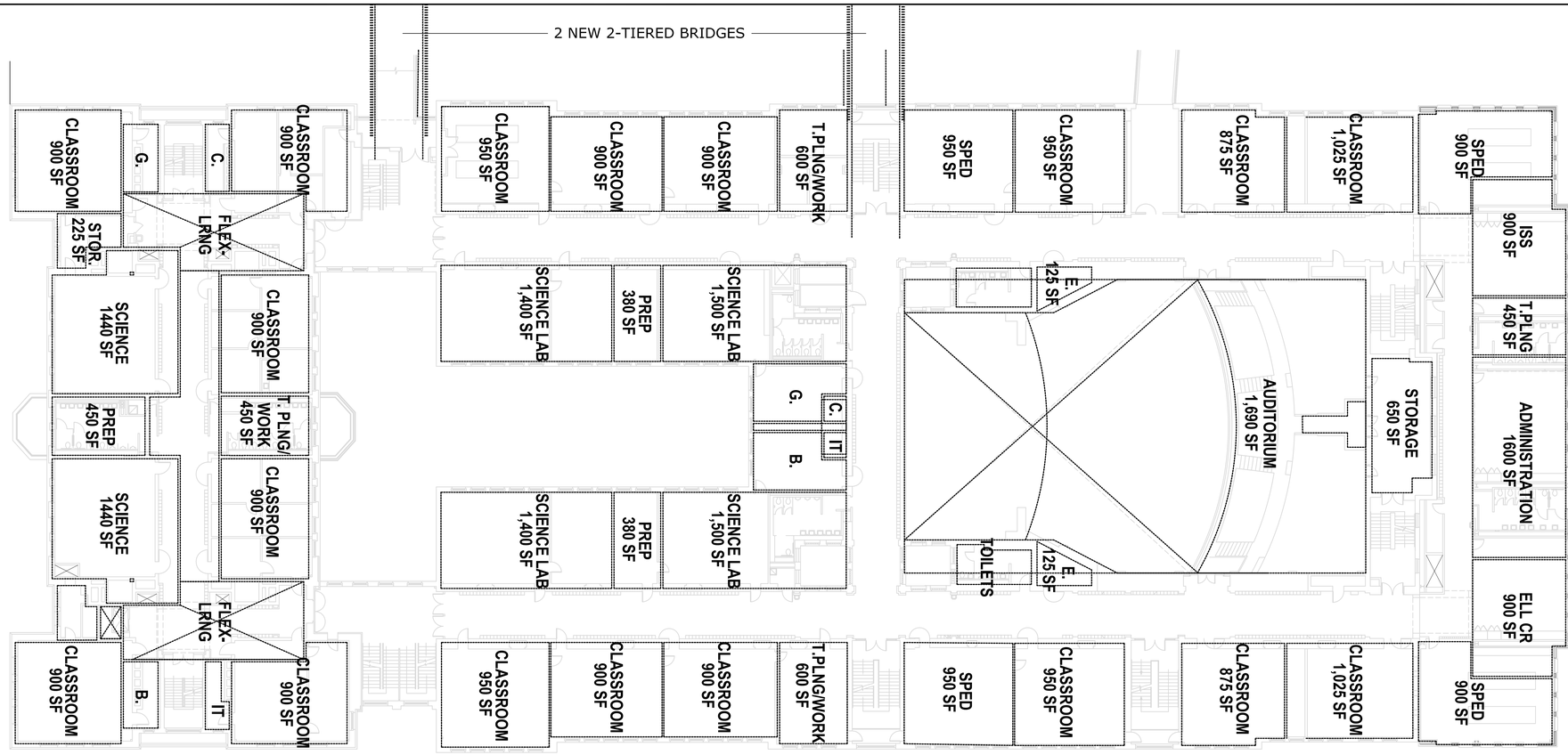
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

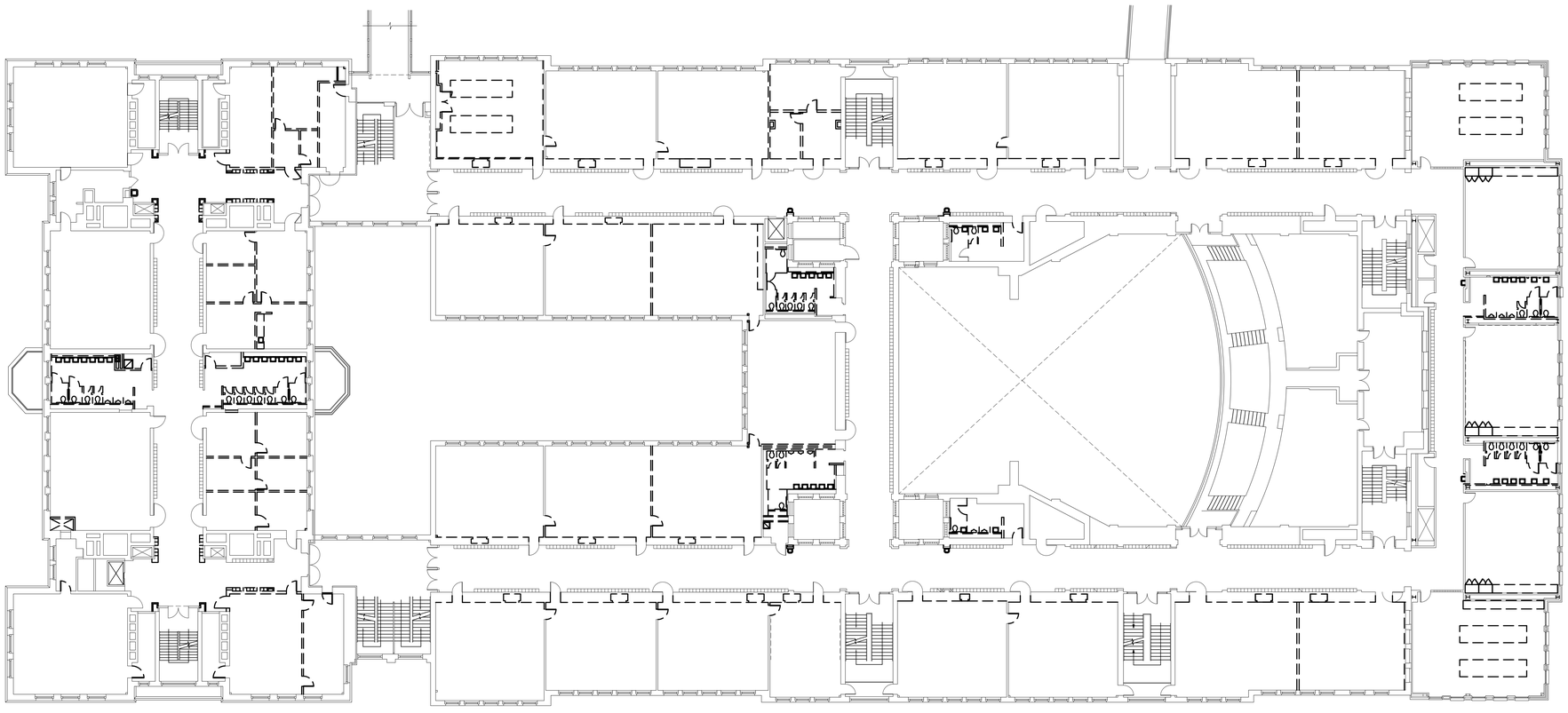
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/20/2017



2ND FLOOR - 1922 BUILDING - RENOVATION FIT OUT



2ND FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

KEY PLAN

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PROJECT No: 67150

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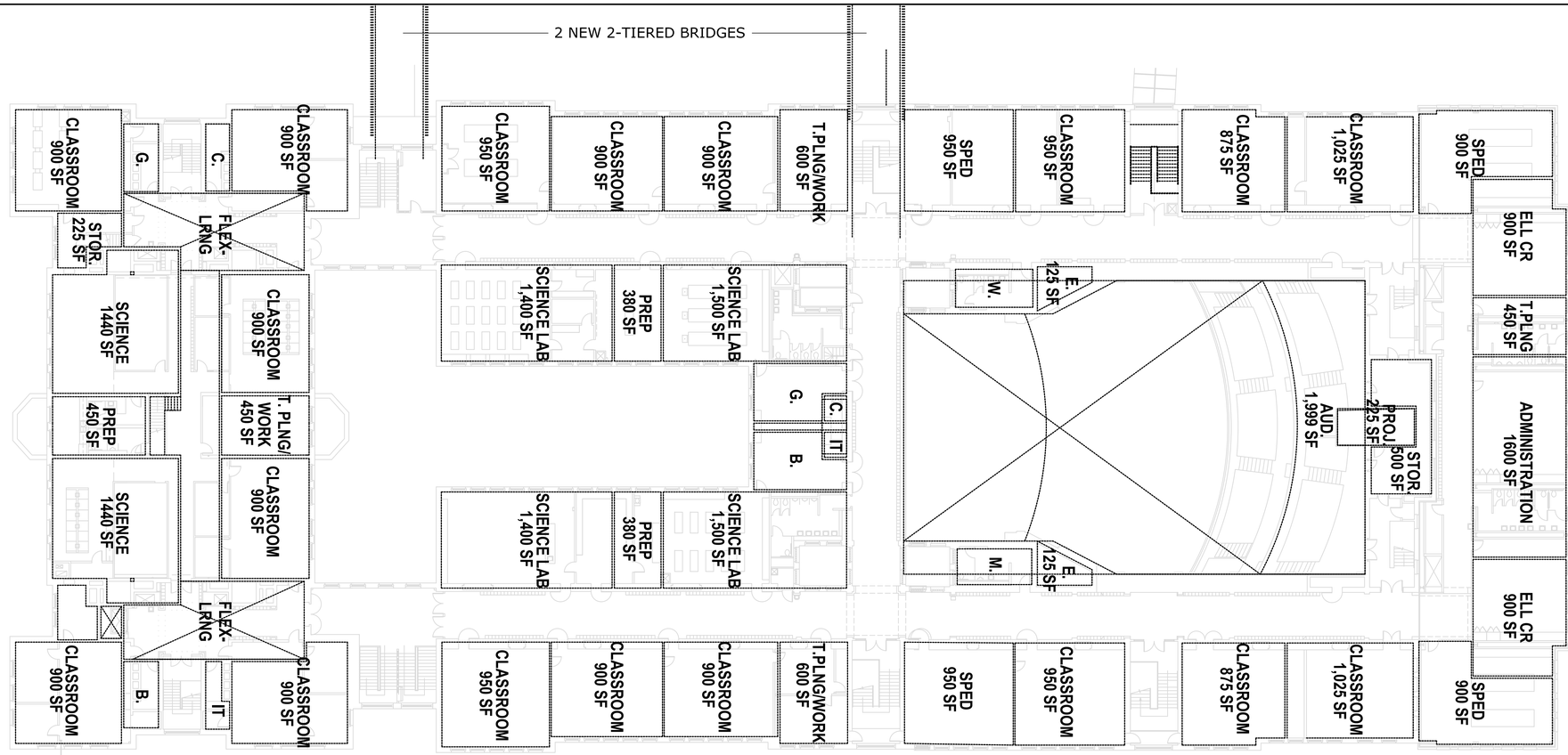
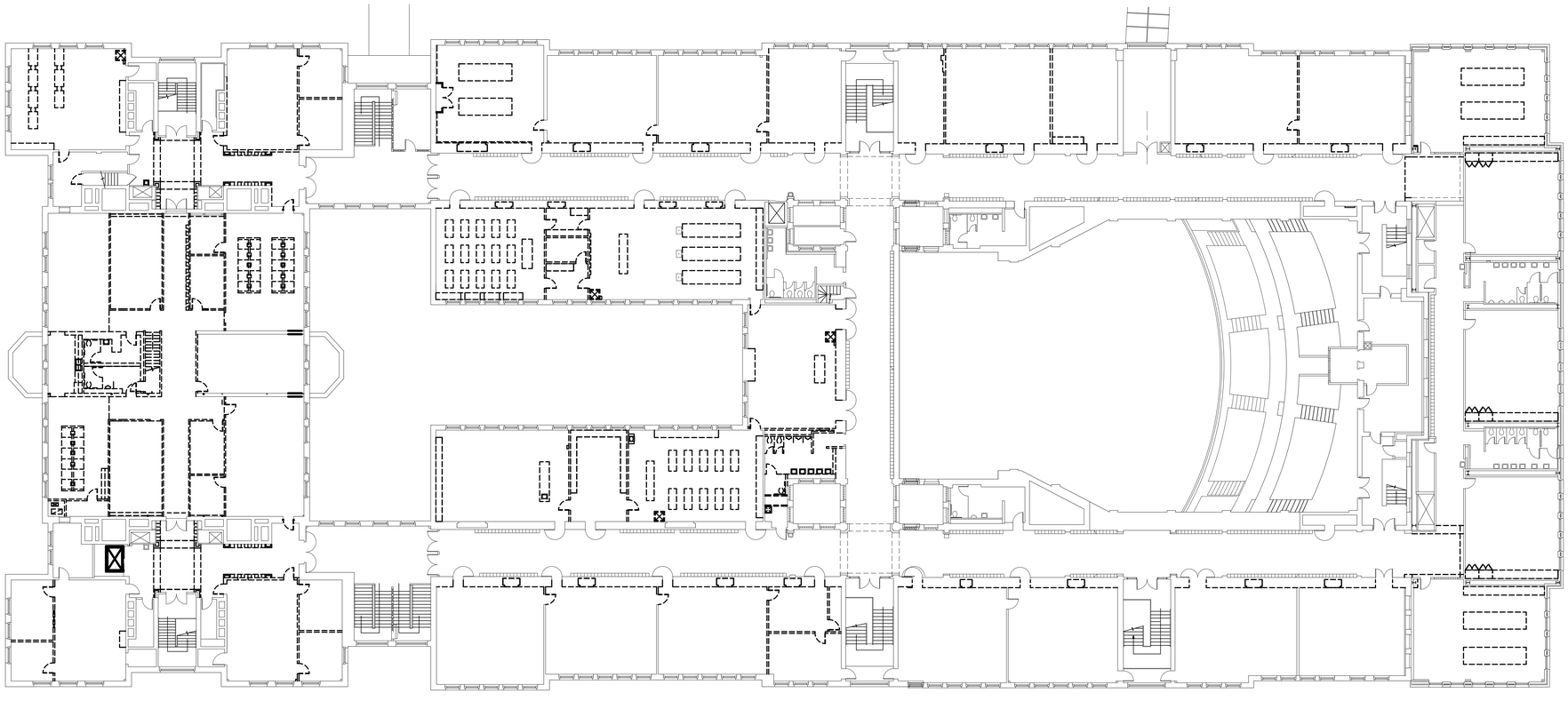


3RD FLOOR - 1922 BUILDING - RENOVATION FIT OUT



3RD FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO. DATE REVISION

SEAL

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PROJECT No: 67150

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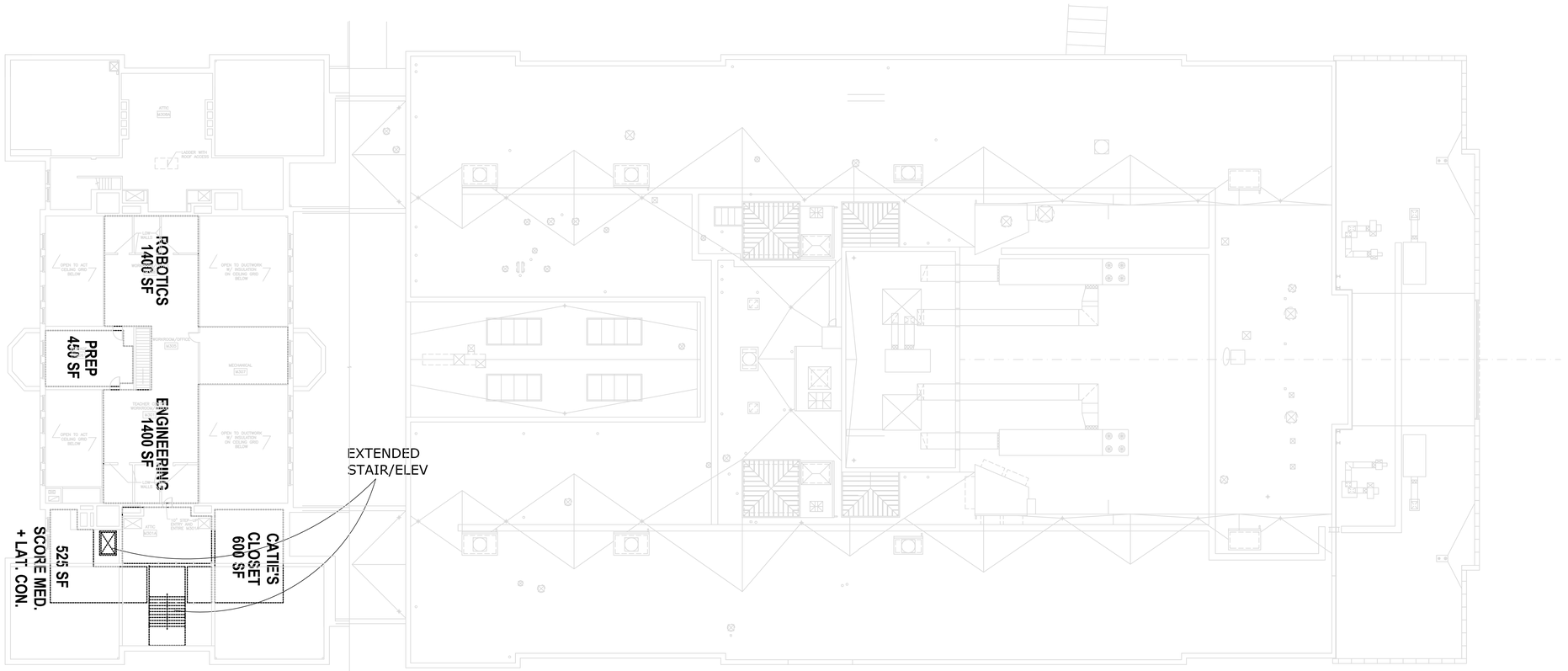
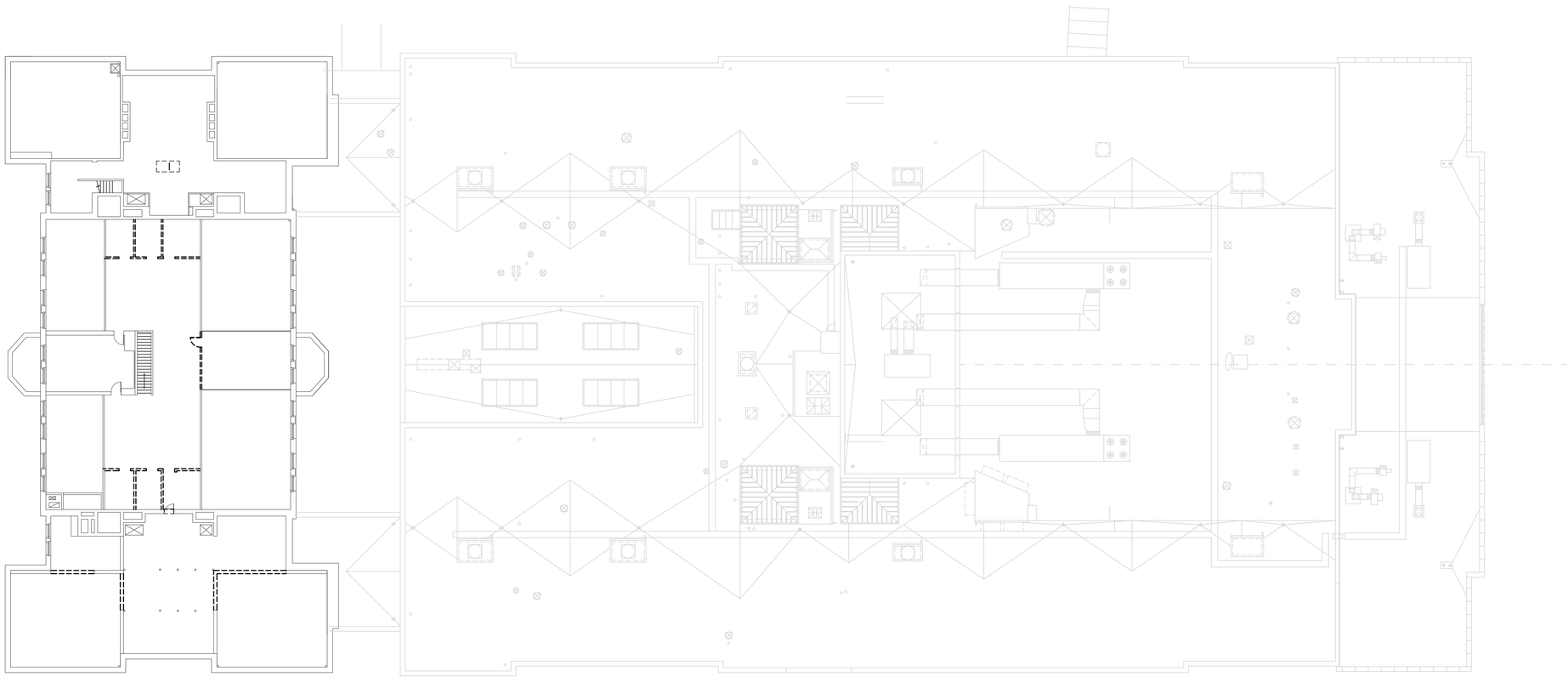


4TH FLOOR - 1922 BUILDING - RENOVATION FIT OUT



4TH FLOOR - 1922 BUILDING - DEMOLITION SCOPE

NO.	DATE	REVISION

SEAL

KEY PLAN

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50 FRANKLIN STREET
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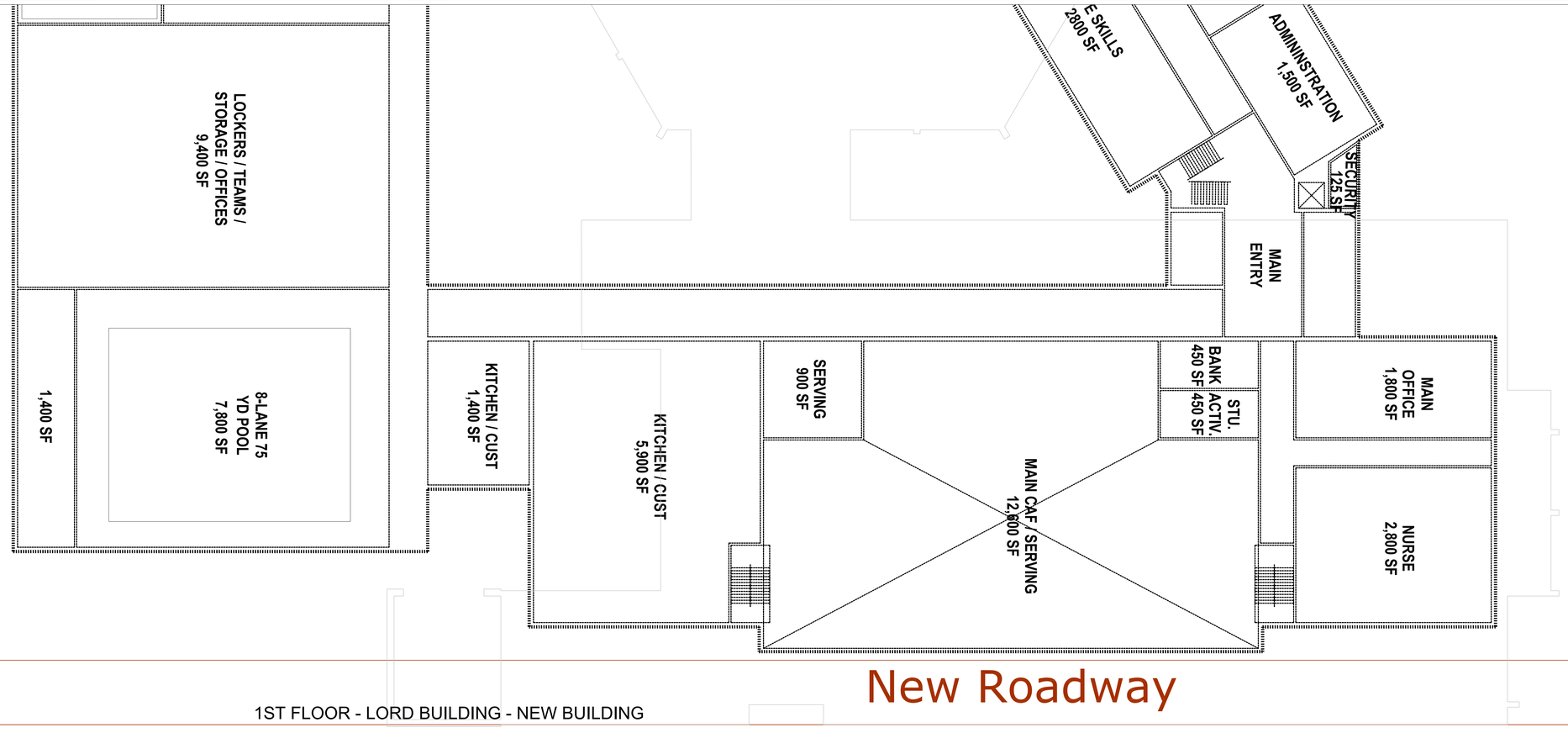
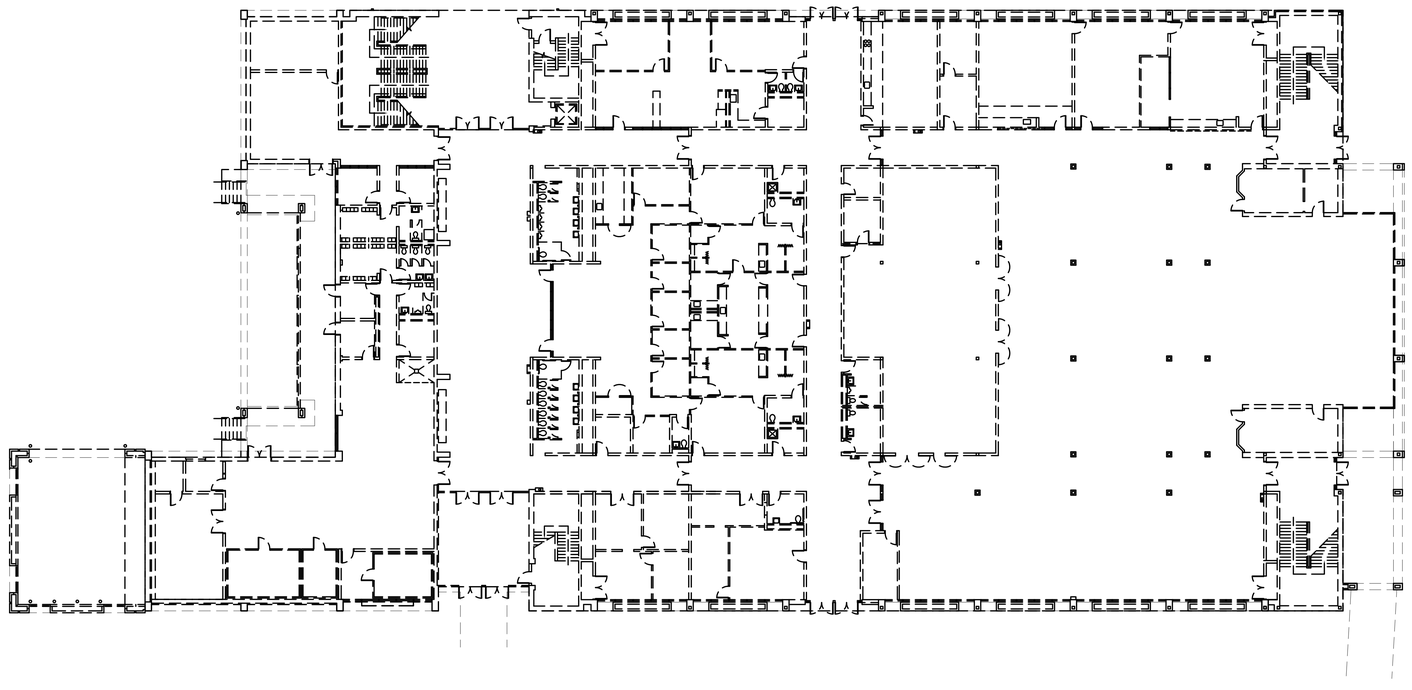


1ST FLOOR - LORD BUILDING - NEW BUILDING



1ST FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

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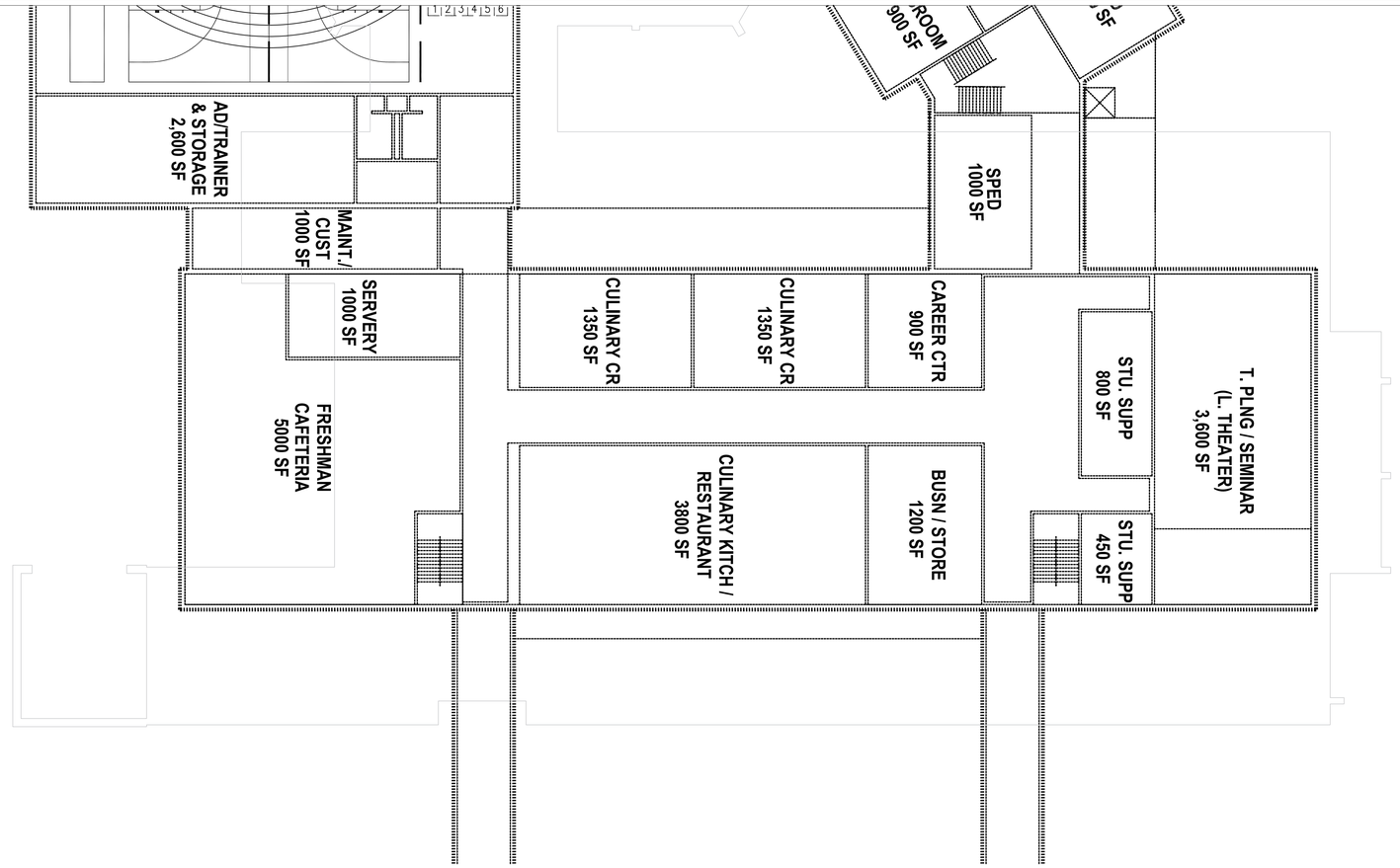
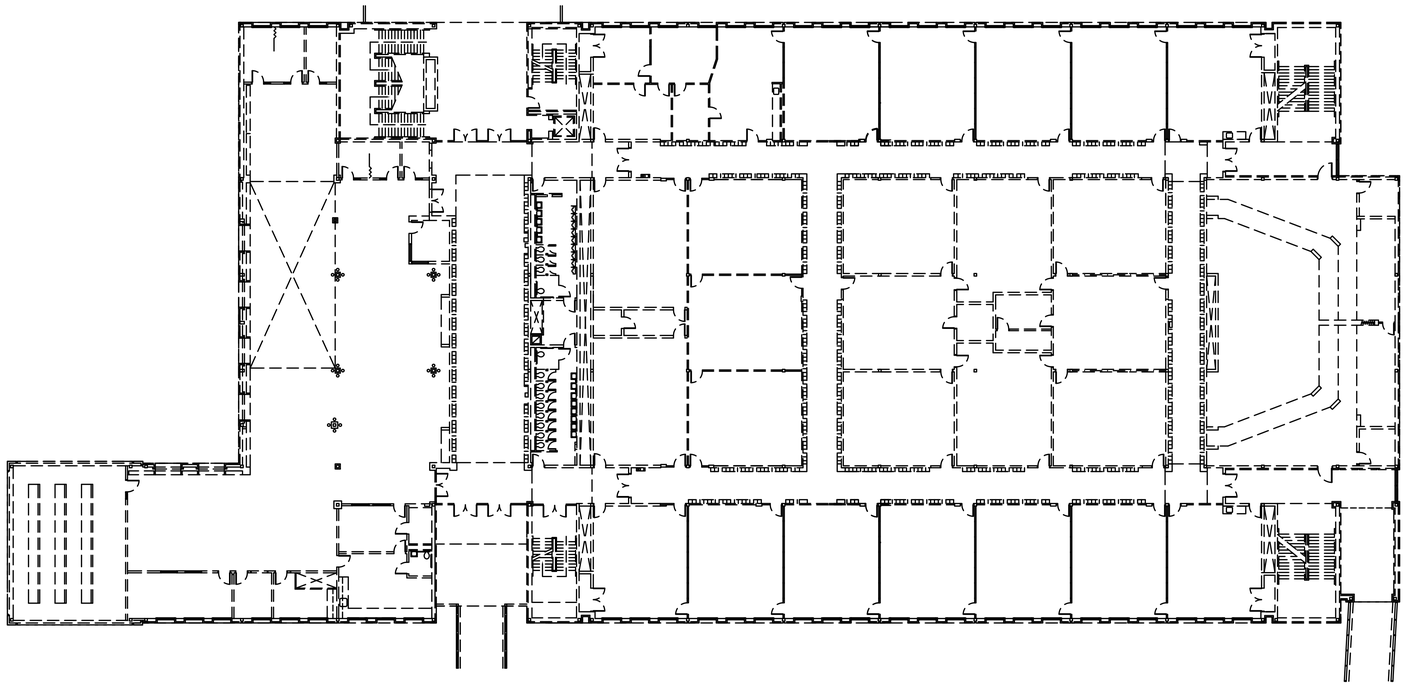


2ND FLOOR - LORD BUILDING - RENOVATION FIT OUT



2ND FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

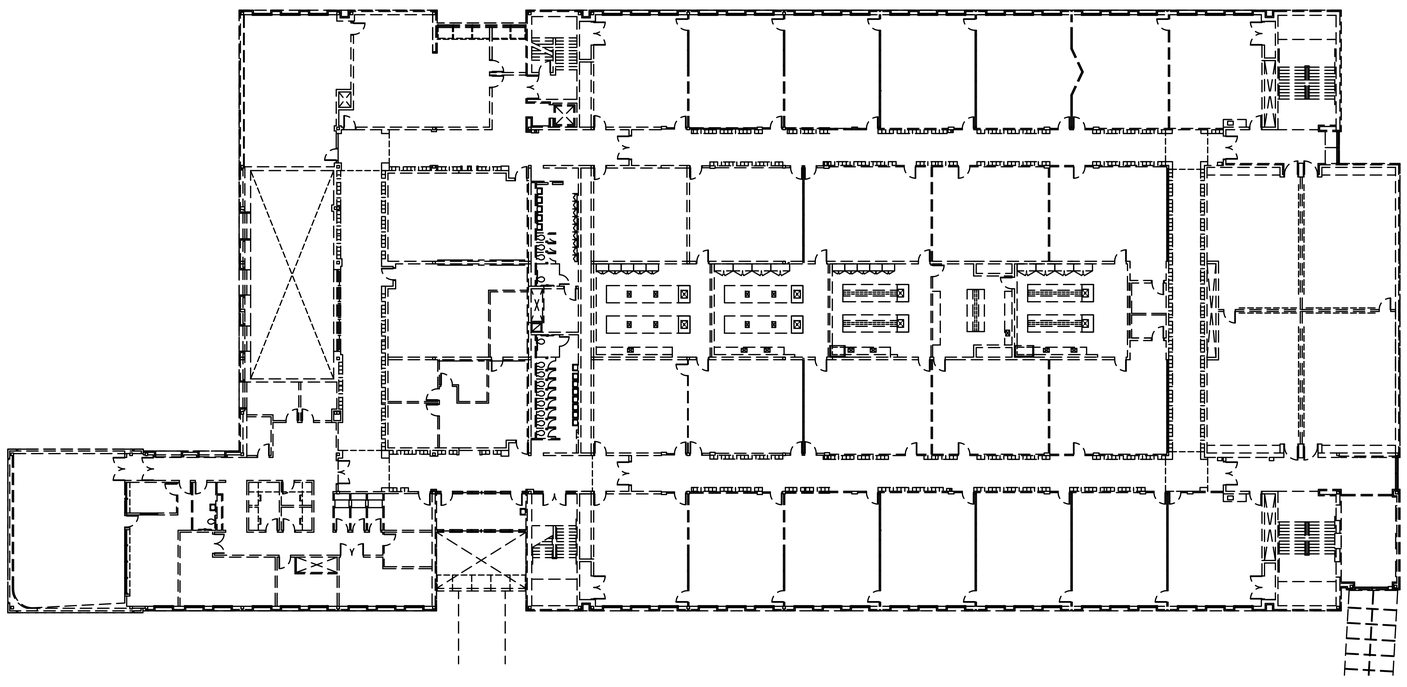
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/20/2017



3RD FLOOR - LORD BUILDING - NEW ACADEMIC BUILDING



3RD FLOOR - LORD BUILDING - DEMOLITION SCOPE - BUILDING TO BE FULLY DEMOLISHED

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

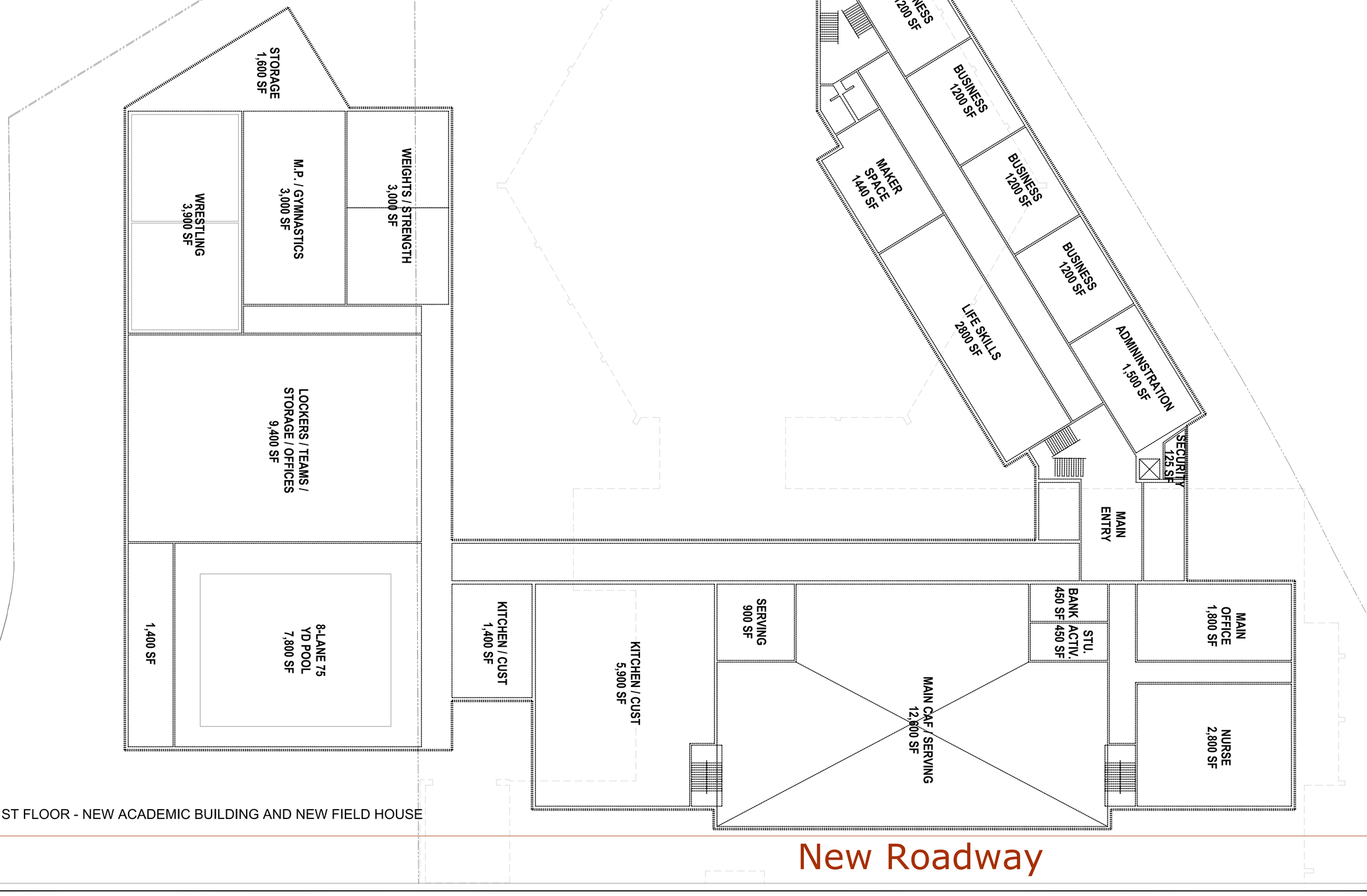
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY

01/20/2017

EXPANDED SITE PARCEL

FOOTPRINT OF DEMOLISHED FIELD HOUSE BUILDING



1ST FLOOR - NEW ACADEMIC BUILDING AND NEW FIELD HOUSE

New Roadway

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
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Owner:
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PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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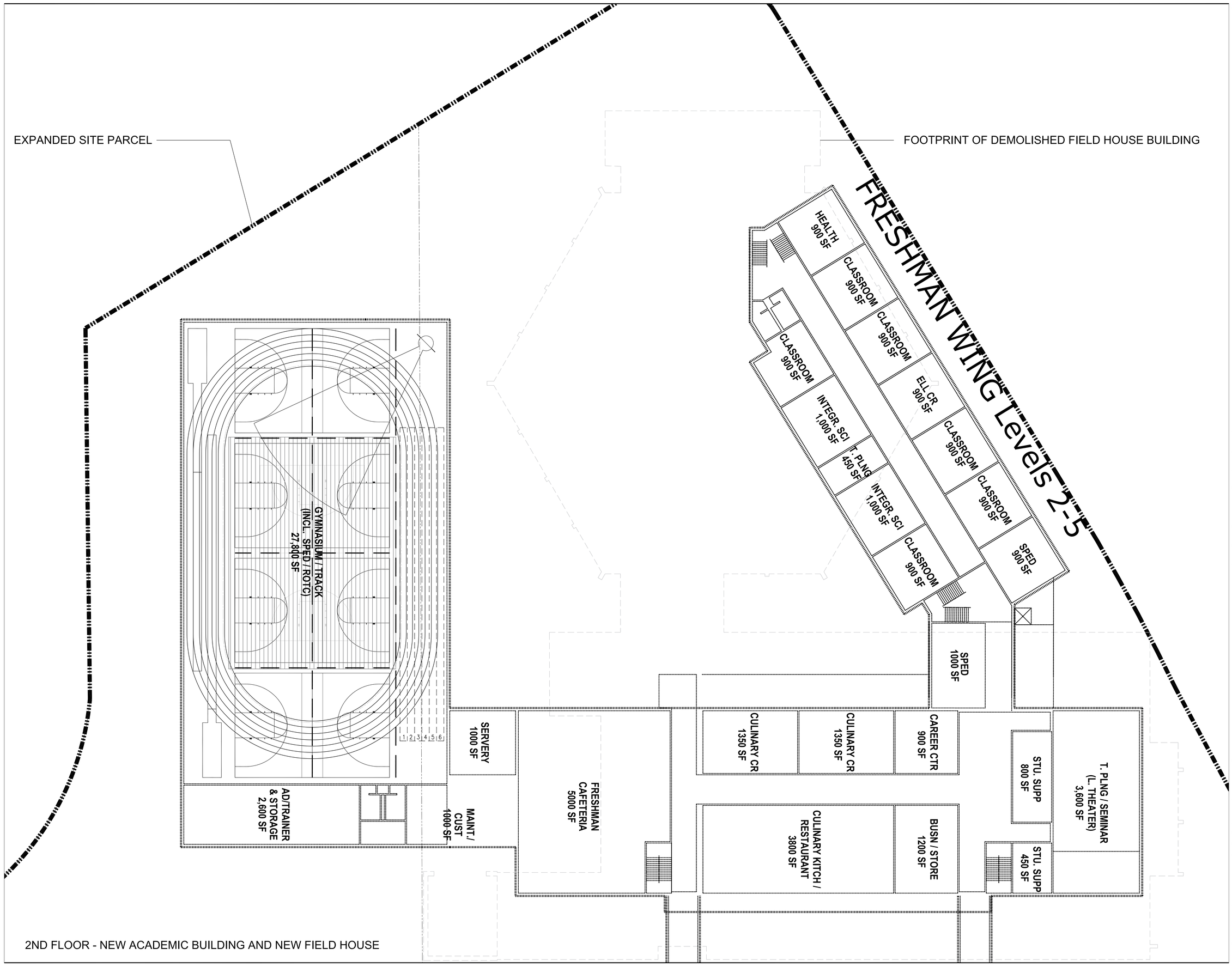

2ND FLOOR - NEW ACADEMIC BUILDING AND NEW FIELD HOUSE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
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DRAWING TITLE:

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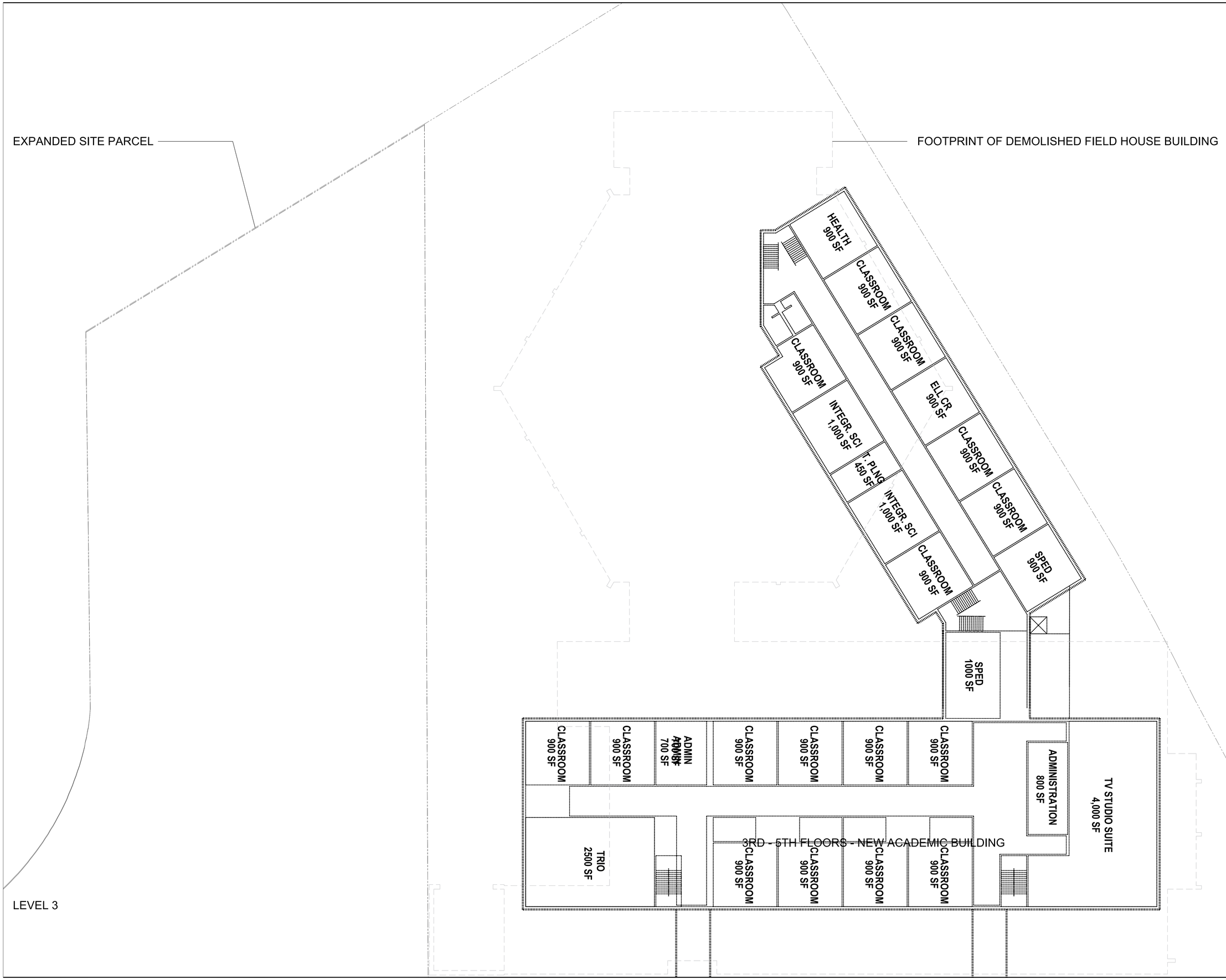

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PROJECT TITLE:
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50 FATHER MORISSETTE BLVD,
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PROJECT No: 67150

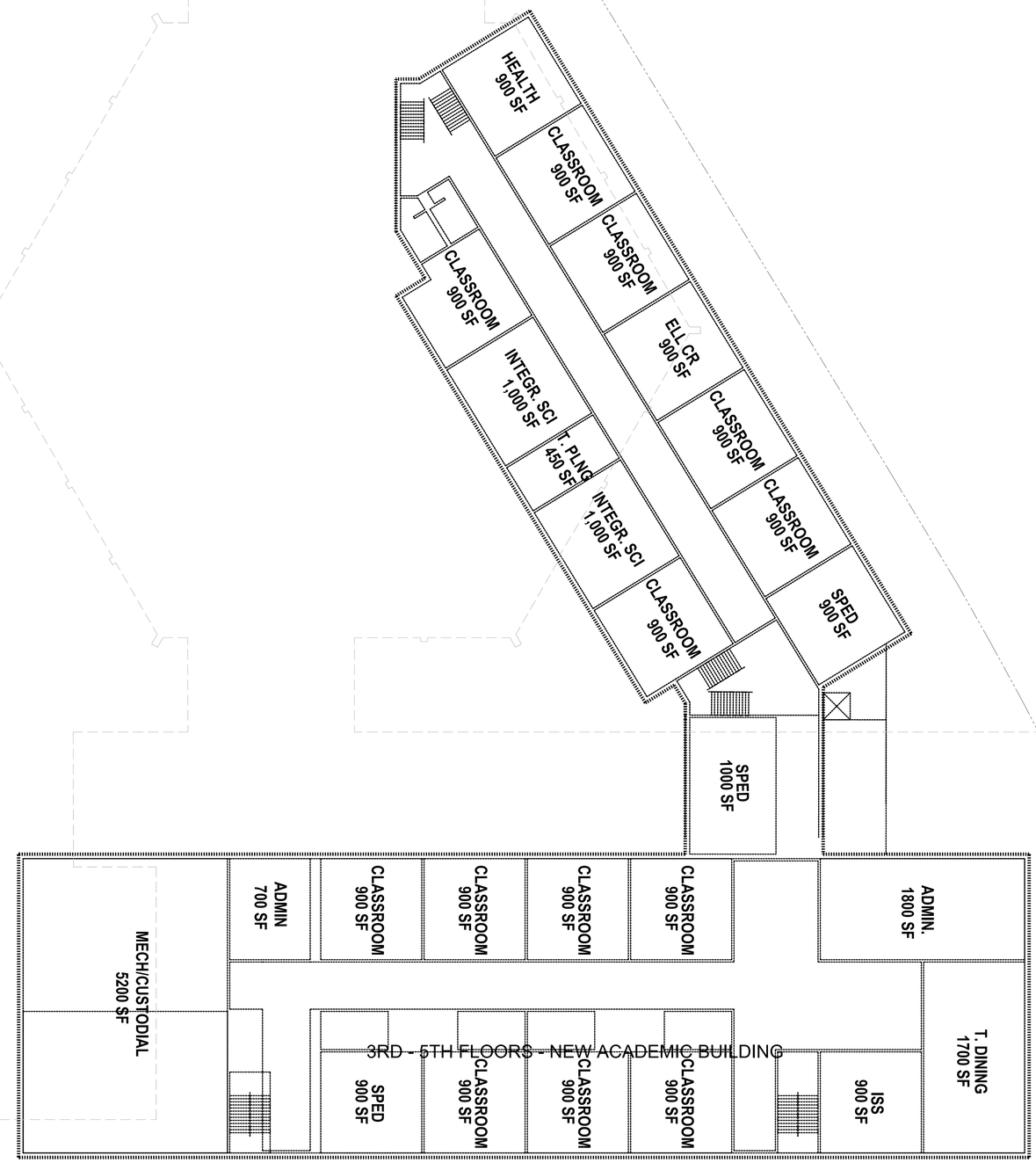
DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/20/2017

EXPANDED SITE PARCEL

FOOTPRINT OF DEMOLISHED FIELD HOUSE BUILDING



LEVEL 4

NO. DATE REVISION

SEAL

KEY PLAN

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50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
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PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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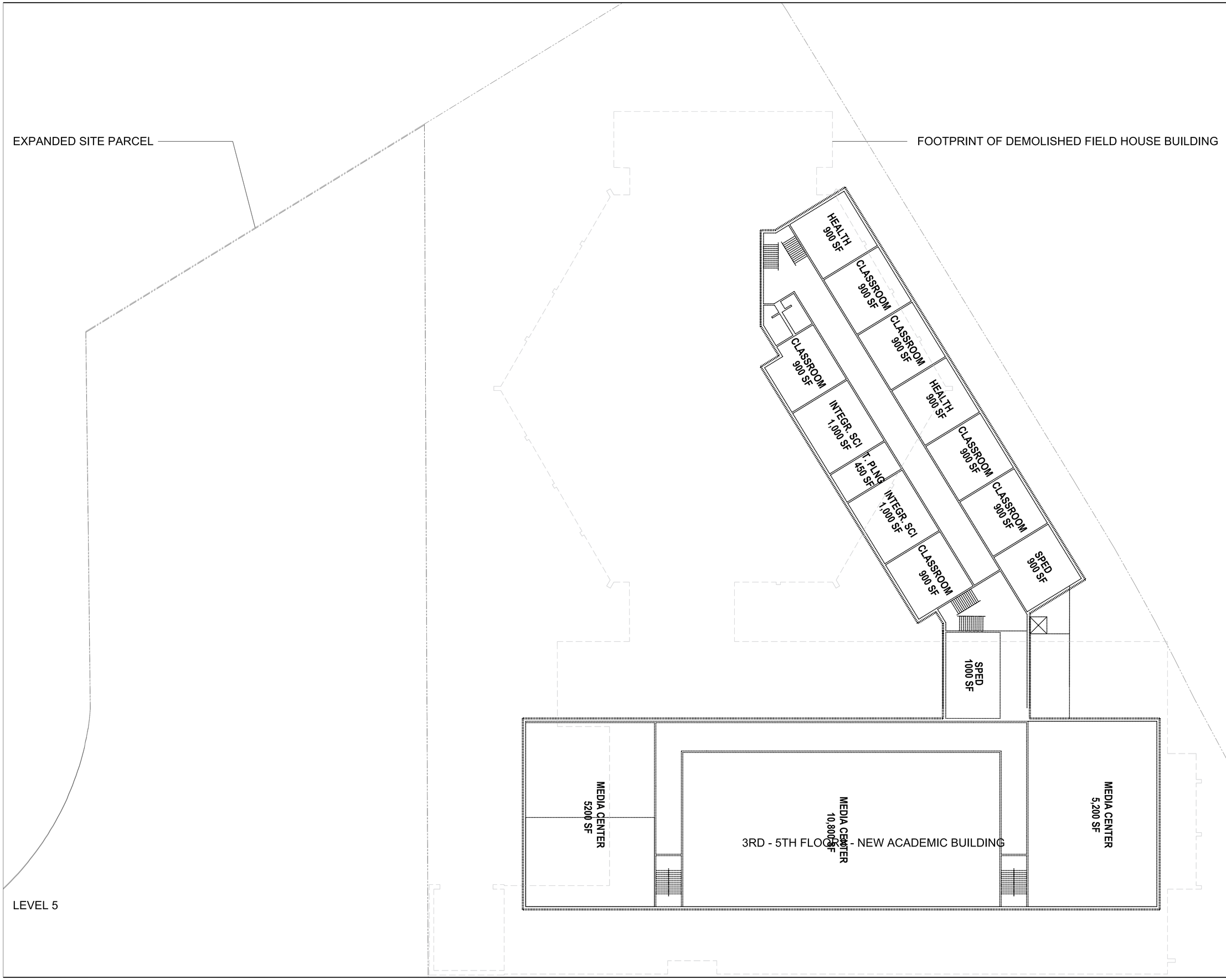

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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL ADD/ RENO OPTION 5

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/20/2017

BUILDABLE ACREAGE = 3.3

NEW BUILDING (GSF) = 594,000

NEW 6 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

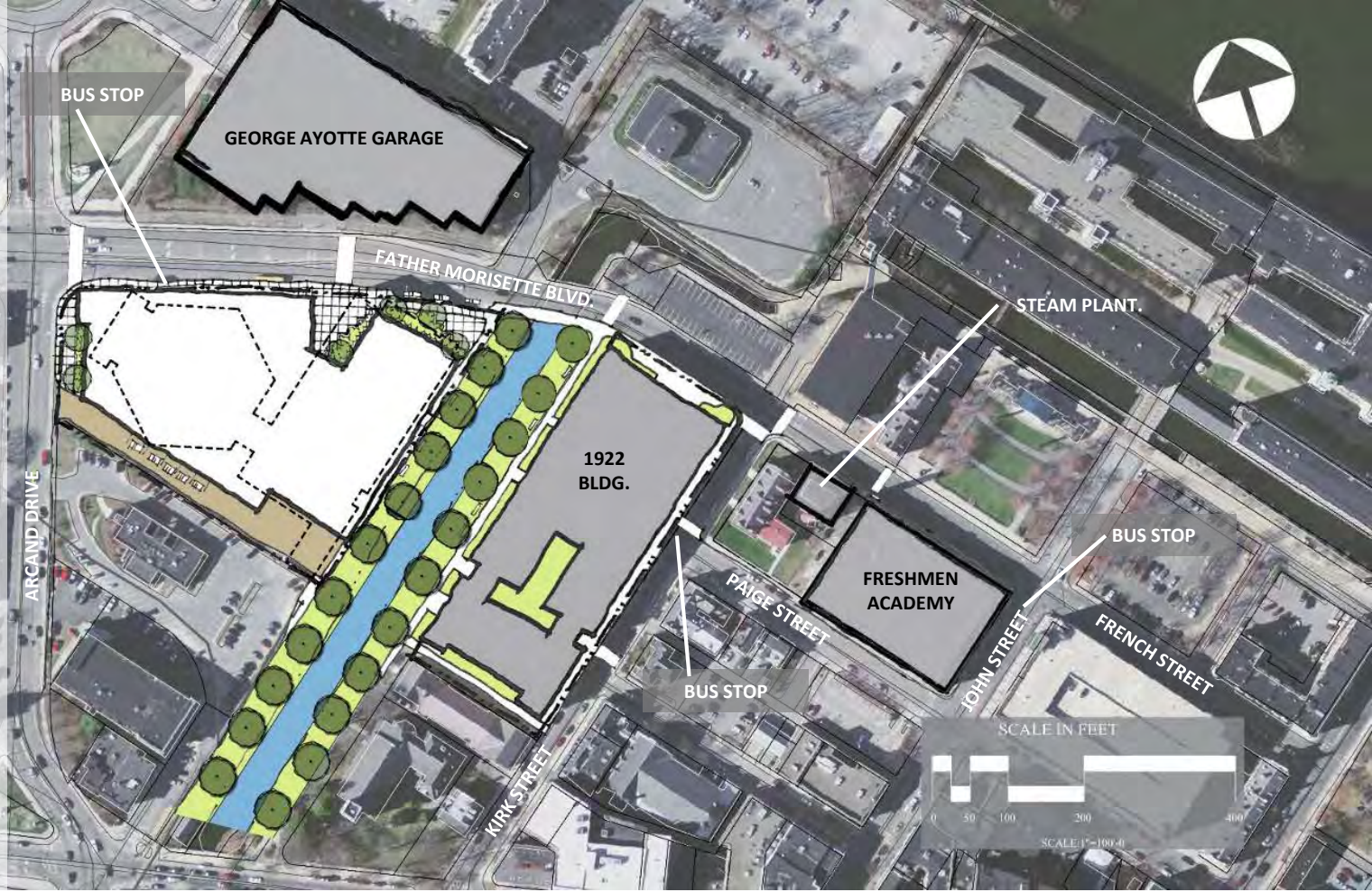
+ PROXIMITY TO TRANSPORTATION
+ PROXIMITY TO CITY/SOCIAL SERVICES
+ ADJACENT PKG GARAGE (COVERED)
+ BENEFITS OF ALL NEW CONSTRUCTION:
  - ✓ ZONED FOR COMMUNITY/ACTIVITY
  - ✓ MEETS ALL SPACE NEEDS
  - ✓ MEETS MOST ALL EDUC OBJECTIVES
  - ✓ IDEAL FRESHMAN ORG./CLUSTERS
  - ✓ FIELD HS (MORE EFFIC./FLEXIBLE)
  - ✓ MORE EFFICIENT USE/OPERATIONS
+ FORMER FA & 1922 BLDG'S AVAILABLE
- TRIGGERS HIGH RISE CONSTRUCTION
- PUBLIC PROGRAMS ON UPPER FLOORS
- NOT IDEAL NEW ORIENTATION
- WINDOWLESS SCIENCE LABS IN NEW
- LIMITED ACCESS TO GREEN SPACE

CONSTRUCTION

3 YEAR PHASED PROJECT
- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

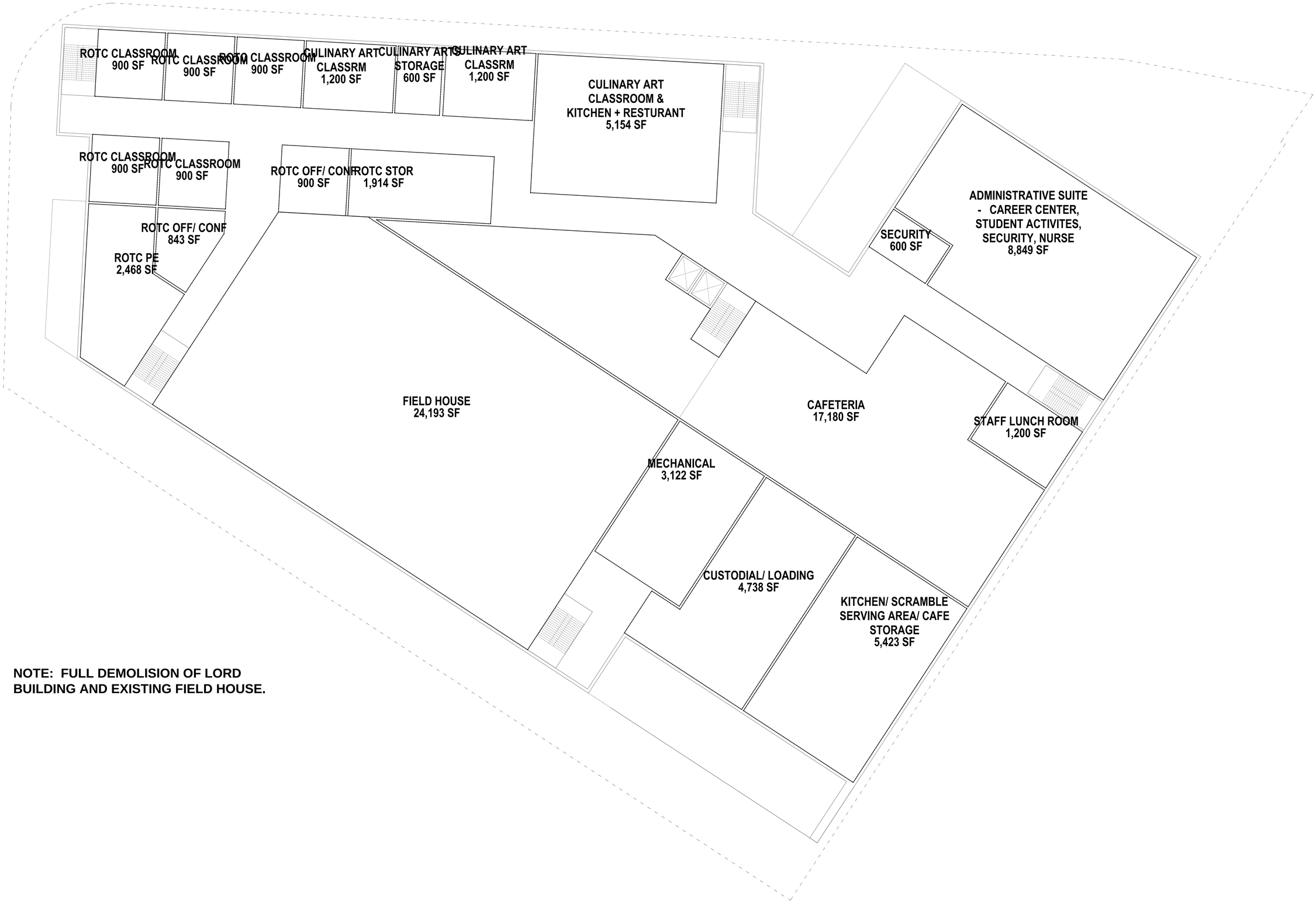
TOTAL PROJECT COST = $350,611,505
ESTIMATED CITY'S SHARE = $156,843,060



Lowell High School

NEW SCHOOL - **EXISTING** SITE

Perkins Eastman SKANSKA



NOTE: FULL DEMOLISION OF LORD BUILDING AND EXISTING FIELD HOUSE.

1ST FLOOR - NEW SCHOOL ON EXISTING SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
EXISTING SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



NOTE: FULL DEMOLISION OF LORD BUILDING AND EXISTING FIELD HOUSE.

2ND FLOOR - NEW SCHOOL ON EXISTING SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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Food Service:
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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON EXISTING SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



3RD FLOOR - NEW SCHOOL ON EXISTING SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
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2 Center Plaza, Boston, MA 02108

Landscape:
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Structural:
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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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Food Service:
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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01776

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
EXISTING SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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ISSUED FOR PRICING ONLY
01/09/17



LEVEL 4 ART ROOMS
LEVEL 5 TV STUDIO

4TH & 5TH FLOOR - NEW SCHOOL ON EXISTING SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
EXISTING SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



6TH FLOOR - NEW SCHOOL ON EXISTING SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
EXISTING SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17

BUILDABLE ACREAGE = 4.7

NEW BUILDING (GSF) = 576,500

NEW 5 STORY BLDG + 2 STORY BRIDGES
PARKING (GARAGE) = 1200 CAR CAPACITY

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ DOES NOT TRIGGER HIGH RISE CONSTR.
+ GOOD COMMUNITY/ACTIVITY ZONE
+ GOOD SOLAR ORIENTATION AT ALL CRS
+ NO WINDOWLESS CLASSROOMS
- NO THRU-ROAD

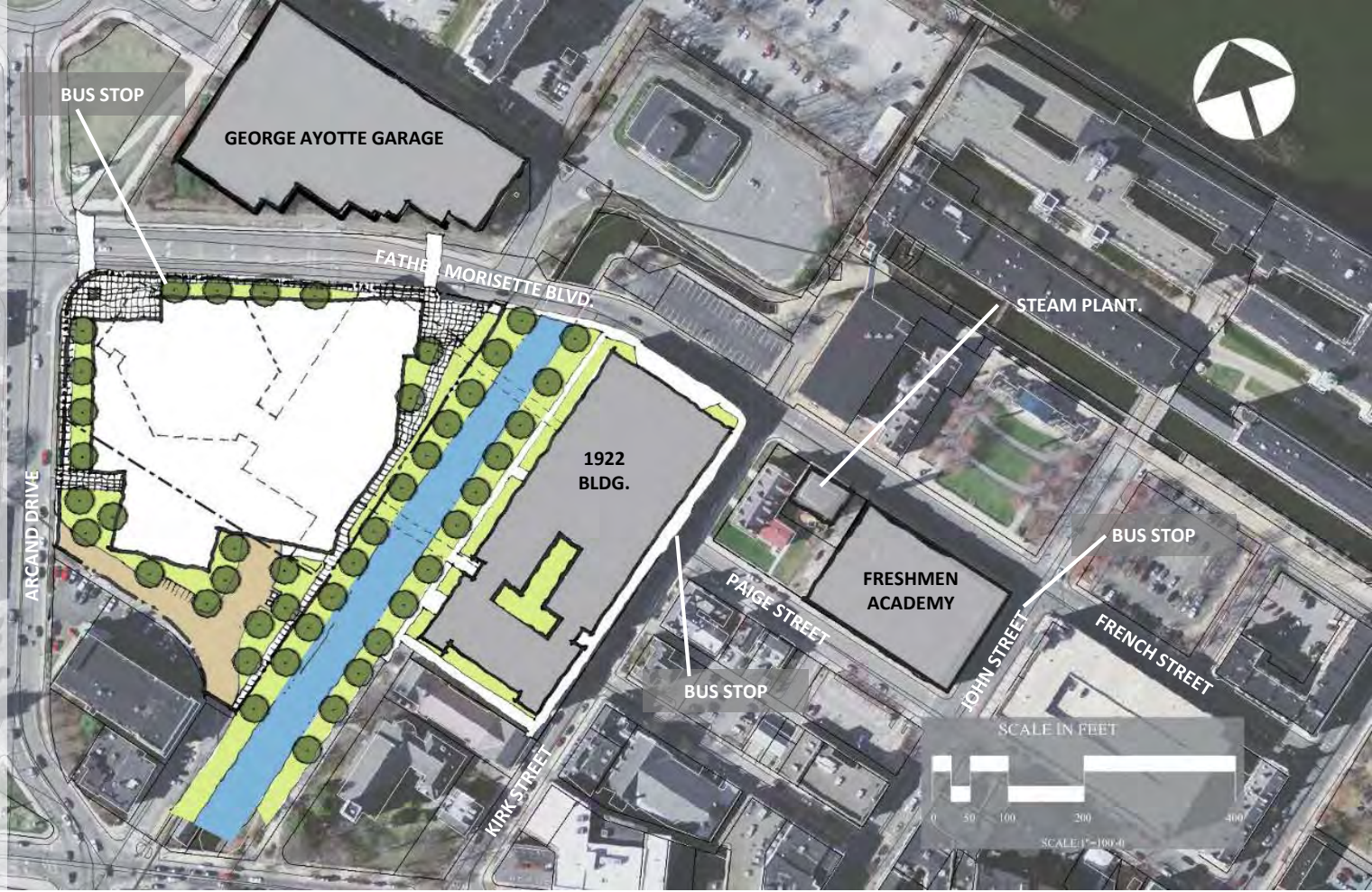
CONSTRUCTION

3½ YEAR PHASED PROJECT

- EXTENSIVE MODULAR CR'S REQ'D
- TEMPORARY GYM FACILITIES REQ'D
- TEMPORARY CAF./KITCHEN REQUIRED

RELATIVE COSTS

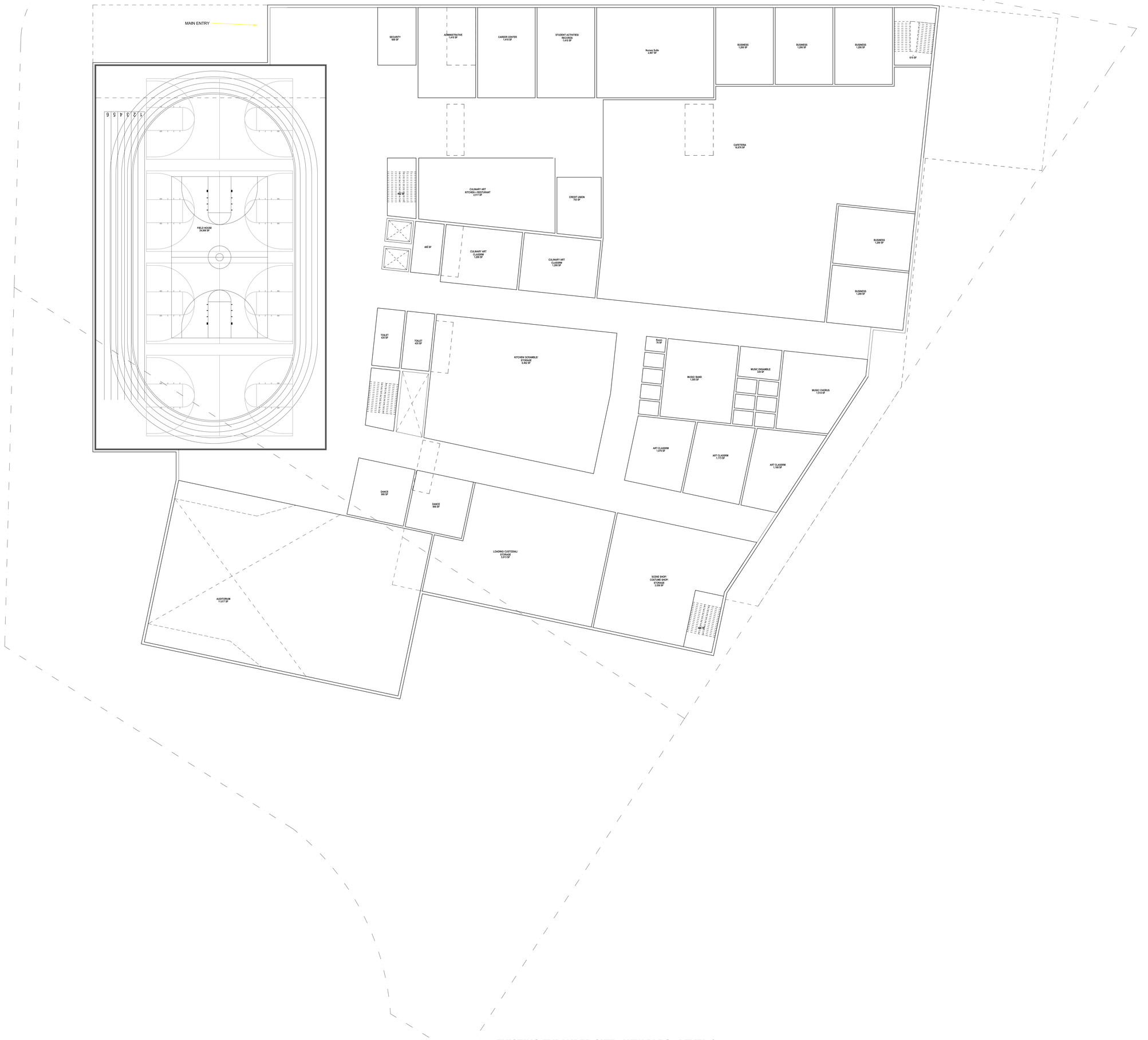
TOTAL PROJECT COST = $355,436,809
ESTIMATED CITY'S SHARE = $165,955,019



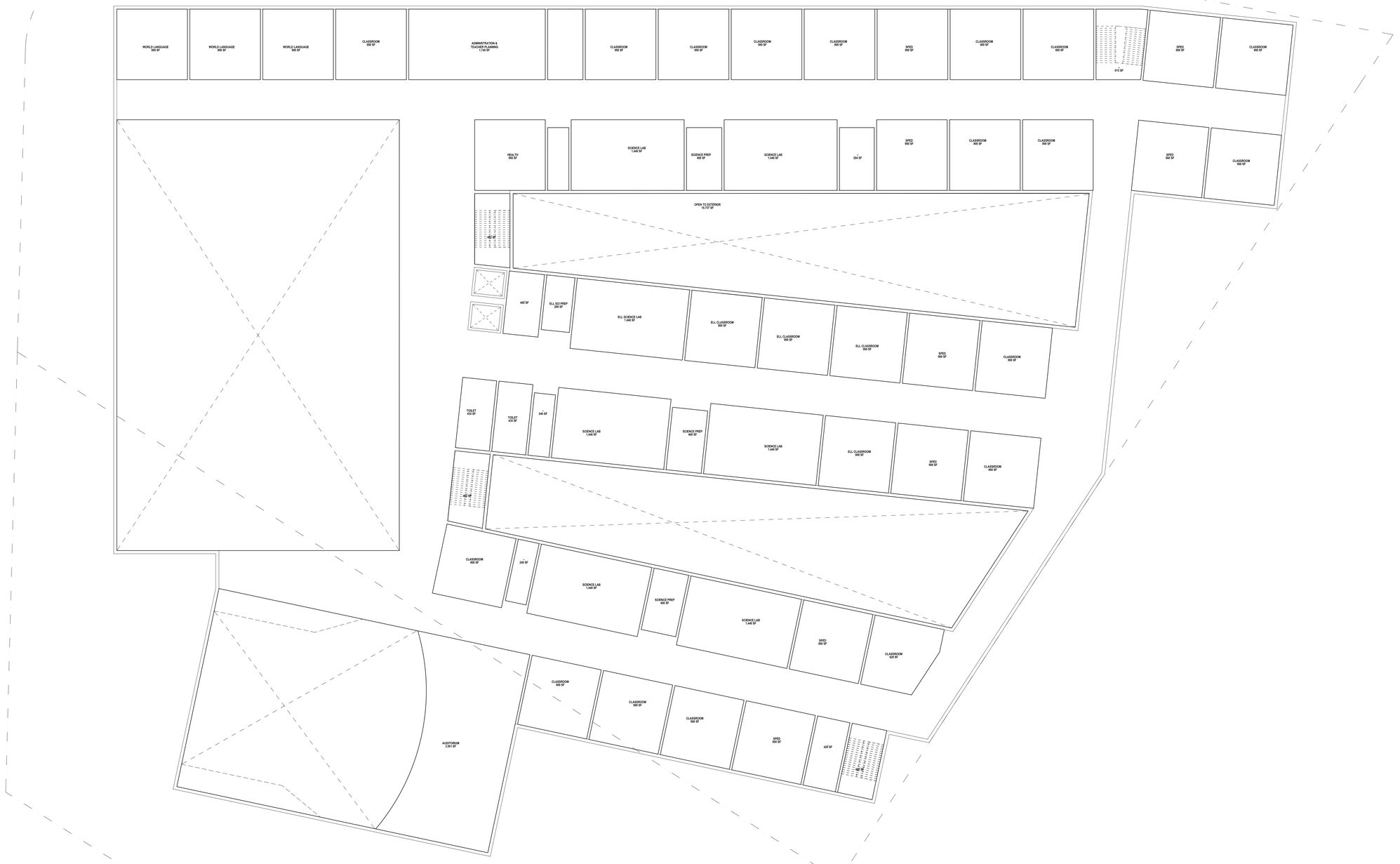
Lowell High School | NEW SCHOOL – **EXPAND** SITE | Perkins Eastman SKANSKA



EXISTING EXPANDED SITE - NEW BLDG - LEVEL BASEMENT



EXISTING EXPANDED SITE - NEW BLDG - LEVEL 1



EXISTING EXPANDED SITE - NEW BLDG - LEVEL 2

1/16" = 1'-0"



EXISTING EXPANDED SITE - NEW BLDG - LEVEL 3

1/16" = 1'-0"



EXISTING EXPANDED SITE - NEW BLDG - LEVEL 4



EXISTING EXPANDED SITE - NEW BLDG - LEVEL 5

BUILDABLE ACREAGE = 20.0

(16.4 FOR NEW SCHOOL + 3.6 NEW FIELDS)

TOTAL ACREAGE = 34.0 (4 IN TEWKSBURY)

NEW BUILDING (GSF) = 571,500

4 STORY BLDG

PARKING = 608 CARS

PROS/CONS

SAME AS NEW AT WANG, EXCEPT;

+ ADJACENT TO FOOTBALL STADIUM
+ AMPLE ACCESS TO GREEN SPACE
+ NOT CO-LOCATED W/ OTHER SCHOOLS
+/- MORE ACCOMMODATING ACCESS
- SIGNIFICANT FIELD REPLICATION REQ'D: (MARTIN SOFTBALL + PRACTICE INFIELD, FIELD HOCKEY/LAX PRACTICE FIELD, DESMOND FR & MACHADO JV FOOTBALL PRACTICE FIELDS)

CONSTRUCTION

3 YEAR CONSTRUCTION

+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE

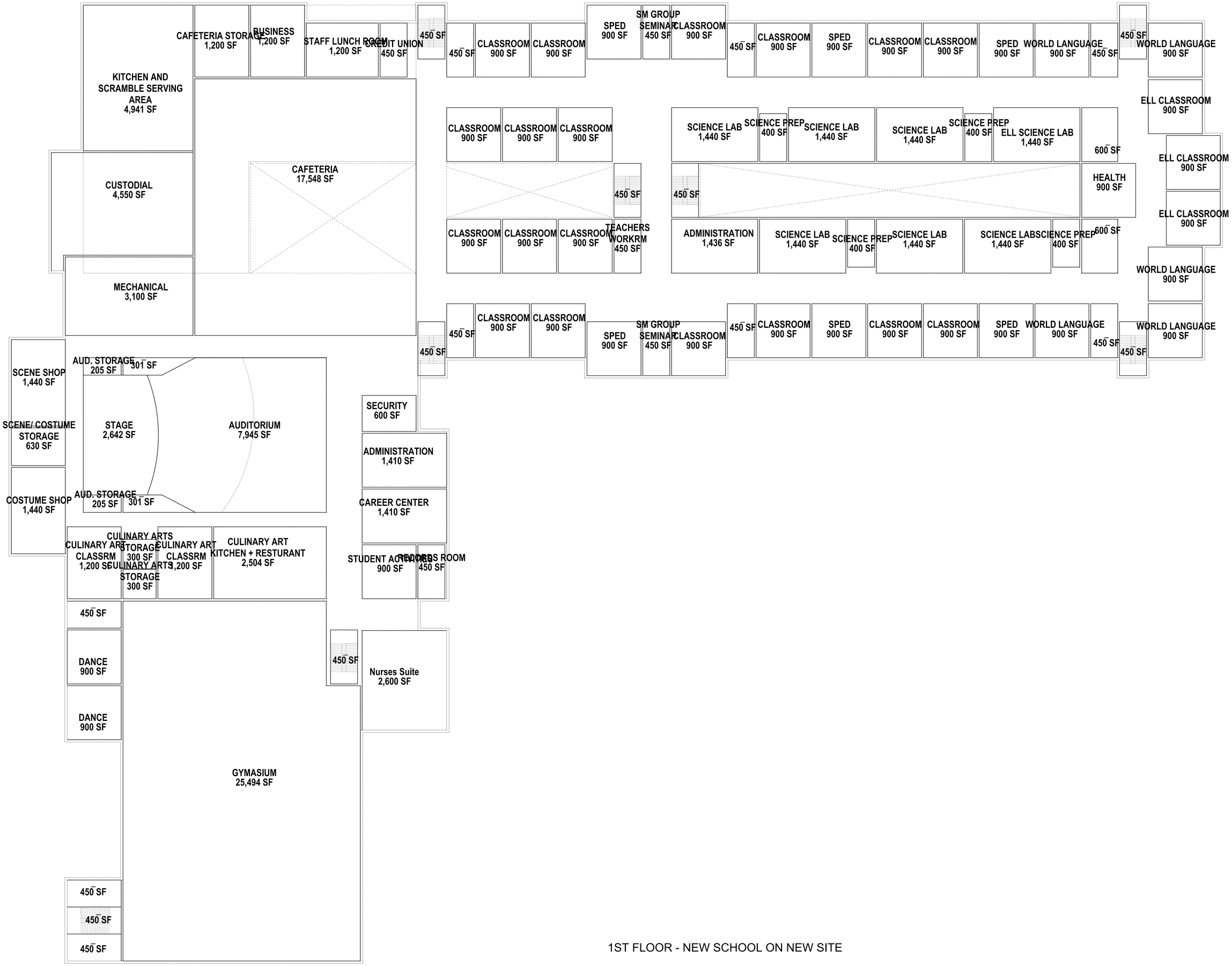
RELATIVE COSTS

TOTAL PROJECT COST = $332,458,871

ESTIMATED CITY'S SHARE = $148,341,142



Lowell High School | NEW SCHOOL – **CAWLEY** SITE | Perkins Eastman SKANSKA



1ST FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
NEW SITE

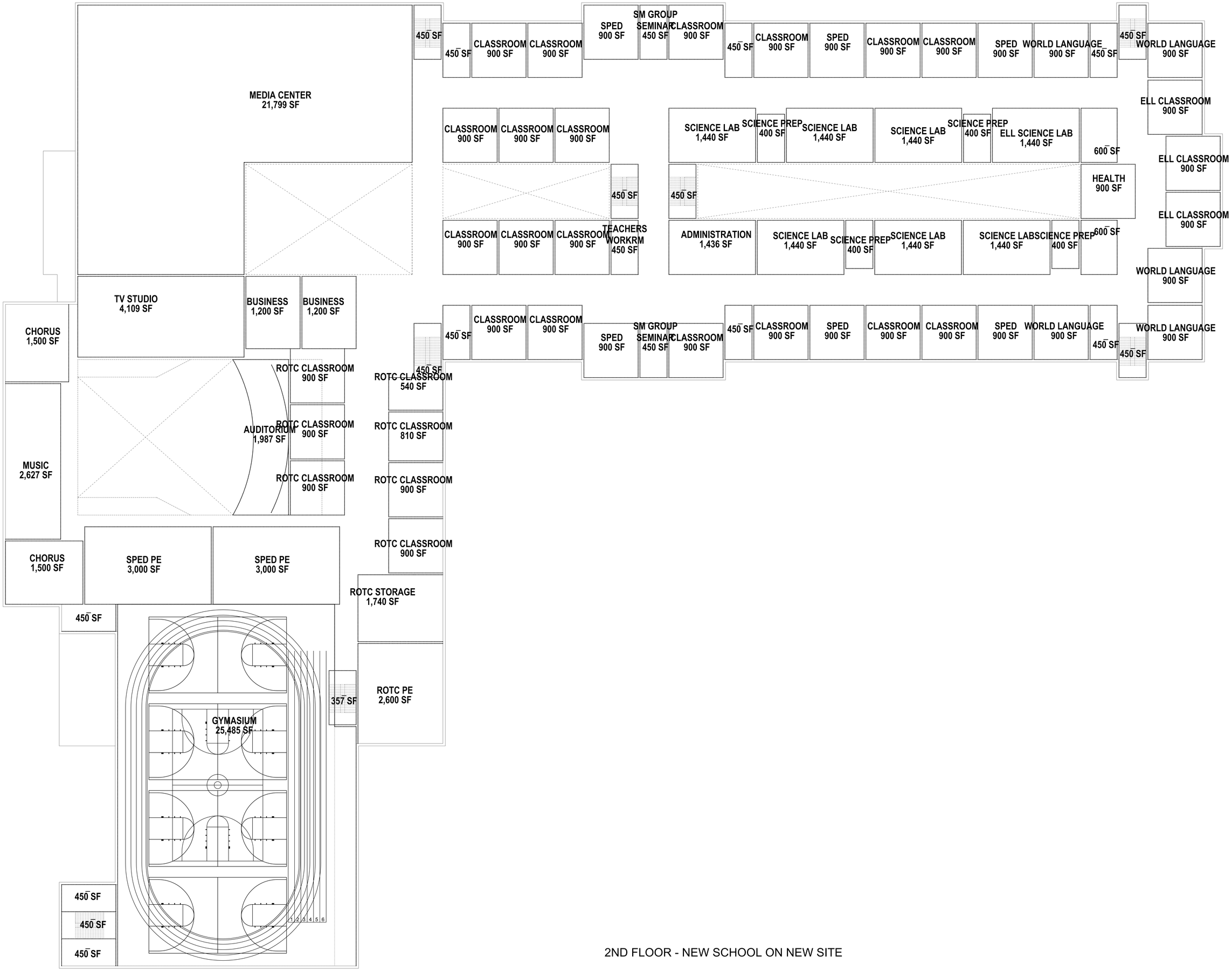
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



2ND FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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01/09/17



3RD FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

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PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
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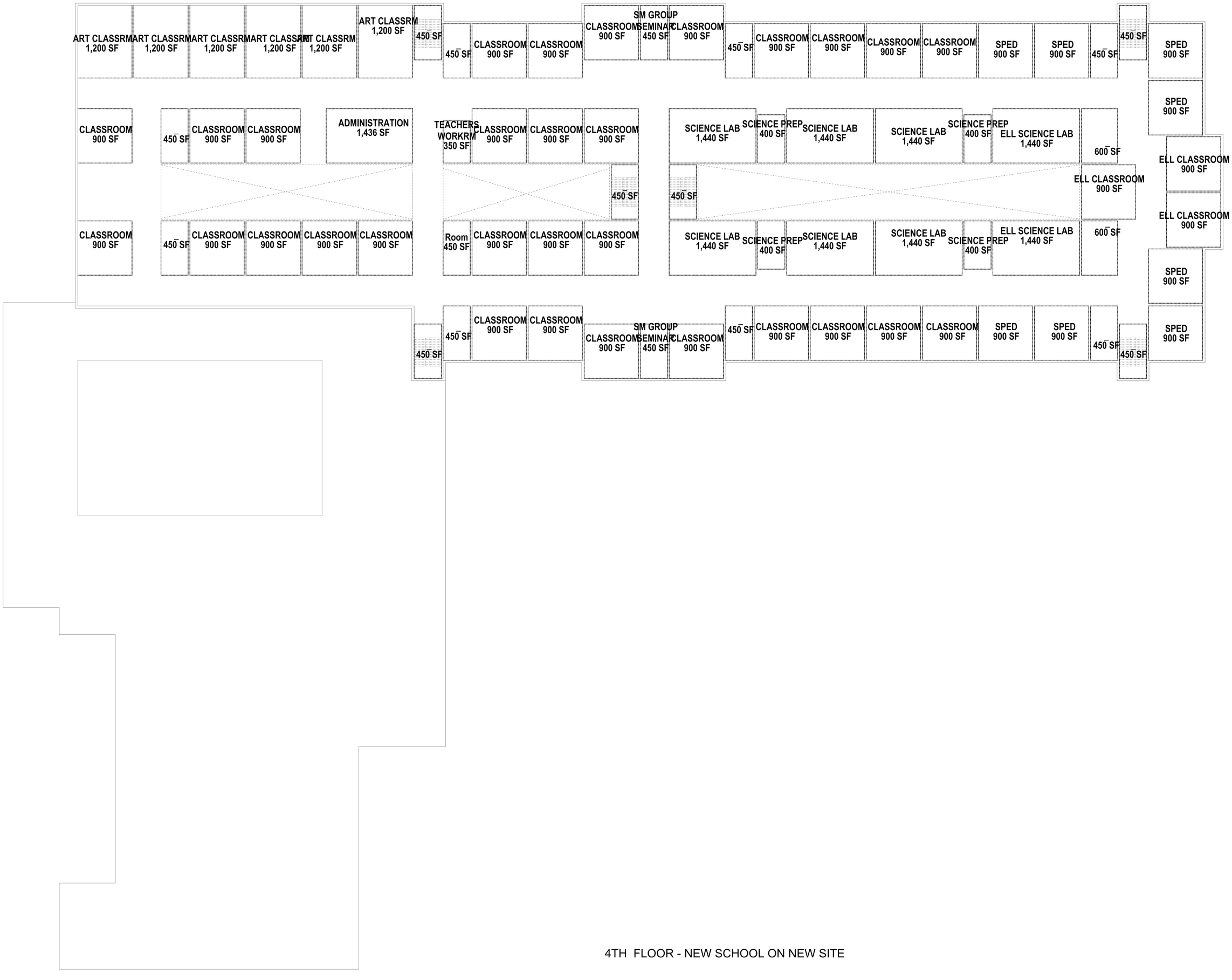
01/09/17



4TH FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17

BUILDABLE ACREAGE = 14.7

TOTAL SITE ACREAGE = 56.0

NEW BUILDING (GSF) = 571,500

4 STORY BLDG
PARKING = 430 CARS

PROS/CONS

SAME AS NEW ON EXIST, EXCEPT;

+ MORE IDEAL 4 STORY CONSTRUCTION
+ AMPLE ACCESS TO GREEN SPACE
+ GOOD SOLAR ORIENTATION FOR ALL
- CO-LOCATED W/ MIDDLE+ELEM. SCHOOL
- LIMITED WALKABILITY /PUBLIC TRANSIT
- NOT CLOSE TO CITY SERVICES
- IN CLOSE PROXIMITY TO RESIDENTIAL AREAS (TRAFFIC + MASSING CONCERNS)

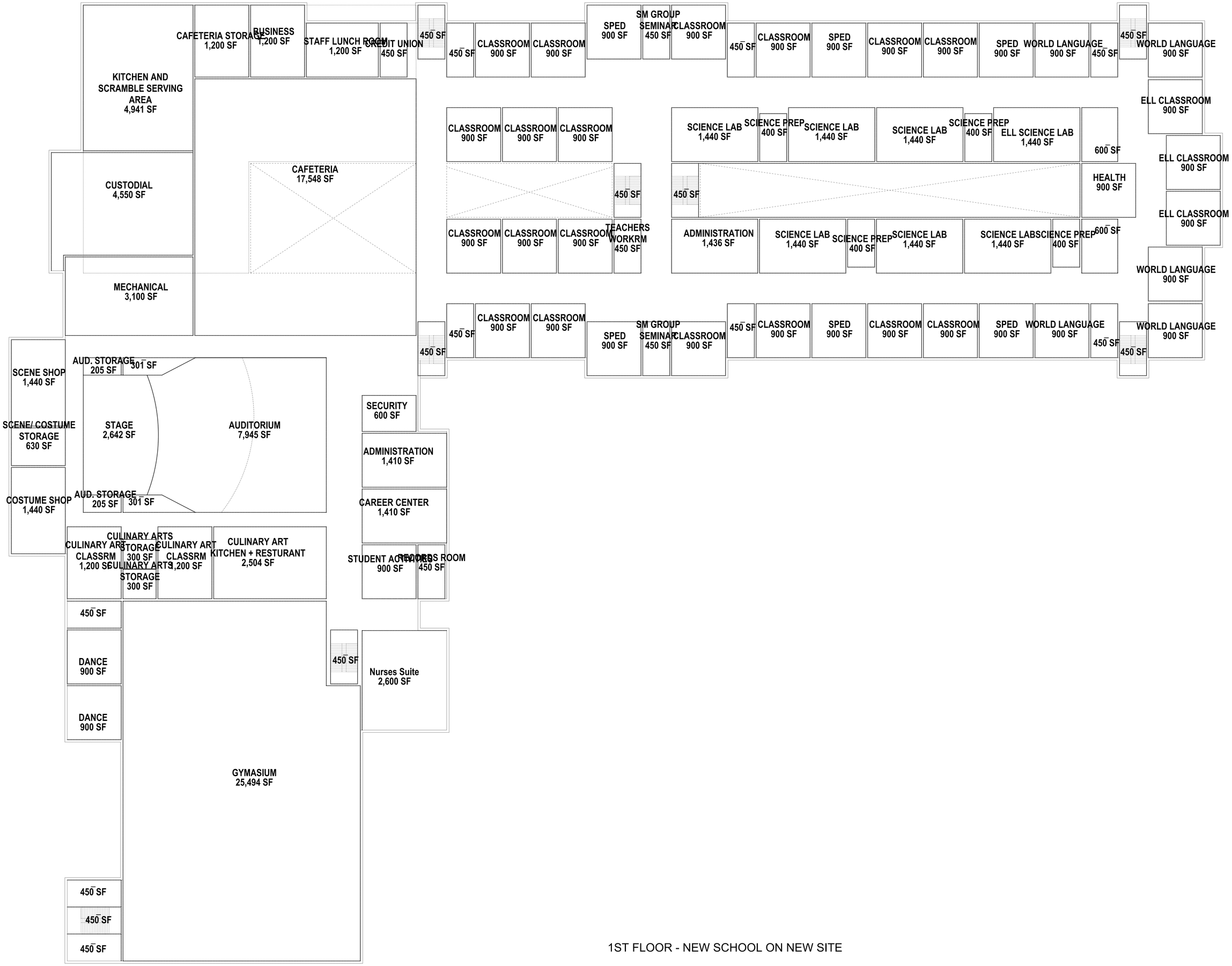
CONSTRUCTION

3 YEAR CONSTRUCTION
+ NO PHASING OR MODULARS REQ'D
+ NOT EDUCATIONALLY DISRUPTIVE
- FIELDS TO BE REPLICATED:
(1 SOCCER + 2 LITTLE LEAGUE FIELDS)

RELATIVE COSTS

TOTAL PROJECT COST = $325,679,444
ESTIMATED CITY'S SHARE = $142,245,805





1ST FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
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SUITE 203
BOSTON, MA 02110
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Owner:
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Mechanical & Plumbing Consultant Address

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Code Consultant:
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Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL
HIGH SCHOOL
NEW SCHOOL ON
NEW SITE

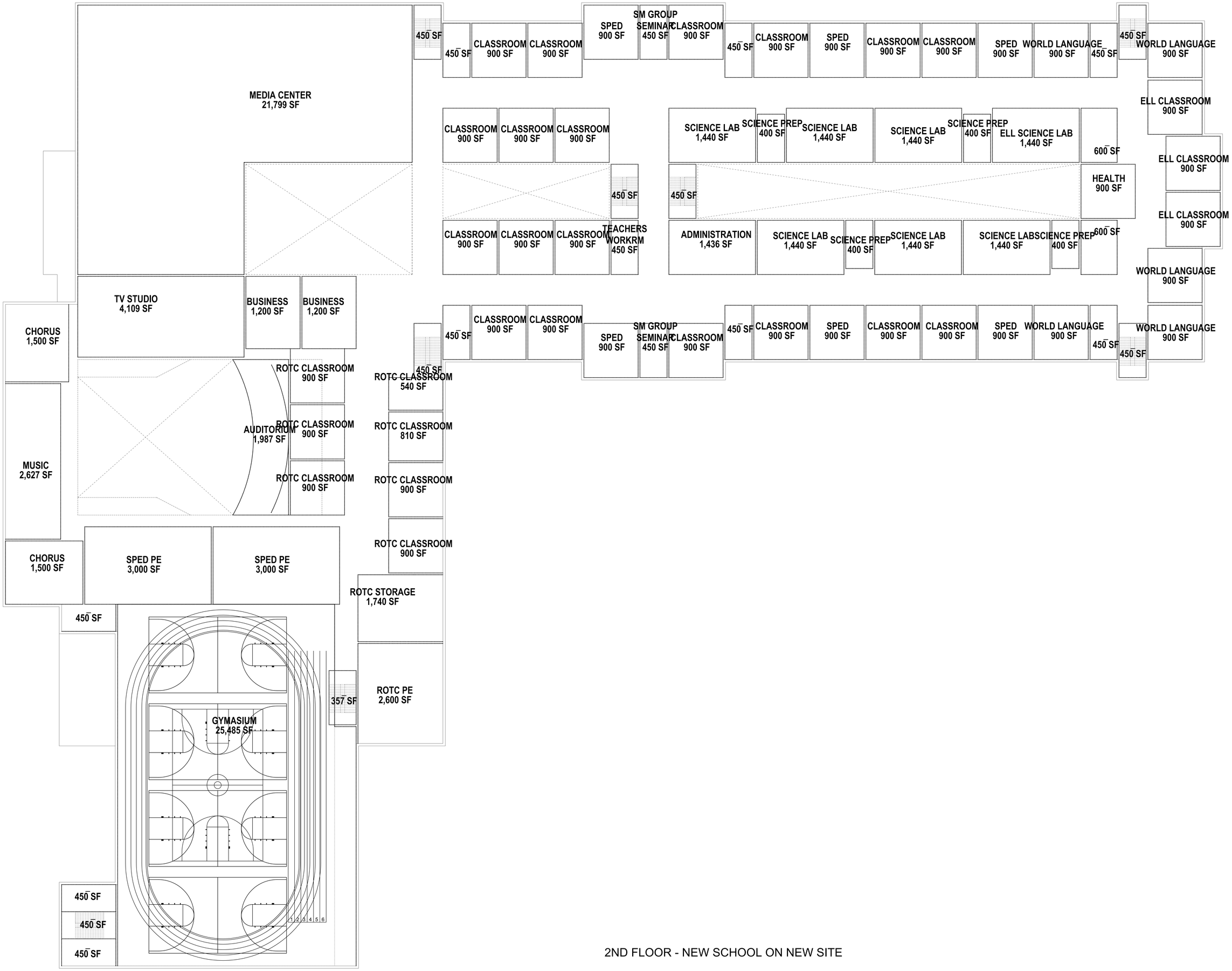
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



2ND FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

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50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
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150 Chestnut St., Providence, RI 02903

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R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



3RD FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

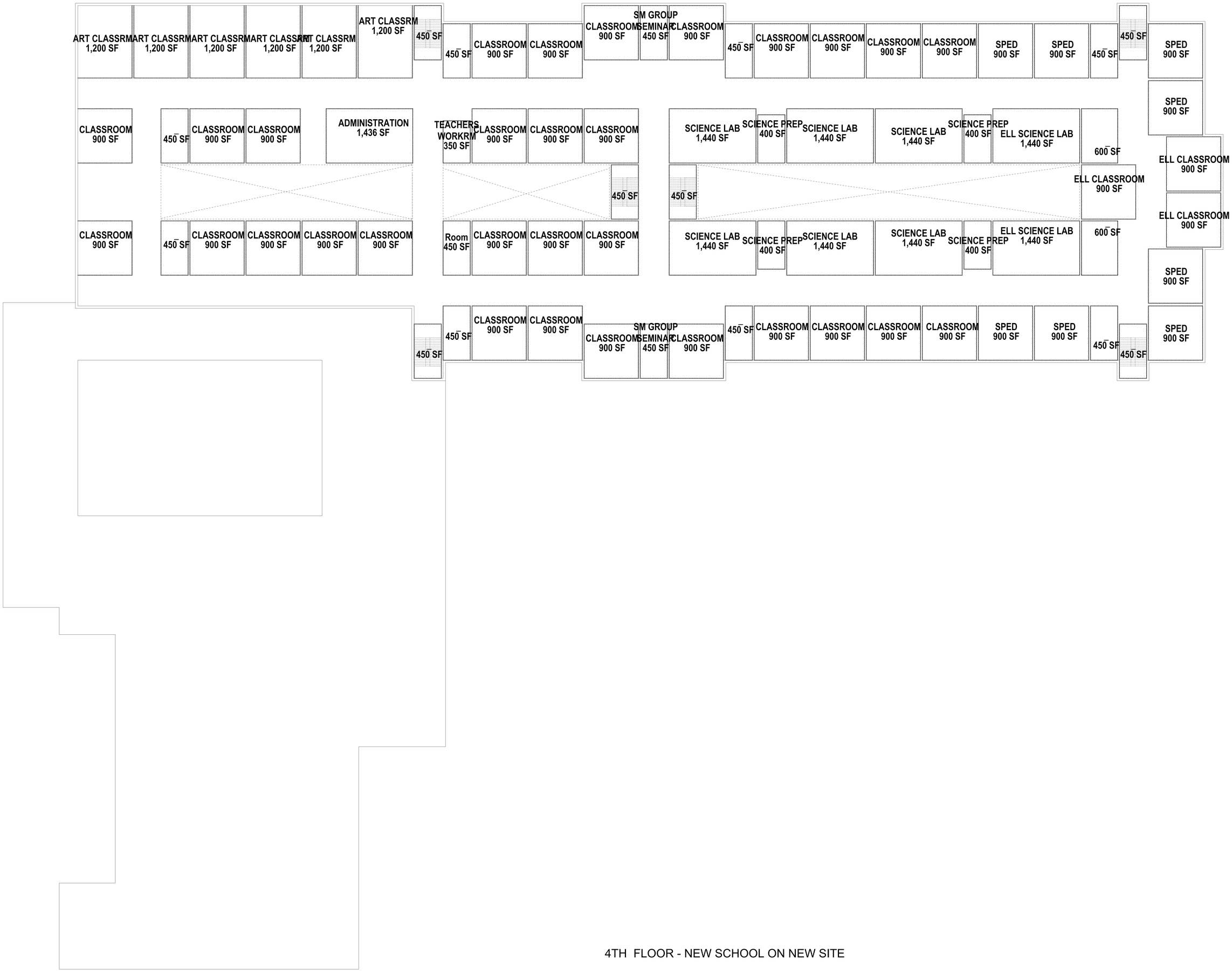
50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
01/09/17



4TH FLOOR - NEW SCHOOL ON NEW SITE

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:
LOWELL HIGH SCHOOL NEW SCHOOL ON NEW SITE

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

SCALE: 1/16" = 1'-0"

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Purpose

Educational Visioning & Programming Summary v9

Lowell High School, Lowell Massachusetts

Overall Feasibility/Schematic Design Process

The Feasibility Study (**FS**), typically 6-8 months, is the earliest and most critical part of the design process. This phase includes information gathering, investigation/assessment of current conditions, establishment of goals/objectives, definition of program and needs, development of planning options and, ultimately selection of a preferred solution.

The MSBA defines the FS phase in two parts; the Preliminary Design Program (**PDP**) and subsequent Preferred Schematic Report (**PSR**). Upon approval, the project would move into Schematic Design (**SD**), where it is fully defined and scoped for a Project Funding Agreement (**PFA**). Each step requires MSBA approval to proceed and ultimately must be approved by the City/Town Vote to continue into full Design Development, Construction Documents, Bidding and Construction.

Feasibility Study (Two Major MSBA Submissions)		Schematic Design
Preliminary Design Program	**Preferred Schem. Report**	**Schem. Design Report**
• Existing Cond's/Site Assessments • Educational Visioning & Goals • Educational Program (by District) • Educ Specifications/Space Needs • Develop & Assess Prelim. Options • Select Preferred Site/Plan Options	• Refinement of Plan Options • Safety & Sustainability Goals • Massing/Design Studies • Final Assessment & Select (1)	• Detailed Room Layouts • Finalize Project Scope

The First Half of the Feasibility Study (the PDP)

As information gathering and assessment of existing conditions occur, our team also begins to assess the District's educational practices, its goals and objectives for the future, including curriculum, organizational models, grade structures, teaming and teaching/learning methods. This typically originates from the District's Educational Plan, if it exists, but must be refined and articulated by the District (not the architect) in the form of the MSBA's Educational Program (narrative). The MSBA considers the Ed-Program the basis for design and holds the District and Design Team accountable for its contents and the responsiveness of planning options to meet its objectives.

We facilitate a process to help the District articulate the Educational Program by assembling an educational sub-group or Educational Leadership Team (ELT) that understands current programs and initiatives, can help shape the Visioning Process to define goals, make programming decisions and participate in writing the Educational Program narrative itself. This process includes simultaneous Visioning and Programming.

New Vista Design (NVD) leads the Visioning Process that will engage a broader working group or Educational Work Group (EWG) of City, School & Community representatives in a series of workshops to explore current 21st century learning/best practices, your current practices, educational goals/objectives and how the design can best support those. Perkins Eastman/DPC (Arch) will begin the Programming Process, which includes analysis

of your programs, coordinates adjustments per your goals and projected enrollment and tabulates program requirements in the form of a Space Summary. Both NVD and PE/DPC will work with the ELT group to ensure these come together and are reflected in the District's written Educational Program. The stakeholder groups that are part of the Visioning and Programming Process include;

Educational Leadership Team (ELT) – usually 4 to 6 key staff and core decision makers for the educational program; typically individuals who provide leadership within the District/school and the individual(s) involved in the master schedule.

Educational Working Group (EWG) – typically 25 to 50 thought leaders and engaged faculty representatives that reflect the broader school and community and can help connect the vision to ideas that are appropriate for this school. Should include SBC representatives, district and school leadership, teachers, parents, interested and engaged students and community partners or leaders.

Faculty / User Groups – depending on the size of staff and depth of engagement desired, full departments or department representatives would participate in focus group meetings (by subject) during the preliminary design program phase. We often also include general updates and/or larger format presentations.

Community Stakeholders – full and diverse community representation is intended to be held within the Educational Work Group, which takes part in visioning workshops. In addition, the overall process (not just the educational programming outlined here), will engage individual and/or full community groups throughout the design.

Typical Educational Leadership Team Participants

1. Brian Martin (LHS Head of School); bmartin@lowell.k12.ma.us, 978.937.8901 (c.978.995.6925)
2. Amy McLeod (LHS Dir of Curriculum, Instruction & Assessment); amcleod@lowell.k12.ma.us, 978-446-7448
3. Roxanne Howe (LHS Discipline & Operations); rhowe@lowell.k12.ma.us, 978.275.6308
4. Jeannine Durkin (LPS Deputy Superintendent, Student Support Services); jdurkin@lowell.k12.ma.us, 978-888-1951
5. Rick Underwood (LPS Director of Operations); runderwood@lowell.k12.ma.us, 978.454.2010
6. Robert Bell (PE/DPC Educational Planner & Programmer); r.bell@perkinseastman.com, 617.712.2115 (c.781.983.2083)
7. K.C. Nelson (LPS Technology Manager); kcnelson@lowell.k12.ma.us, 978.479.7178
8. David Stephen (New Vista, Educational Visioning & Program Specialist); david@newvistadesign.net, 617.733.0847
9. Mary Ann Williams (Skanska, OPM); maryann.williams@skanska.com, 617.574.1463 (c.617.293.6869)

Copies To / Occasional Participants;

10. Kathy Provenchor (LHS Administrative Support); kprovencher@lowell.k12.ma.us,
11. Joe Drown (PE/DPC Sr. PM); j.drown@perkinseastman.com, 617.712.2107
12. Alicia Caritano (PE/DPC Asst. PM); A.Caritano@perkinseastman.com, 617.
13. Dawn Guarriello (PE/DPC Sr. PA); d.guarriello@perkinseastman.com, 617.712.2192
14. Mike McGovern (Asst. City Manager); mmcgovern@lowellma.gov, 978.674.1002

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Date/Time	Who	Task / Description:
Late Aug.	Arch	Information Gathering for Educational Programming
Master Schedule, Program of Studies, School Schedules, Staff/Dept List, Room Assignment Plan (incl. number/name/size if avail.) & Policies, incl. class size & teaching contract hours		
Thru September	Arch	Dev. Visioning Strategy, Program Analysis & Existing Cond's
Early-September	LPS	Assemble an ELT (Educational Leadership Team)
Sept. 14th 1pm	ELT	Kick-Off Meeting - discuss visioning/programming process
Sept. 15th 10am	MSBA	Kick-Off Meeting
Mid-September	LPS/Arch	Assemble the EWG, Start Program Analysis (step 1 of 4)
Sept. 27th 1pm	ELT	Follow-Up progress on EWG, discuss visioning workshop I
Thru October	Arch	Begin Visioning, Program Adjustments & Site Development
Oct. 6th 10am	SBC	Monthly Update
Oct. 12th 1pm	ELT	Meeting - discuss program analysis + adjustments
Oct. 14th 7:30-11:30am		EWG **Visioning Workshop I**
Oct. 17th 6:30p	Neigh.	Centralville NAG w/ Centralville CC at Dom Poloski Club
Mid-October	Arch	Start Program Adjustments (programming step 2 of 4)
Oct. 26th 1pm	ELT	Meeting – discuss user meetings/program adjustments
Thru November	Arch	Complete Visioning, Program Requirements & Space Needs
Early-November	Arch	Start Program Requirements (programming step 3 of 4)
Nov. 1st 7:30-11:30am		EWG **Visioning Workshop II**
Nov. 3rd 10am	SBC	Monthly Update
Nov. 7th 7pm	Neigh.	Pawtucketville CC w/ East Pawtucketville CG at Wang School
Nov. 9th 1pm	ELT	Meeting – program requirements, refine Educ. Program (Narr)
6:30p	Neigh.	Belvidere RC w/ Sacred Heart NIG, Riverside CC & Back Ctrl NIG at Sullivan School
Mid-November	Arch	Reconcile Space Summary (programming step 4 of 4)
Nov.14 7pm	Neigh.	Highlands C/NA w/ Low Highlands NG, Cupples Sq BRA & FOTP at Temple Emanuel
Nov.15/16 (day)	LPS	User Group Meetings (indiv. groups scheduled 7:15am-3:15pm)
Nov.17 7:30-11:30am		EWG Visioning Workshop III
Nov.18 8-12:30	ELT/SBC	**School Tours** (Essex Tech 8am, Winchester HS 10:30am)
Nov. 28 7pm	Neigh.	Lowell Down-Town NA w/ Jackson Appleton BRA, Acre Coal. at LTC STUDIOS
Nov. 30 1pm	ELT	Meeting – discuss space summary, set-up MSBA conf-call
Late-November	LPS	Update Educ. Program (Narrative) per goals/vision/needs
Thru December	All	Develop/Assess Planning Options
Dec. 1st 10am	SBC	Monthly Update
Dec. 7th 12pm	LHS	Full Faculty Meeting (overview/input on Visioning outcomes)
Dec. 8th 6:30p	Comm	**Community Meeting** at Lowell HS Auditorium
Early December	Arch.	Begin Options, Sustainability, Safety/Security & Regulatory
Mid-December	ELT	review plan options per Educ. Program (goals/vision/needs)
Late-December	Arch.	Dev. Assessment Criteria, Capital and Operating Costs

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Thru January	All	Select Preferred Options & Complete PDP Submission
Early January	Arch/SBC	Final Refinement, Assessment & Selection of Options
Mid-January	Arch/OPM	Complete and Assemble PDP Documents

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MEETING RECORD

Date Prepared	9/17/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	ELT Kickoff Meeting	
Meeting Location	LHS, Head of School Conference	
Meeting Date	9/15/2016	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), MaryAnn Williams (Skanska), Robert Bell (PE/DPC), David Steven (NVD)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
1.1	Introductions	• Additional contact information was provided re: ELT participants • The group discussed having a few other Individuals join the ELT, like the Dir. Of Technology to help inform on the vision	Brian and Amy to follow-up with individuals that will be asked to join
1.2	Overall MSBA FS/SD Process	• Bob described PDP vs PSR vs SD phases • The specific PDP Schedule was reviewed • ELT responsibilities were highlighted (primarily to direct/shape visioning, make programming decisions and develop and refine the Educational Program • ELT communication should go out to the full group, rather than a point person, but Kathy Provencher is to be copied	Kathy has been added to the distribution list and additional contact information added (see **updated attachment**)
1.3	Programming Process	• Amy suggests they will be rethinking the school's schedule (periods/cycle) to incorporate longer sessions (blocks) • Mark Lou is the actual school scheduler, future meetings to be arranged via Amy • Brian noted there has been a large increase in Life Skills. SPED space has become a significant issue	PE/DPC to include school schedule discussions in future ELT meetings The school has Special Needs projections (**school to provide**)

This Meeting Record is our understanding of the items as they were discussed. Please report any discrepancies to Perkins Eastman. If no discrepancies are reported in five working days, this Meeting Record will stand as published.

1.4	Educational Visioning Process	• Thoughts on Prior District-Wide Visioning by David (2013) were discussed, many aspects can be revisited • The starting point for visioning will be to pick-up from where the school is now in its educational plan and relate • Technology, Safety and Security are some of the key concerns and initiatives • The need for broader faculty group meetings and community engagement was discussed and noted as part of the overall process, but not specifically charted as programming/visioning. Brian noted the Auditorium and Sports Center as most viable venues for larger groups	David will assemble potential presentation slides and engagement exercises to review at the next ELT meeting The District had a safety audit done in June (**school to provide**) PE/DPC will be working with the City and SBC on a broader outreach plan for thru Oct/Nov.
1.5	Assembling the Educational Work Group (EWG)	• The purpose of forming this group was discussed along with ideal participants, including, teachers, students, parents, business/community partners, city and facilities staff and other thought leaders.	Brian and his team will begin identifying people
1.6	Reschedule Next Meeting	• Purpose; to Check-in on progress forming the EWG and plan Visioning Work Shop 1	**Rescheduled for 9/27** at 1pm Head of School Conference Room

Next Meeting: **9/27/2016** to review progress on forming the EWG, plan Visioning Workshop(s), refine ELT schedule and discuss the process of exploring a new school schedule

cc: Kathy Provenchor (LHS Admin), Mike McGivern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments: **Educational Visioning and Programming Summary v5**

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MEETING RECORD

Date Prepared	9/28/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 2**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**9/27/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), MaryAnn Williams (Skanska), Robert Bell (PE/DPC), David Steven (NVD)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
2.1	New ELT Participant	• K.C. Nelson, Network Manager & acting Technology Director	added to the ELT contact & distribution list (see updated attachment)
2.2	Field Trip to Other Schools	• The ELT would like to see example schools, preferably relevant urban loc's, and/or see the latest in school design. Winchester HS (Skanska was OPM) has new and reno with train track adjacent. Essex Tech, not urban, but has small school (academy) organization and distributed admin, dining and clusters. • Brian intends to expand the invitation to the SBC & others.	Mary Ann & Bob to coordinate potential tour locations & dates (**follow-up by next ELT**)
2.3	Visioning Schedule Update	• Workshop I is ok for October 14th, but all workshops are to be half day 7:30-11:30am. Workshop II will be Nov. 1st and Workshop III (assuming need) Nov. 17th • Jeannine will determine the location based on approximately 50 participants to be organized in tables of 6. Projection capability is needed • PE/DPC to fund simple breakfast (coffee/ pastries) to be provided by LHS culinary	Jeannine to look at options and reserve location(s) Brian (Kathy) to coordinate with the culinary group
2.4	Visioning Workshop(s)	• David provided an overview of the workshop presentations and activities;	

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		Day 1 focused on learning goals, best practices and LHS's (SCOG) strengths, challenges, opportunities and goals. Day 2 will look at design patterns and guiding principles for the school project. Day 3 will focus on key spaces and adjacencies • Visioning process should weave-in LHS's 'Skills and Attributes of a LHS Student' • The School will participate in short presentations by academic groups	**David to forward slides** (for reference) and utilize LHS's Skills/ Attributes Amy to organize LHS's groups/presentation pieces for the workshop (**follow-up by next ELT**)
2.5	Assembling the Educational Work Group (EWG)	• 38 people have been identified so far, not including the design team • Including the Superintendent, City Management and other officials was noted as important to build broad consensus and validation, but must also be sure participants feel uninhibited. Representatives from LPS and the City are, or will be invited, including the Superintendent and Asst City Manager. • It was noted that ELT members, specifically should participate • Business partners not considered appropriate for the educational work	**David to provide an outline/description** of each session for Amy & Jeannine to utilize in the outreach Amy & Jeannine will continue to develop the list of EWG participants and **send-out the email with dates/descriptions**
2.6	Open Programming Items	• **Rethinking the school's schedule/cycle** (When/What would be the process)? The conversation is really just beginning. This process/project will tease it out, but unlikely to be completed within the project's programming process. Still, the discussions should begin to help inform and • **Increasing Life Skills/SPED populations** becoming a significant issue • Any information on **Safety and Security** (plans/policies) would be useful • Any Information on **Technology Plan** or initiatives would be useful	PE/DPC & NV to include school schedule as part of the Visioning work (**RB/DS to develop**) The school has Special Needs projections (**school to provide**) The school has a District Safety Audit (**school to provide**) K.C. to look into whether a plan or initiatives are in place (**school to provide**)

Next Meeting: **10/12/2016** at 1pm, Head of School Conference Room, to discuss fine-tuning of Visioning Workshops and confirm LHS staff presentation piece, review Program Analysis & discuss progress setting up tours

cc: Kathy Provenchor (LHS Admin), Mike McGivern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments: **Educational Visioning and Programming Summary v7**

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MEETING RECORD

Date Prepared	10/12/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 3**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**10/12/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), MaryAnn Williams (Skanska), Robert Bell (PE/DPC), David Steven (NVD)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
3.1	Visioning Workshop(s)	• Confirmed room reserved/breakfast scheduled • Reviewed Agendas for WS 1, 2 & 3 • Discussed Faculty Presentation Groups • Reviewed Guiding Principles Slides • Discussed how/if to incorporate rethinking school Sched/Cycle.	David to email the agendas for each Work Shop and overview of Visioning A separate set of school Schedule/Cycle meetings will be planned via ELT.
3.2	Neighborhood/Community	• Reviewed Schedule Updates • Set tentative Community Mtg I for Dec 8, 6:30-8:30pm at LHS (Irish) Auditorium • Agenda for Neighborhood Mtg to include; o Overview of MSBA/process o Project scope/timeline o o Questions/Comments • Agenda for Comm Mtg to include; o Overview of Existing, o Share Visioning Goals, o Site Assessment o Preliminary Planning Concepts • Development of a flyer was discussed	PE/DPC to add neighborhood & community meetings to the ELT schedule PE/DPC to confirm date with City Mgr's Office (M. McGovern) prior to 1st Neighborhood Mtg
3.3	School Tours	• Scheduled Tours for Friday, Nov 18th (Essex Tech and Winchester HS)	PE/DPC to invite and confirm with City Mgr's Office (M. McGovern)
3.4	User Group Meetings	• To be scheduled for Tue/Wed, Nov 15/16 from 8am to 3pm	Roxanne to provide detailed schedule

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3.5	Program Analysis Update	• Near Complete (finding all stu's/periods) • Some Questions/Follow-up needed • Note block schedule (8per x 5days = 40) would allow increased sections ea. course	PE/DPC to reach out to Mark Lew
3.6	Outstanding Items	• **Room Assignment Plan Needed** • **Formal Policy on Class Size?** • **Life Skills/SPED Projections?** • **Safety and Security Distr. Audit?** • **Technology Plan?**	Roxanne to forward room assignment info Brian/Jeanine to check on class size/policies No change in SPED projections (remains 15%); the needs have changed within the % Jeanine to provide info on Safety/Security Audit KC to forward District Technology Plan

Next Meeting: **10/26/2016** at 1pm, Head of School Conference Room

cc: Kathy Provenchor (LHS Admin), Mike McGivern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments:

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MEETING RECORD

Date Prepared	11/8/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 4**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**10/26/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), MaryAnn Williams (Skanska), Robert Bell (PE/DPC), David Steven (NVD)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
4.1	Neighborhood/Community	• Thoughts on Initial Meeting were discussed. Focus seems to be on sites and desire to keep in town. • Some refinement of the slide show will occur to keep more on-point (process). • Brian and/or Amy and Roxane plan to attend each meeting. It was suggested that our presentation be put first on each agenda. • The Schedule (Programming/Visioning) was reviewed, including dates/times for Tours, User Groups & Full Community. A full faculty presentation was targeted for December 7th; intent will be to bring them along with Visioning and solicit thoughts • Brian suggested someone from each Neighborhood Group present at the large Community Meeting (desire to keep school at current location) • The 11/23 ELT meeting will be rescheduled to 11/30	PE will edit the slides for ongoing Neigh. Group meetings Locations for each Neigh. Group meeting will be added PE to provide updated schedule
4.2	School Tours	• Scheduled for Fri, Nov 18th (times established to wrap-up by early afternoon to allow Amy to participate). Transportation will be left to individuals.	PE/Skanska confirmed 8-10am at Essex Tech & 10:30-12:30 at Winchester HS.
4.3	User Group Meetings	• Scheduled for Tue/Wed, Nov 15th/16th	Start times will be moved earlier (7:15am)

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		• Review of the list of meetings suggests a few more need to be added (kitchen, custodial, media center, technology)	to accommodate additional meetings
4.4	Program Analysis Update	• Program Analysis Complete; very few pupil periods not found. • Future Adjustments were discussed, with no specific change in emphasis. The enrollment increase will be prorated (proportionally) across all curricula.	PE will proceed into Program Adjustments (step 2 of 3)
4.5	Visioning Workshops	• Thoughts on Workshop I were exchanged; in general, very positive. The work group is very active/participatory and represents a good cross-section of the community and school. • Workshop II, Tuesday	PE to send Workshop II agenda Friday
4.6	Other/Outstanding Items	• Formal Policy on Class Size is needed • Safety and Security Distr. Audit is in the works • School Schedule will continue to be discussed at the ELT meetings. Amy and Bob to exchange thoughts. • It was notes that Roxane's email is incorrect in the documents and the distribution	LHS to provide direction on class size targets at 11/9 ELT meeting Safety/Security Audit cannot be shared at this time; still under review with the SC PE will correct Roxane's email in the distribution list and documents

Next Meeting: **11/9/2016** at 1pm, Head of School Conference Room

cc: Kathy Provenchor (LHS Admin), Mike McGovern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments:

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MEETING RECORD

Date Prepared	11/9/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 5**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**11/9/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), MaryAnn Williams (Skanska), Robert Bell (PE/DPC)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
5.1	Project Schedule Check	• Review Dates/Times for Tours, Faculty Groups & Neighborhood Groups • Large Faculty & Community Meeting Agenda (with 11/23 packet to SBC)	
5.2	Programming Update	• Progress on Program Adjustments • Need Class Size Targets & Major Change in Emphasis for Future • Next Step – Requirements (calc needs)	
5.3	Visioning Update	• Workshop II notes to be forwarded • Workshop III agenda to be forwarded	
5.4	Outstanding Items	• Safety and Security Distr. Audit? • School Schedule (70min Period Sample)	

Next Meeting: **11/30/2016** at 1pm, Head of School Conference Room

cc: Kathy Provenchor (LHS Admin), Mike McGovern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments: **ELT Schedule Update, Program Adjustments v1, Potential LHS Sched - 70min Periods**

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Perkins Eastman | DPC

MEETING RECORD

Date Prepared	11/30/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 6**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**11/30/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), MaryAnn Williams (Skanska), Robert Bell (PE/DPC)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
6.1	Educ-Programming Questions	• Night School occurs on the top floor of Lord (600's rooms) • Culinary should follow Ch.74 guidelines, despite not being a Ch.74 prgm • Target class size averages similar to existing (typical academics at 24-25), but plan rooms to fit 30-32 sizes (900sf OK) • OK to plan for some ½ size classrooms • SPED keep class sizes as existing, but plan for change in participation • ELL to be sized for 20 student avg. • PE, Fine-Arts, Tech/TV to maintain current class size averages • Eliminate unassigned computer labs (incl. World Language) • Main Office w/ (1) Bursor + Accts Payable • Need Data/Tech Center + School Scheduler and Teachout space • Need space for (2) instruct specialists • Need testing room storage • Need substitute teacher office • Need adult education office • Need peer mediation office • Need Latino connection office	PE to revise Program Adjustments calc's accordingly LPS to provide information on SPED changes (see email)
6.2	Planning for Full Faculty Mtg	• Meeting is set for December 7th, 12:15. PE/NVD would be scheduled for 12:30-1pm	PE to email D. Stephen regarding the time/loc.

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		• Intent is to provide overview of process, bring everyone up to speed on Visioning and teachers can follow-up	
6.3	Planning for Community Mtg	• Set for December 8th • Might be good to have Neighborhood Groups speak	Clarify location (Neighb. Groups have been told Irish Auditorium)
6.4	Start Educ-Program Narrative	• Needs to be developed in-time for mid-January SBC/SC approval • Narrative needs to be in sync with the Visioning objectives, User needs & Space Summary tabulations • Each section needs to describe what happens now and what is intended to change for the future • Provide particular explaination regarding the Auditorium size, Pool need, Little Theater and Other category spaces. • See Mt. Greylock example (sent prior)	PE to forward MSBA Educ-Program Template and example(s)

Next Meeting: **12/14/2016** at 1pm, Head of School Conference Room

cc: Kathy Provenchor (LHS Admin), Mike McGovern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments:

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Perkins Eastman | DPC

MEETING RECORD

Date Prepared	12/14/2016	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 7**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**12/14/2016**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), MaryAnn Williams (Skanska), Robert Bell (PE/DPC)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
7.1	Educ-Programming & Space Summary Questions	• Maker Space should be readily accessible (not part of any specific 9th grade team) • Freshman has 3 teams now (of 8, 8 & 12) but with increased enrollment will become 4 teams of 8 • Tech program missing clean-energy • Culinary should increase to Ch.74 • Banks at 400sf is fine • PE; change gymnastics room to multi-purpose (gymnastics, yoga, cheering) • Athletics has sep office, conference and secretary • Athletics needs a finance office with safe • Would like stage increased per larger productions (match existing) • Could explore 2 cafeterias (one freshman) with satellite serving • Need separate main student support space (they handle enrollment fulltime) • 1 of the 2 greenhouses listed is actually a copy room (near D-House) • Technology Center spaces are to be listed within the Media Center sf (incl. CR size Tech Center as half storage, full CR for Teacher Training Lab with Instr. Tech Specialist desk and ½ CR data processing • Don't need SPED testing	PE to make necessary adjustments to all programming docs and the space summary Maker space and clean energy labs to be part of Vocations & Techn PE to email Brian to set-up a conference call (Friday) w/ Athletics to broach the difference between requests and what can be justified

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		• PAL's program does not need separate or dedicated space (can use meeting space within the Library) • Interactive Learning does not need separate or dedicated space (occurs in any CR) • TRIO programs are for 1st generation college students • MCAS/Testing storage can be part of Media Center space	

Next Meeting: **1/11/2016** at 1pm, Head of School Conference Room

cc: Kathy Provenchor (LHS Admin), Mike McGovern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments:

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Perkins Eastman | DPC

MEETING RECORD

Date Prepared	1/11/2017	
Project Name	Lowell High School	
Project Number	67150	
Subject	**ELT Meeting 8**	
Meeting Location	LHS, Head of School Conference	
Meeting Date	**1/11/2017**	
Prepared By	Robert Bell	r.bell@perkinseastman.com
	T: 617-712-2115	F: 617-449-4049
Participants	Brian Martin (Head of School), Amy McLeod (Dir. Of Curric. Instr. & Assessment), Roxane Howe (Discipline & Operations), Jeanine Durkin (Deputy Supt. SSS), Richard Underwood (Dir. Of Operations), K.C. Nelson (Technology Mgr), Salah Khelfaoui, Ph.D. (Superintendent), Robin Desmond (Interim Asst. Supt Curric. & Instruction), Steve Gendron (School Committee), Mike McGovern (Asst City Manager), Rodney Conley (Deputy Chief Finance Officer), Gary Frische (School Business Administrator), MaryAnn Williams (Skanska), Robert Bell & Alicia Caritano (PE/DPC)	

New Business (Agenda Items)		Notes	Action by / Date Req'd
8.1	Overview of the Educational Program Narrative	• Major milestone and accomplishment. The Educ-Program is a pivotal document and becomes the foundation for design & decisions moving forward. • The document can evolve and will likely be edited through the next phase (May) • The document comes from the District and is supplemented by the design team charged with interpreting it into design and space needs (refer to the blue text)	Next Steps include review of space summary for alignment with Educ-Program LHS to re-forward the NEASC Report to PE
8.2	Review Educational Program Narrative	• Reviewed the Educational Program, including NEASC Report as Appendix • **Educ Program Requirements**; ELL and SPED should be noted as also being dispersed with academic clusters • **Grade & School Config Policies**; major objective is to bring freshman on-site. It was noted that the full-reno option does not. District to add safety concerns w/ off-site and on street. The benefits of returning the F.A. facility to the school were noted. • **Class Size Policies**; the class size average of 24 is being used vs MSBA's default 23. It was noted that despite the enrollment increase, the count of classrooms is dropping due to the difference in current	PE (Bob) and ELT (via Amy/Roxane) are to edit sections as noted

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		and required utilization of rooms (71% exists vs 85% required) • **School Schedule**; traditional 35 period cycle and short periods. Desire for longer periods in the future would not skew the program calculations or participation because hypothetical new schedule could be 5 longer periods/day on a 7day cycle (same 35 periods) • **Teaching Methodology & Structure**; larger, more flexible classrooms are needed to better support project based activities and collaborative learning. Rooms are intended to be clustered pockets of STEM and Humanities that are in close proximity with good visibility and connectivity, including break-out spaces. All rooms are to be high-performance, fully wireless. • **ELL**; ELL teams are 4 rooms but dispersed as 2 room clusters integrated with other academics. • **Academic Support**; Need to add instructional specialist to teacher's center • **Lunch/Breakfast**; school will be switching from 4 lunch periods to 3 (matches MSBA standards). The school would like to increase breakfast participation • **Arts**; larger rooms than the MSBA guides are based on larger class sizes than the State assumes. • **PE**; reconciling the wants vs needs is a major challenge. The MSBA standards focus on PE needs, not Athletic. 9 PE teaching stations are justifiable. The goal of co-locating ROTC and SPED multi-purpose space with the Gymnasium will allow greater flexibility and usage for Athletics. Despite creative planning, a 200meter track does not fit within the Gym+ROTC+SPED Adaptive PE combined. Pools are not funded by the MSBA. **Question was raised if a larger Field House would be justifiable by the State given the lack of outdoor space.** Skanska noted the intent to have a conversation with the MSBA to see if there would be any wiggle room on reimbursement. • **Special Education**; existing spaces (along with science) are the most deficient.	

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		SPED space needs are unique to each school, no real standard. • **ROTC**; 1 additional classroom is required • **Chapter 74 Programs**; PE to reconcile the space needs based on FTE of students. • **Transportation**; Add a section on the benefits of the parking garage. It was noted that visitor parking must align with the number of people that come (10k last year). Bussing will need to be determined by the City if a remote site is selected. • **Security**; PE to add a description of zoning the building for community and after-hours use and lock-down. Layers of security (passive and active) will be used. Current protocol to be described by the ELT, including use of Tsongas Arena in emergencies. It was noted that subsequent workshops will be planned for Safety/Security planning.	
8.3	Reference Space Summary	• This document is the companion to the Educational Program. It • Need to increase number of Data Closets • DESE space requirements to be determined based on Marketing FTE. FTE is not an exact science given students are scheduled as an elective.	PE to reach out to the DESE for precedent (Note; follow-up with DESE's Gary Gomes 781.338.3851 did not yield any helpful info)
8.4	Timeline Going Forward	• Edits will take a few days • ELT endorses the Educ Plan, Brian Submits to the Superintendent & School Committee for review • Steve wants to put on the agenda for next Wednesday (Facilities Sub-Committee); Sub-Committee makes recommendation to the School Committee (Feb 1st)	

Next Meeting: **1/18/2017** Tentative Overview of Educ-Program (Narr) prior to 1/24 SC-Facilities Sub Committee Review

cc: Kathy Provenchor (LHS Admin), Mike McGovern (Asst. City Mgr), J. Drown (Sr. Project Mgr), A. Caritano (Asst. Project Mgr), D. Guarriello (Sr. Designer)

Attachments:

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Lowell High School Existing Conditions Evaluation/
Base Repair Report
Reference: Perkins Eastman Project # 67150.00

Part I: Existing Conditions Analysis
I. Location:

Lowell High School is located along Father Morissette Blvd and Arcand Drive. The Freshman Academy is detached and located at the intersection of Paige Street and John Street adjacent to which is the Steam Plant. The two main high school structures are the Lord building and the Kouloheras Building which span a segment of the National Historic Park's Merrimack Canal and Lucy Larcom Park.

II. Circulation:

Kouloheras Building: There are (4) secured entry/egress points along Kirk Street. These doors are locked for entry by visitors. All visitors are directed to the main entrance at the Lord Building. Kirk Street is one way heading north with two through lanes and temporary on-street parking/ 30 min loading spaces on either side. The majority of spaces on the west side of Kirk directly in front of the school are marked as tow zone. There is an accessible entrance/ramp at the North side of the building.

Sidewalks along Kirk are a minimum of 8-feet wide with the western sidewalk being wider. There are approximately 5 crosswalks spanning Kirk Street in front of the Kouloheras building all of which are flush and denoted with paint. Other streetscape features are limited but include post lights and street trees. There were no benches and trash receptacles. Visibility of signage could be improved. There is an accessible entrance/ramp at the North side of the building.

Lord/Fieldhouse Building: The field house has the largest street frontage on the corner of Father Morissette Blvd and Arcand Drive. The main entrance is located between the field house and the Lord building along Father Morissette Blvd across from the George Ayotte Garage. All bus drop-off takes place at this entrance. This includes limited drop-offs in the morning and transportation to afterschool activities in the afternoon. There are approximately 4 compact HC spaces at this entrance and an additional 4 spaces are located at the south side of the field house.

Freshman Academy: The Freshman Academy is located between Paige Street and French Street with secured entrance on Paige Street and the HC Entrance on the West. Both Paige and French street are two way with ample sidewalks. There are numbered on-street parking spaces on the South Side of Paige Street. Street furnishings such as lights and trees are limited along Paige Street. French street is wider with 4 lanes of traffic and is the extension of Father Morissette Blvd. Sidewalks are approximately 8' but with limited site furnishings. The entrance on French street is directly aligned with Boarding House Park. Parking for the Freshman Academy is on-street or at the George Ayotte or Joe Downes Garage.

Steam Plant: The Steam Plant is located adjacent to the Freshman Academy along French Street with a service drive between the two.

Pedestrian circulation includes walking to and from the parking garage across Father Morissette Boulevard at the beginning and end of the day. Circulation during the school day includes walking along the public sidewalks between the

buildings, along the Canal Park and through the skywalks across the canal. There is a lot of activity of students coming and going on and off campus throughout the day.

III. Parking:

The majority of staff, visitors and students use the George Ayotte parking garage (capacity of 1200). Additional parking is found at the Joe Downes Garage or street parking. All parking garages are owned and managed by the City of Lowell. Parking in the George Ayotte garage is free for employees. Student parking passes cost $17 a month.

IV. Vehicular Access:
The majority of students walk, bike or use public transportation (buses) to get to school. The breakdown is as follows: approximately 1/3 walk, 1/3 are dropped off and 1/3 drive or take public transportation. There is not a dedicated drop off and according to staff, cars back up on Father Morissette Blvd and surrounding streets in the mornings and afternoons. There are 4-6 contracted buses that take students after school to different sports facilities.

V. Emergency Access:

There is full fire access around the school on the public streets and through service areas.

VI. Trash Removal, Deliveries and Maintenance Storage

A loading dock and trash/recycling area is located behind the field house in the southeast corner.
Deliveries to the school involve the following:
1. Food 3 times /week
2. Paper products 1 time/month
3. Miscellaneous deliveries all go to the loading dock.
Trash Removal includes the following:
1. (1) 40 yard recycling dumpster located by the dock- removed as needed
2. (2) 10 yard dumpster located by loading dock –removed every day.
3. Food waste is not recycled

VII. Greenspace and Athletics

LHS uses two City-owned facilities- Shedd Park and Martin Cawley Athletic Complex. These two complexes accommodate the majority of the high school's athletic programs. The Cawley Complex has a brand new track and a synthetic turf football field (10 years old but still in good condition.) Both complexes are maintained by the City and students are bused to them. The Cawley complex is about 2 miles from LHS.

The Crew team uses Lowell UMass facilities and Hockey utilizes the Tsonga Center. Gymnastics and swimming is located in the field house.

Do to constant use of the multi-use fields at the Cawley Complex the fields do not have time to rest causing less then optimum surface conditions. The athletic department would benefit from an additional full sized multi-use field.

Currently there is no greenspace directly around the school for use by athletics or during gym class. Occasionally gym classes and teams will use the small lawn area outside of the Tsonga center across from the school. The school would benefit from a lawn area that is within the school campus and can be accessed by foot in less than 5 minutes.

Part II: Base Repair Report

I. Kouloheras Building:



Paving around the Kouloheras building is in overall good condition. Site amenities around the building such as bike racks, benches and secured trash receptacles are limited. Benches should be added at all entrances to accommodate all students and visitors.

Plant beds are limited to around the school and consist of mostly eroded lawn and overgrown shrubs against the foundation. Shade trees are limited and should be added around the entire building and more specifically at the entrances to provide shade.

II. Lord/Fieldhouse Building:



Entrance and Paving. The paving at the main entrance to the high school between the Lord Building and Field house is in poor condition and has cracked and heaved in multiple locations. These pose HC accessibility issues and create dangerous tripping hazards. Due to its location the entrance is also dark and poses visibility issues from some angles.

Cracked Paving at the Entrance.



Plaza Condition

Entrance plaza along Father Morissette Blvd is in poor condition with patched pavement and completely devoid of seating and pedestrian lighting and wayfinding. The curb ramp at the crosswalk accessing the school is poorly defined and without tactile warning plates. The curb reveal at this plaza is minimal and safety bollards should be considered. Plaza is wide open and lacks any sort of shade structure or trees from protection from the sun.



Curb Ramp at Entrance Plaza

Curb ramps at all crossings around the school need to be upgrading to meet current MA ADA standards.



Sidewalks along the canal side of the Lord building are in decent condition however despite their level of use there walkways are without benches and lighting. Trash cans are movable units and are not secured from being opened or moved. Walkway along the canal side of the Kouloheras building is in similar condition and also lacking seating and adequate lighting.

Walkway along the Canal Side of the Lord Building



Plant beds at entrance are in disrepair and creating erosion issues along the sidewalks.

Erosion onto sidewalks



HC parking spaces along Father Morissette Blvd do not meet MA ADA standards for accessible parking spaces and need to be re-constructed or re-located.

Compact HC Spaces



Asphalt service road is in poor condition with cracks and large low points creating drainage issues. Walkway around along western side of the field house is asphalt. Pathway is worn and extremely uneven with cross pitches in some cases exceeding 2%. Lack of curbing creates safety issues compounded by limited sidewalk widths.

Service Road and Walkway

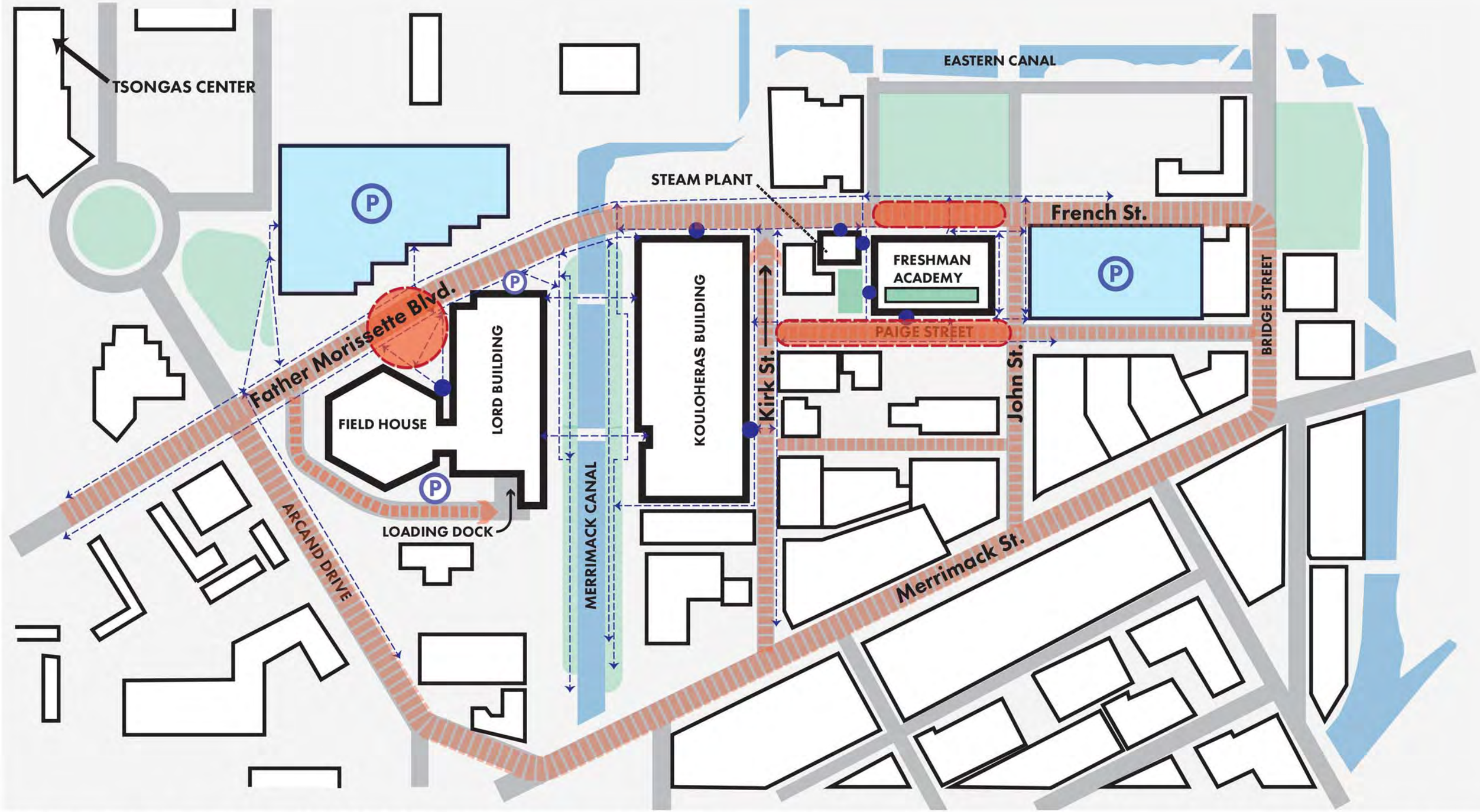


Small egress plaza at west side of field house is unprotected against vehicular traffic allowing for cars to park in it. Plaza needs to be regraded to include curbing or additional bollards added.

Signage needs to be added around loading area and the field house to better define pedestrian and vehicular traffic.

III. Freshman Academy

Sidewalks are in good condition surrounding the Freshman Academy. Benches need to be added at all entrances. Street trees need to be added to provide shade at all entrances.



LOWELL HIGH SCHOOL EXISTING CONDITIONS ASSESMENT

PEDESTRIAN CIRCULATION PATTERNS

VEHICULAR CIRCULATION PATTERNS

DROPOFF LOCATON

PARKING

BUILDING ENTRANCES

HIGH SCHOOL BUILDINGS

EASTERN CANAL
BOARDING HOUSE PARK
STEAM PLANT
HANDICAP PARKING
French St.
KEROUAC COMMEMORATIVE PARK
CANAL
FRESHMAN ACADEMY
PAIGE STREET
BRIDGE STREET
Father Morissette Blvd.
LORD BUILDING
KOULOHERAS BUILDING
Kirk St.
John St.
FIELD HOUSE
HANDICAP PARKING
MERRIMACK CANAL
ARCAND DRIVE
Merrimack St.

LOWELL HIGH SCHOOL EXISTING CONDITIONS ASSESMENT

GREEN SPACE NETWORK

MERRIMACK CANAL

TROLLEY ROUTE

Shedd Park
Martin Cawley Athletic Complex

1.5 MILES

Lowell High School Existing Conditions Evaluation/Base Repair (Plumbing and Fire Protection)

VAV International

Perkins Eastman Project # 67150.00

Introduction

The base redesign covers five buildings. The Field House shares domestic cold water, and gas services with the Lord Building and Kouloheras Building. It also shares its fire protection services with the Lord building. The Kouloheras Building has its own fire protection service. The Freshman Academy has its own domestic cold water service and fire protection service and fire pump. The Steam Plant Building also has its own domestic cold water service, and shares its gas service with the Freshman Academy. The only building not provided with sprinklers is the Field House.

In general, for all five buildings, the piping is past its useful life. Hot water is supplied by a combination of electric water heaters and old gas-fired hot water storage tanks, decreasing efficiency. New, high-efficiency gas-fired hot water heaters are recommended to replace these.

The following existing conditions report provides more information on each of the buildings along with a summary of recommendations.

Kouloheras (1892, 1922 & 1997) Building:

Fire Protection

The Kouloheras building sprinkler system is served by a 4" water line, entering the east side of the building. The service is located in the basement, underneath Stair C. The building has sprinklers throughout, with FDV connections in the hallways. The only exception is the Teachers work room on the third floor, which is not provided with sprinklers. Protection will need to be provided in this area. The auditorium stage also has FDVs at each end, as required by code.





(Left) Fire protection service
(Right) FDV at stage

Plumbing

General

The waste and water piping in the Kouloheras building is past its useful life, and it is recommended to replace it. The building contains bathroom cores as well as art rooms, janitor's closets, lab rooms and a teaching kitchen. The fixtures in the bathrooms are not low-flow and it is recommended to replace them. The sinks in these lab rooms do not appear to be connected to an acid neutralization tank. A central neutralization system or local 5 gallon acid neutralization for each sink should be added. The emergency eyewashes do not appear to be served by tempered water, which is required to meet code. The hot water comes from the two domestic storage heaters in the basement of the Field House.

Drinking Fountains

The building has different types of drinking fountains throughout. Some were out of service.





(Left) Typical Handicapped accessible drinking fountain
(Right) Typical drinking fountain

Art Rooms

There are multiple art rooms in the basement of the Kouloheras Building. They each have an art sink. Only one of the art sinks had a solid's interceptor. A solids interceptor should be added per plumbing code.





(Left) Art room sink without solid's interceptor
(Right) Art room sink with solid's interceptor

Teaching Kitchen

There is a teaching kitchen located in the basement. It contains equipment that is served by the building's gas line. The kitchen has no floor drains, and the grease interceptor that serves the 3-bay sink is in poor condition.



(Left) Teaching kitchen





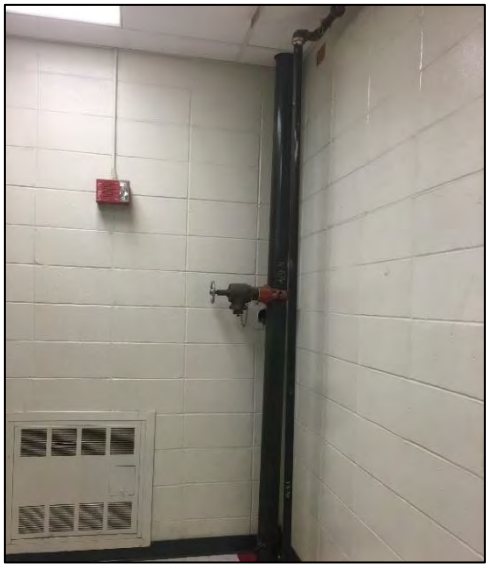
(Left) Three bay sink
(Right) Grease Interceptor

Lord/Field House 1980 Building:

Fire Protection

General

The 6" fire protection service for both the Lord building and the Field House is located in the basement of the Field house. The Field House itself is does not have sprinklers, but does have FDV's throughout. Due to the Base Repair encompassing a major renovation, a fire suppression system should be installed . The Lord building has standpipes with FDVs in the stairwells, as well as sprinkler heads in the entire building.





(Left) Standpipe with FDV
(Right) FDV with hose cabinet



(Above) Fire Protection Service

Plumbing

General

The Field House and Lord Building is served by a 6” domestic cold water services that enters through the basement of the Field House. Two gas fired domestic hot water storage heaters are also located in the basement, and account for the hot water for the Lord Building, Field House, and Kouloheras Building. It is recommended that the gas-fired storage tanks be replaced with new High Efficiency gas-fired hot water heaters. The 6” waste for the Field House exits on the west side, and the 6” RWL exits on the north.

The two buildings together contain locker rooms, bathroom cores, and lab rooms. The fixtures in the bathroom cores, like with all the other buildings, are outdated, and it is recommended to replace them.



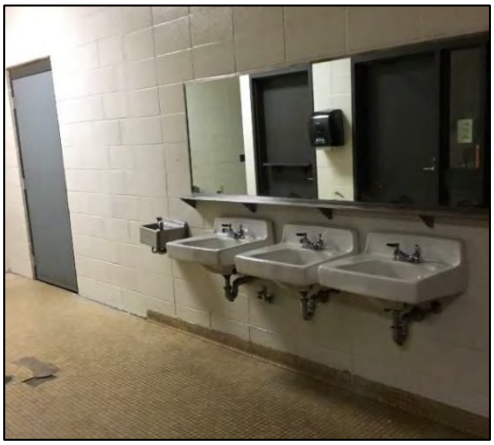
(Above) Domestic Cold Water Service

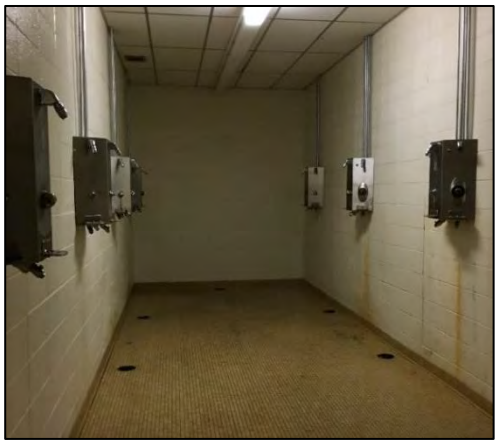


(Above) Gas fired domestic hot water storage heaters

Locker Rooms

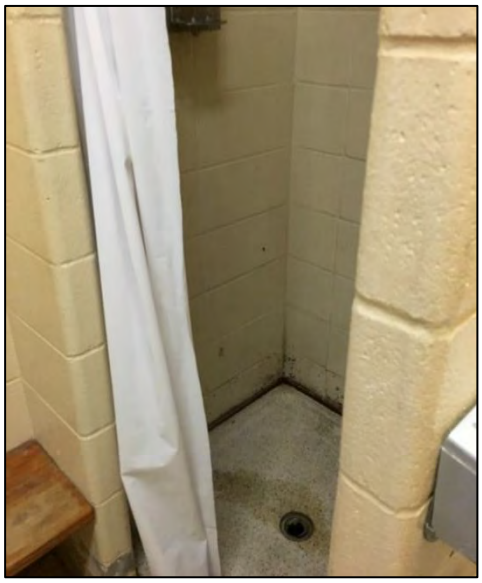
The Field House contains a swimming pool, as well as large women and men's locker rooms. The locker rooms have communal showers, as well as individual shower stalls. Per 248 CMR 10.10 "In shower rooms or in an area that multiple shower heads are installed and the individual shower space, area, stall or compartment is not provided with an individual waste outlet, the waste outlet shall be so located that the floor is designed and pitched so that waste water from one shower head area does not flow over the floor area serving another shower head area". The communal showers and the locker room showers and the "Type 2" showers may not meet these requirements.





(Left) Locker room sinks
(Right) Communal locker room showers



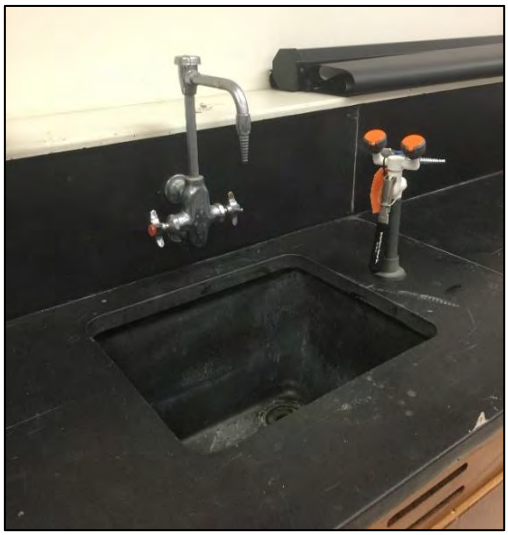


(Left) Locker room showers (Type 2)
(Right) Locker room showers (Type 3)

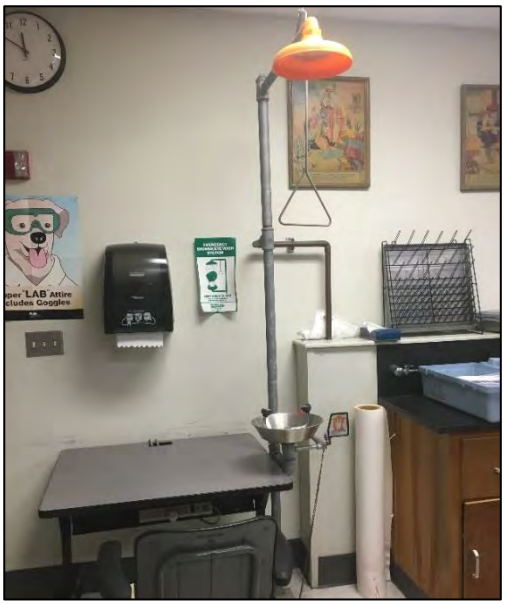
Lab Rooms

The Lord building houses lab rooms. The sinks in these lab rooms do not appear to be connected to an acid neutralization tank. A central neutralization system or local 5 gallon acid neutralization for each sink should be added. The lab also has gas connections, and an emergency gas shutoff located a few inches from the floor, in the back of the classrooms. They should be located at the exit door of the rooms, per code. The emergency eyewashes do not appear to be served by tempered water, which is required to meet code.





(Left) Typical Lab room
(Right) Typical Lab sink(Left) Typical Lab room





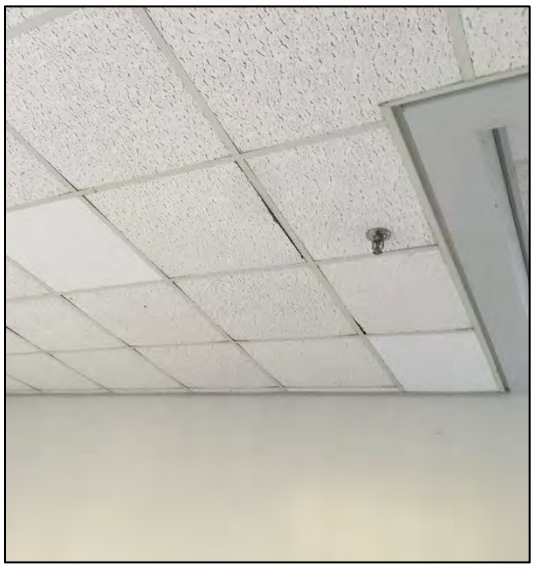
(Left) Emergency eyewash
(Right) Emergency gas shut off

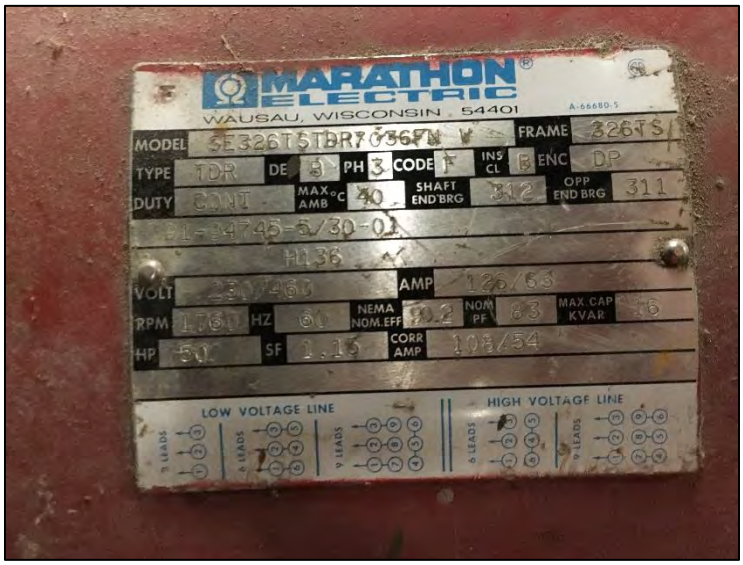
Freshman Academy Building:

Fire Protection

General

The entire Freshman academy is sprinklered and meets NFPA 13 requirements. Standpipe and FDVs are located on each floor, in the stairwell. The sprinkler service and a 50HP fire pump assembly is located in a closet, next to the domestic cold water service. The photos and labels are provided below.





(Left) Typical sprinkler
(Right) Fire Pump Equipment Label



(Above) Fire Protection Service and Fire Pump Assembly



(Above) Recessed FDV in stairwell

Plumbing

General

The domestic cold water service for the building enters at the fire sprinkler room. The electric water heater in that same room provides the building's hot water. It is recommended that this heater be replaced with a new energy efficient gas-fired hot water heater. The Freshman building has bathroom cores, as well as life skill rooms which contain sinks and gas-fired stoves.





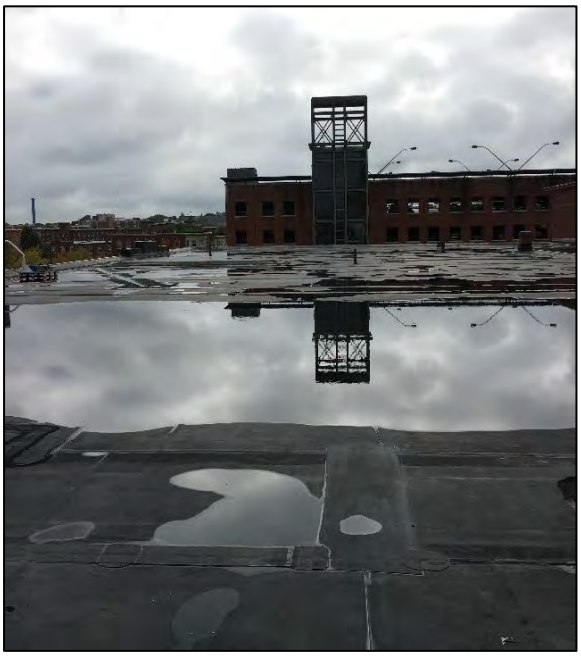
(Left and Right) Hot water heater in sprinkler service room



(Above) Domestic Cold Water in sprinkler service room

Roof Drains

There is ponding on the roof of the Freshman building. New roof drains should be added since all flat roofs are being proposed to be replaced.





(Left and Right) Water accumulation on roof

Life Skill Classrooms

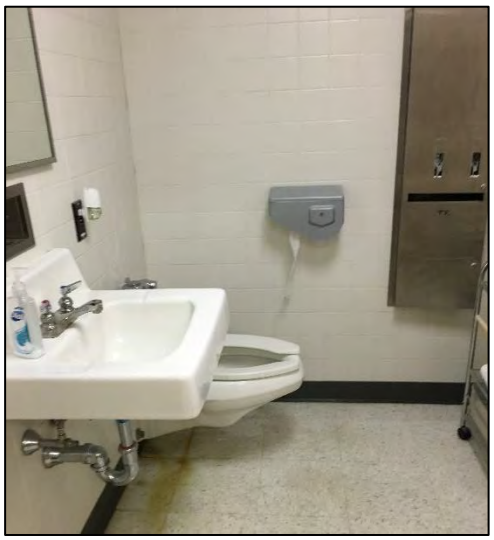
Below are images of a typical life skills classroom. They are outfitted with kitchen sinks, as well as gas stoves.

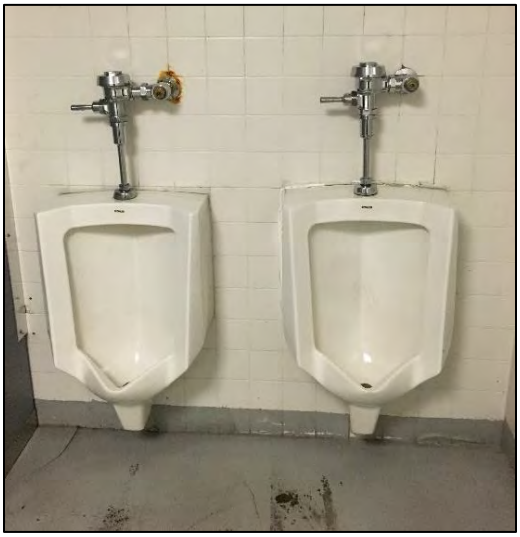




(Left) Typical stove in Life Skills classroom
(Right) Typical sink in Life Skills classroom

Bathrooms

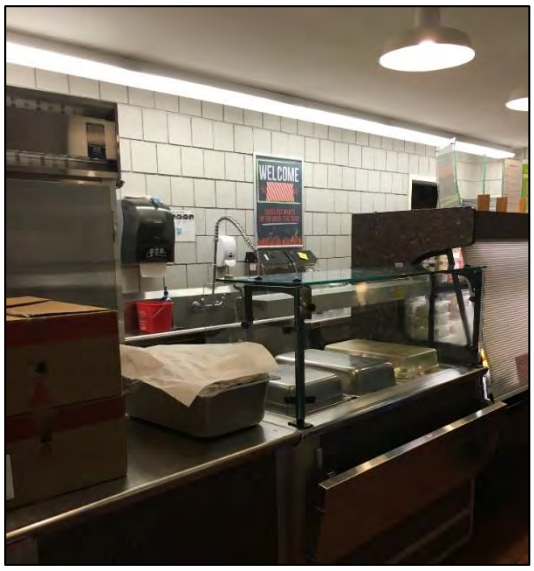




(Left) Typical toilet and lavatory
(Right) Typical urinals

Serving Kitchen

There is a serving kitchen in the Freshman Academy. The purpose of it is mostly for heating and serving food. No actual cooking is done. It is served by its own hot water heater, located in the kitchen itself.





(Left) Small serving kitchen
(Right) Kitchen's hot water heater

Steam Plant Building:

Fire Protection

General

The Steam Plant Building is protected with upright heads. It shares the fire protection services with the Freshman Academy.



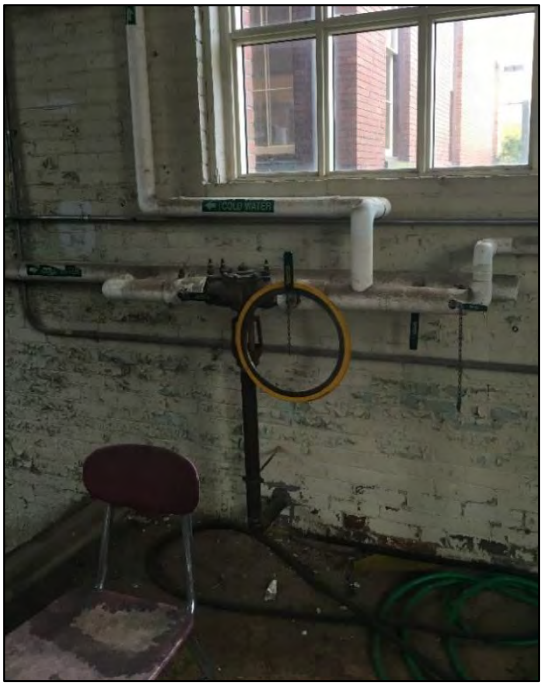
(Above) Upright heads

Plumbing

General

The Steam Plant Building contains a domestic cold water service as well as a domestic hot water heat exchanger. The hot water and hot water recirc. run between the heat exchanger and the Freshman Academy. On the side of the building is the gas service and meter which serves both the Steam Plant Building and Freshman Academy. There is flooding in the steam building, and the drainage system may need to be modified.





(Left) Wet Floors
(Right) Domestic Cold Water

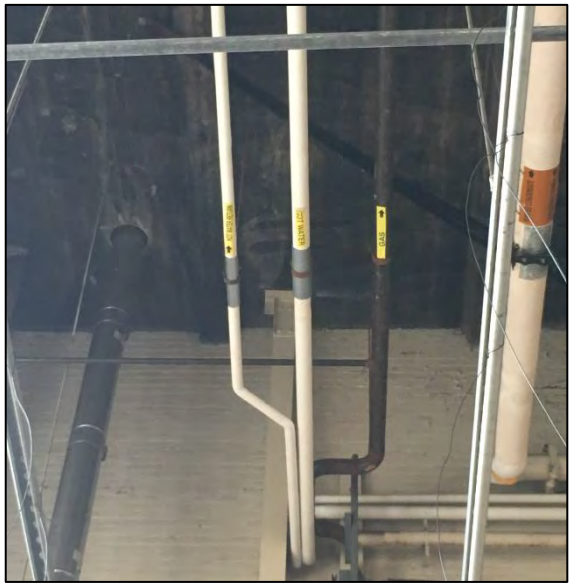


(Above) Domestic Water Heat Exchangers



(Above) Gas Service (Serves Steam Building and Freshman Academy)





(Above) Hot water and hot water recirc. going to Freshman Academy

Recommendations:

Fire Protection

1. All existing sprinkler piping and heads in the Kouloheras Building, Freshman Academy, and Lord building to be demolished. Provide all new fire suppression system throughout the building in compliance with NFPA 13. Existing services to building can be reused.
2. Due to the Base Repair encompassing a major renovation, sprinkler heads should be installed throughout the Field House in accordance to NFPA 13.

Plumbing

1. Per ASHRAE and ASPE, water piping and insulation have a life expectancy of 25-30 years. Piping is past it's useful life. Consider replacing all water, waste and vent piping in all five buildings.
2. Replace all bathroom fixtures with new low-flow, sensor operated faucets and flush valves.
3. Provide new roof drains on all flat roofs being replaced.
4. Replace all existing electric water heaters with high efficiency gas fired water heaters.
5. Grease traps in the kitchens are past their useful life. Should be replaced.
6. Complaints regarding lack of floor drains in teaching kitchen. Floor drains should be added.
7. Emergency gas shut offs should be located by the exit doors of all lab rooms.
8. Emergency eyewashes did not appear to be served with tempered water. Tempered water loop needs to be added per plumbing code.
9. Lab sinks did not appear to have an acid neutralization system. A central neutralization system or local 5 gallon acid neutralization for each sink should be added per plumbing code.
10. Replace gas fired domestic hot water storage tanks in Field House with high efficiency gas water heaters.
11. Add floor drains or modify floor slope of showers in locker rooms to meet 248 CMR 10.10 requirements.
12. Add solid interceptors to all art sinks.
13. Modify drainage system in the Steam Plant Building to prevent future flooding.
14. Add regular and handicapped fountains to all buildings to meet code requirements the code requirement of 1 drinking fountain per 75 people. 248 CRM 10.10 also states that "wherever drinking fountains are provided, a drinking fountain shall be accessible to the physically impaired".

Lowell High School Existing Conditions Evaluation / Base Repair Security Report

Perkins Eastman Project # 67150.00

October 21, 2016

TSG Solutions

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Introduction

TSG Solutions ('TSG') is a professional risk management and security engineering firm located in Quincy, Massachusetts. TSG performs a multitude of security consulting functions including: risk and vulnerability assessments, strategic security planning, policy and procedure development, integrated system design, and development and implementation oversight of enterprise-wide security solutions.

TSG was engaged by Perkins Eastman to provide technical expertise in the development of a security existing conditions evaluation for the Lowell High School (LHS). The intent of the evaluation is to provide insight into the current status of security systems, physical security elements, and security/emergency procedures that should be considered during the assessment of upgrades to the facility.

Although the fundamental goal is to provide a safe and secure environment that promotes students individual and educational growth, there is a delicate balance that must be adhered to. Considering the current environment, safety and security must be at the forefront, yet not a hindrance.

Each town, community, and school district is unique. In order to obtain a full understanding of their requirements, TSG met with administrative staff, Dr. Roxane Howe, Mr. Rick Underwood, custodial staff, and various members of the LHS security team to discuss security system requirements, current standards, daily operations, policies and procedures, as well as successes, challenges and potential deficiencies with the current facilities. Our interaction with custodial and security staff was very informative but informal and the names of the individuals we met with were not documented. The results and key findings are incorporated in this evaluation.

Existing Conditions

This evaluation includes the Kouloheras and Lord Buildings (including bridges between these two), the Freshman Academy, Field House and Steam Plant. Most of the individual building data we received pertained to the Kouloheras, Lord and Freshman Academy buildings, however through interviews with various stakeholders, we were able to obtain additional information regarding the Field House and the Steam Plant. Our findings are broad based (covering all buildings), with many recommendations that apply to the entire campus, but in some cases are building specific. The evaluation has been broken out into the following security related areas; Access Control System (ACS), Video Management System (VMS), Intrusion Detection System (IDS), Communications (COMMS), Duress, Visitor Management, Staffing and Other (which includes integration of systems, locks and door hardware as well life safety code issues and implications).

Access Control System (ACS)

Controlling the who, when and where in a school setting poses a number of challenges both in design concepts and operations. With day and evening programs, weekend events, changing entry locations based on time or event, utilizing the tools and features of the school's ACS is necessary to control access to the school for those individuals with a specific need or authority to be in the facility at specific times.

Using card readers, electrified locks and individualized access credentials provide the ability to selectively grant access based on person, door, time of day, day of week, etc., while storing an audit trail of door and credential use. Locks and keys have their place used for specific areas and purposes, but rekeying of doors due to lost brass keys is costly and time consuming, opening the school to potential risks. Electronic access control, although a capital expense to install, minimizes risk and vulnerabilities. Traditionally maintenance costs are low and predictable; the highest maintenance cost component is the electrified locking hardware. Lost or stolen credentials can be immediately deactivated and any attempted use is recorded. Automation, dynamic override control, door monitoring and most significantly integration to other systems (video recording and event alert systems) are areas LHS needs to better exploit.

Existing Conditions: The ACS is fairly extensive, with card readers on several perimeter and a select few interior doors of all buildings, with the exception of the Steam Plant. Main entrances are programmed to automatically unlock at 7:00 AM and relock at 8:10 AM during school arrival and dismissal times. To manually override timed openings, an administrator needs to access the ACS client software which requires a certain level of proficiency and is time consuming.

> ***Recommendation:*** Lock Down Buttons should be installed in the Main and House Offices. These buttons would override any perimeter doors that are in a timed (programmed) unlock mode during an emergency. These buttons would minimize the time from notification to a building secure mode. They would also eliminate the need for system proficiency in an emergency.
>
> **Estimated Cost:** $ 2,000
> **Future Investment**

Card readers and electrified locking hardware are installed on the following doors (broken out by building using door numbers as shown on BeSafe drawings):

Lord Building - (7) total; all exterior

- Door 1 – Main Entry Front (left double door of three (3) sets of double doors); this door is always in the unlocked mode during school hours as it is the main visitor entrance and is within view of the security desk
- Door 3 – Entry door (single double door) on Father Morissette Blvd on right side of cafeteria; this door is always locked
- Door 4 - Entry door (single double door) on Father Morissette Blvd on left side of cafeteria; this door is unlocked between 6:10 AM - 8:00 AM through the ACS, but locked at all other times
- Door 5 – Entry door (left double door of two (2) sets of double doors) on canal side next to Lowell PD School Resource Office; this door is always locked
- Door 7 – Kitchen entrance from loading dock (single double door); this door is always locked but at time of review was propped open for ventilation within the kitchen
- Door 10 – Loading dock door to Maintenance (single double door); this door was in the locked mode at the time of our review, but the inactive leaf throw bolts were disabled to allow the door to be pulled open
- Door 11 - Main Entry Rear (right double door of three (3) sets of double doors); this door is always in the locked mode during school hours

Recommendation: Door 10 should not be left unlocked (by disabling the inactive leaf throw bolts), but should be controlled through the card reader or remote release capabilities provided through the audio/video intercom system (see COMMS section for additional details).

Estimated Cost: $ 0
Immediate Action

Field House - (4) total; (2 exterior, 2 interior)

- Door 13 – Pool level exterior entry (single double door) on Girls Locker Room side
- Door # not listed on BeSafe drawing - Pool interior entry (single double door) on Girls Locker Room side
- Door # not listed on BeSafe drawing - Pool interior entry (single double door) on Boys Locker Room side
- Door 16 – Pool level exterior entry (single double door) on Boys Locker Room side; primary pool event entrance door

Kouloheras Building - (4) total; all exterior

- Door 2 – Kirk Street entry (single double door); closest to French Street
- Door 3 - Kirk Street entry (single double door); middle Kirk Street entrance
- Door 4 – Kirk Street entry (single double door); Café entrance
- Door 9 – Canal side entry (single double door); closest to French Street

Recommendation: Door 1 is the primary and ADA entrance for the Auditorium for evening events. There is no card access or electrified hardware on any of the doors. One (1) set of double doors should have a card reader package with electrified hardware installed.

Estimated Cost: $ 5,000
Immediate Action (Base Repair)

Freshman Academy Building - (3) total; all exterior

- Door 1 – Paige Street entry (single double door)
- Door 3 French Street entry (single double door)
- Door 5 – John Street entry (single double door)

The ACS is underutilized for monitoring, event linking, annunciation and notification capabilities (integration to VMS, IDS and COMMS). Interviews with stakeholders and a review of supplied as-built documentation indicate that the infrastructure to monitor all perimeter doors was included during recent system renovations in 2014, but integration capabilities are unclear. According to security staff, perimeter doors that are held open for longer than 30 seconds create an alarm, but do not initiate a video event linking a camera to the individual door within its field of view. It could not be determined if the 30 second delay from a held or propped open door is a programming function within the ACS or in the IDS.

> ***Recommendation:*** If the door contacts are tied strictly to the IDS, which uses a coded keypad system for annunciation (i.e. code 3 signifies Custodian Entrance Door) but has no client monitoring screen or other integration linking capabilities, Output Boards should be added to the IDS and Input Boards should be added to the ACS to fully link the two systems and allow the integral software linking to the VMS for true integration.
>
> ***Estimated Cost:*** $ 10,000
> **Future Investment**

All perimeter doors with the exception of one steel roll-up door located at the Main Entrance to the Lord Building (in the cluster of three (3) double doors and the one (1) roll-up door identified as Door #1 on the BeSafe, 1st Floor drawing) are contacted; magnetic switches are installed on each door to indicate whether the door is in the open or closed position. The roll-up grate is used for deliveries, but at the time of our review was open to allow for air circulation in the lobby area. It is a manually operated (chain driven) door. The security check in desk is located just inside and adjacent to this roll-up grate.

> ***Recommendation:*** The roll-up door should have an industrial style contact installed to ensure that it can be monitored in the same manner as all other perimeter doors.
>
> ***Estimated Cost:*** $ 500
> **Immediate Action (Base Repair)**
>
> ***Recommendation:*** The roll-up door should have a power operator installed that would automate the opening and closing of the door, and allow the door to be tied into the previously recommended Lock Down Buttons.
>
> ***Estimated Cost:*** $1,500
> **Future Investment**

Perimeter doors should be classified as one of the following; a card reader door, an exit door or an emergency exit door. Each classification would require specific equipment so that unauthorized use of the door (entering a card reader door without a credential, entering through an exit door or opening an emergency door) would be logged in the system audit trail, linked to a camera's stored video, and annunciated through multiple notification means (ACS monitoring screen, video monitor, multimedia

devices). Exit doors should be equipped with Request-to-Exit devices to reduce alarms when individuals are leaving the building, otherwise each time someone leaves, a nuisance alarm is generated.

> ***Recommendation:*** Each perimeter doorway that is not equipped with a card access package, and is legally used to exit the building should be equipped with a Request-to-Exit motion detector; twenty-five (25) doorways (either single or double doors) meet this criterion between all buildings. One (1) Request-to-Exit motion detector would be required for each doorway.
>
> ***Estimated Cost:*** $12,500
> **Future Investment**

Administrators stated that between the changeover of school and vendor personnel, many features and functions of the system are unknown or not used due to lack of procedural training.

> ***Recommendation:*** Training sessions should be scheduled with the service provider for multiple levels of training. Initially, administrator and user training sessions should be provided to ensure the stakeholders understand the system capabilities and dynamic control options. Refresher and expanded training should be offered as users gain proficiency.
>
> ***Estimated Cost:*** $5,000
> **Future Investment**

There are (32) perimeter entryways between the Lord, Field House, Kouloheras, and Freshman Academy buildings (that number represents locations, some locations have multiple doors). Eighteen perimeter doors are equipped with card reader packages (as detailed above, by building). The only building not equipped with card readers is the Steam Plant.

> ***Recommendation:*** In that the Steam Plant is critical infrastructure, its primary entrances should be equipped with card reader packages.
>
> ***Estimated Cost:*** $5,000
> **Immediate Action (Base Repair)**

Video Management System (VMS)

A VMS provides high-resolution recording and storage, and provides a user friendly Graphical User Interface (GUI) via client software both within the school and remotely. Cameras provide both real-time and post-event (forensic) situational awareness and evidence. Camera positioning may provide a deterrence factor, but more importantly, the positioning is critical to capturing general activity and identifying individuals.

Existing Conditions: The VMS and components for the most part are in good working condition and provide a functional system that allows for fairly extensive coverage of the campus. There are specific areas of concern stated by stakeholders and identified through our review which are detailed below that should receive additional coverage, but the primary concern is ownership and control of the system. Currently, there is no one dedicated to overseeing the VMS and no policy/schedule on ownership or maintenance review.

Recommendation: An individual or department should be selected to perform the function of System Owner/Administrator. The System Administrator's duties should include writing policies on system use, maintenance and operation. Additionally, the System Administrator should be responsible for maintaining system documentation, corresponding with the various stakeholders throughout the school as well as with the service provider. Additionally, the responsibility for reviewing equipment on a daily/weekly basis, and submitting repair requests to the service company needs to be clearly delineated (this task was previously performed by an administrator who is no longer within the school system).

Estimated Cost: $0
Immediate Action

When components fail, a clear path of reporting is required to ensure the system and all components continue to function at an optimal level.

Recommendation: A daily review needs to be performed and any issues reported to the System Administrator who, in turn would contact the service provider. The date and time of the call needs to be recorded and a follow-up should be scheduled to ensure the work is performed in a timely manner (response times should be clearly outlined in the service provider's contract). At this time, the policy is to upgrade analog cameras as they fail. If a one-time capital expenditure for upgrading all cameras to IP technology is not feasible, a multi-year plan and budget should be developed to cover the upgrade costs.

Estimated Cost: $0
Immediate Action

LHS has gone through some changes with its VMS in terms of vendors. They are currently using American Alarm as their security service provider to perform maintenance, installation and to provide training. The present policy requires that the security system maintenance contract is put out to bid annually.

Recommendation: The policy that requires annual bidding on a security system maintenance and service contract creates issues with system continuity, documentation and reliability of the equipment. Each time a new vendor is selected, that vendor needs to learn the systems and components, school work policies for contractors, and the stakeholders within the school and in each individual building with whom they will have interactions. It is recommended that at a minimum, contracts should be for a duration of three (3) years to ensure each contractor has the ability to gain full knowledge of the equipment, infrastructure and personnel involved.

Estimated Cost: $0
Immediate Action

Recommendation: Training sessions should be scheduled with the service provider for multiple levels of training. Initially, administrator and user training sessions should be provided to ensure the stakeholders understand the system capabilities and dynamic control options. Refresher and expanded training should be offered as users gain proficiency.

Estimated Cost: $0

Immediate Action

In the past year to 18 months (project was completed in 2015), the Digital Video Recording System ("DVR") was converted to a Network Video Recording System ("NVR"). The NVR system utilizes the school's network infrastructure (existing network cabling and distributed network switches) to route video data from IP cameras to the recorder/server (as opposed to individual cables from analog cameras to the DVR), which allows for quicker deployment of new cameras, reducing labor intensive cabling. As analog cameras become non-functional, they are replaced with IP cameras but there is no set plan or budget for full replacement.

Existing cabling is a combination of coaxial and unshielded twisted pair cabling (per Camera Inventory Spreadsheet dated 2011-2012); it cannot be determined from the data provided nor from those interviewed which cameras are analog and which are IP technology. It is also not known if those cameras that were upgraded in the past year to 18 months utilized new CAT5 or CAT6 cabling without a far more in depth investigation which would require the assistance of American Alarm (the contracted service company), and/or the school IT department. It may be that media converters were used to utilize the existing cabling.

Recommendation: All cameras should have either CAT5 or CAT6 (preferred) cable directly from the camera to a PoE network switch. The switch needs to be within 100 meters of the camera. It is unclear if the recent camera upgrade to IP entailed recabling or media converters were added to utilize existing Coax or UTP cabling. It is recommended that a CAT6 cable be pulled to each camera, including any legacy analog cameras so that eventual replacement can be accomplished with minimal labor and down time.

Estimated Cost: Unknown, will require an in-depth review of cabling infrastructure
Immediate Action (Base Repair)

The current system suffers from maintenance issues:

- (12) cameras with video loss
- (2) PTZ cameras that cannot be repositioned
- (2) of the (5) 36" video monitors located in the Security Office were non-functional.

Recommendation: The present contract with American Alarm includes $35,000 for maintenance, repair parts and training. Policies and procedures need to be in place to review camera operations on a daily basis to ensure maintenance is done in a timely manner. Daily logs need to be kept that notate equipment failures, who was alerted and when repairs were completed. The non-functioning equipment listed above should be immediately repaired or replaced if this maintenance has not already occurred.

Estimated Cost: $0
Immediate Action

Floor plans of each building (with the exception of the Field House and Steam Plant) were provided that document camera locations, and include a total camera tally per building and per floor. The floor plans show icons to indicate camera locations, but do not indicate the individual camera fields of view.

Quantity of cameras by building are as follows:

Lord Building - (35) total, broken out as *(28) Fixed Position and (7) Pan, Tilt, Zoom ("PTZ")

- 1st Floor – (7) Fixed (all interior), (6) PTZ (2 interior, 4 exterior)
- 2nd Floor – (9) Fixed (all interior), (1) PTZ (interior)
- 3rd Floor – (5) Fixed (all interior)

* Total quantity of fixed cameras detailed on floor plan does not match individual floor quantities detailed on same plan (7 Fixed Position cameras cannot be accounted for on the floor plans of the 28 total listed for the building). The icons shown on the individual floors match the numbers listed by floor. There are two icons shown on the 1st Floor in the cafeteria that may be cameras, but do not follow the standard icon symbol and are not numbered as are all other camera icons.

Kouloheras Building – (57) total, broken out as (53) Fixed Position and (4) PTZ

- Basement – (12) Fixed (all interior)
- 1st Floor – (20) Fixed (18 interior, 2 exterior), (4) PTZ (all exterior)
- 2nd Floor – (12) Fixed (all interior)
- 3rd Floor – (9) Fixed (all interior)

Freshman Academy - (31) total, broken out as (28) Fixed Position and (3) Pan, Tilt, Zoom (PTZ)

- Basement – (9) Fixed (6 interior, 3 exterior), (3) PTZ (1 interior, 2 exterior)
- 1st Floor – (6) Fixed (all interior)
- 2nd Floor – (9) Fixed (all interior)

It may be due to the fact that at this time no one individual or department is charged with system ownership (System Administrator), but the documentation available showing system as-built conditions was minimal and not up to date. For any electronic system, but especially one as complex as the video management system that encompasses four (4) buildings and is critical to the security of approximately 4,000 students and staff, as-built documentation and other equipment records are critical to maintaining an operational system.

Recommendation: All work on the system (replacements, add on components or infrastructure changes), should be fully documented and in formats that can be easily transferred to a new vendor should the need arise. Floor plans we reviewed were in Microsoft Word documents; camera quantities listed on the document did not match those shown on the floor plan. As-built drawings should be required to be submitted to the school in AutoCAD DWG format, and only distributed in PDF format to ensure document integrity. Each component should be included in an inventory spreadsheet that includes: make, model, location, date installed, date last serviced and out of warranty date. These documents should be developed by the servicing/installing company, updated each time work is performed on the system, and provided to the System Administrator at the completion of any work performed on the system.

Estimated Cost: $0
Immediate Action

Security personnel stated that camera coverage for the most part is good, but indicated a few areas they would like additional coverage which include:

- Hallways (in long corridors some areas blocked off by in-corridor fire doors)
- House Office areas (both interior to the office and in the corridors outside each office)

- Corridors outside of Nursing Station areas
- Gymnasium and Pool
- Interior of Freshman Building alley door (internal stairwell splits and wraps around elevator shaft and only one side of the split stairwell is covered by a camera, creating an uncovered entry/exit path)

Recommendation: Areas identified that need additional camera coverage should be included in the design budget; Main and House Offices (both internal to the office viewing the public side of the counter and the corridor approaches to the office); corridor approaches to the Nurse Stations; additional corridor cameras throughout the buildings where mid-corridor fire doors obscure existing camera views (there were approximately a dozen locations identified by security staff); the interior of the Freshman Academy ally door (entry stairwell splits into two paths of entry/egress around an elevator shaft and only one path is presently covered).

Estimated Cost: $ 20,000
Future Investment

There are no cameras in the gymnasium. It was stated by security staff that due to the fact that the gym is used for instructional purposes, cameras were not allowed (TSG could find no instance of Massachusetts code or law stating that instructional areas could not be viewed or recorded). Although the gym is used for instruction during normal school hours, it is also used to host other functions and at times hosts several hundred visitors.

Recommendation: It is recommended that cameras are added to the gymnasium to view all entry/exit doors, bleachers and playing surfaces. The VMS system is capable of being programmed to record on a schedule so any legal or union issues regarding instructional time recording can be avoided.

Estimated Cost: $ 10,000
Future Investment

Not all perimeter doors or windows are within view of cameras.

Recommendation: It is recommended that additional exterior cameras are added to see the entire perimeters of all buildings, including the Steam Plant and Field House. Perimeter cameras should provide a view of all ground/street level accessible openings (doors and windows). Fixed position cameras are recommended; PTZ cameras provide good supplemental coverage, but not primary coverage due to the fact that they can be repositioned.

Estimated Cost: $ 40,000
Future Investment

The security office located in the Lord Building where the VMS is housed is a large room, which provides the proper environment for viewing video. However, there is no air conditioning which can lead to overheating (uncomfortable for staff and detrimental to longevity of equipment). The video wall allows for easy viewing, but there are currently multiple monitors that are not functioning.

Recommendation: The security office should be supplemented with environmental controls to preserve the integrity and operation of critical equipment and for the comfort of staff.

Estimated Cost: **$ 10,000**
Immediate Action (Base Repair)

Communications Systems (COMMS)

Communications Systems provide the ability to provide real-time information and instructions to all students, staff and visitors. Communications Systems, in addition to day to day operations also serve the purpose of being a Mass Notification System ("MNS") in the event of an emergency situation. During an emergency, the various components of the Communications Systems are critical to providing instructions, coordinating staff and first responders, and accounting for all individuals within the school campus area. Communications Systems at LHS include several subsystems under the communications heading. Many of these systems are old, have operational issues and in many instances are non-functional and need to be replaced or significantly enhanced. The subsystems included under the Communications Systems heading include:

- Public Address System ("PAS")
- Phone Systems (standard phone system as well as in-school, point-to-point phones)
- Radio System
- Intercom/Door Entry Systems

The PAS should have the ability to alert all areas of the campus, including both interior and exterior areas. Individuals located on school grounds but not inside the school may need to be notified of an event in progress such as a fire alarm or other non-fire related emergency.

Existing Conditions: The current PAS system is antiquated and vendors are having trouble making repairs. Many classrooms do not have access to the speakers and therefore do not receive messages, and there are no outdoors speakers. Each Office (4 House and the Main office) can all make announcements; announcements cannot be made from any other location. The Freshman Academy can hear announcements made from the Lord Building but the Lord Building cannot hear announcements made from the Freshman Academy.

Recommendation: A functional PAS is a priority concern and shall require extensive work throughout the entire campus. The PAS, in addition to the functionality provided for daily operation, is the primary MNS component of all the COMM subsystems. Due to age and issues related to finding replacement components, it is recommended that the entire PAS be replaced. LHS should upgrade the PAS, inclusive of: infrastructure (wiring, power supplies and amplifiers), speakers in each classroom as well as in corridors, assembly areas (cafeteria and auditorium), Field House (gymnasium, pool and locker rooms), and outdoor areas to ensure complete coverage in/around all buildings on the campus. The PAS system should also work interchangeably between all buildings, allowing emergency announcements to be made from each building and be heard throughout the campus, regardless of the origin of the announcement. The system should also allow for selective, segmented announcements for non-emergency situations (i.e. individual buildings or areas such as the pool, gymnasium and auditorium). In newer technology systems the capability exists to integrate in-school IP phone

systems to the PAS to enable public announcements to be made from anywhere within the school in the event of an emergency. This optional capability should be explored for cost implications during the design phase of any new system.

Estimated Cost: $ 500,000
Immediate Action (Base Repair – End of Life Product)

One additional concern with the PAS is that it cannot be operated during a fire alarm event. Perkins Eastman research did identify this restriction within Life Safety Code requirements.

Recommendation: The ability to operate the PAS during a fire alarm event should be available to administrators unless prohibited by code. This should be resolved as soon as possible to ensure the necessary command and control capabilities are available to administrators.

Estimated Cost: Included in previous estimated cost

Classroom phones are not reliable in terms of functionality. Specifically, several phones are fully non-functional whiles others provide only one-way communication.

Recommendation: LHS should upgrade the in-school phone system to ensure all classrooms, offices, and other applicable spaces have a functional phone that can receive calls from the House and Main Offices as well as place calls to the various support group offices including: Security, School Resource Officer(s), Nursing Stations and Custodial. An IP phone system should be considered to minimize cabling labor and best utilize infrastructure and technology advancements.

Estimated Cost: $ 100,000
Immediate Action (Base Repair – End of Life Product)

LHS has approximately fifty (50) radios deployed to administrative and custodial staff, in house security personnel and Lowell Police Department School Resource Officers. Administrative staff feel the quantity of radios is insufficient; that they would like additional radios for disbursement to faculty in specific areas of the building. The capabilities of the existing radios are not adequate for emergency notification and command/control for a school the size of LHS, with its multiple buildings and a student/staff population of approximately 4,000. The single channel capability of fifty (50) active radios during an emergency event would be confusing and extremely difficult to ensure clear communication of directives by the various authorities among the user groups. Additionally, there are areas within the campus that have poor or no radio reception, possibly due to interference, the age and construction of the buildings and the equipment/infrastructure in use.

Recommendation: LHS should upgrade the present radio system to include multiple channels to allow specific groups to communicate simultaneously during an emergency, as well as purchasing additional radios so each classroom or geographic groups of classrooms have a fully functional radio as a backup communication system in the event of an emergency.

Estimated Cost: $ 250,000
Future Investment

There are several exterior door Audio/Video Intercom Systems located at exterior doors, mostly for visitor or student entry when doors are in the locked mode, but one used for the in-school restaurant. Doors equipped with audio/video intercom stations include (by building and location):

Lord Building – (2) location; both report to Security Desk in main lobby
- Door 3 – Father Morissette Blvd entrance to right of cafeteria
- Door 10 – Loading dock entrance to Maintenance

Field House – (0); none required

Kouloheras Building – (1); reports to Café
- Door 4 – Café entrance

Freshman Academy – (2); both report to Main Office
- Door 1 – Paige Street main entrance
- Door 3 – French Street entrance

Recommendation: The video/intercom located at the Lord Building loading dock is not utilized during normal school hours. The door is left unlocked (see comments in ACS section) because of the continuous use of the door throughout the day. Leaving this door unlocked and unattended could create a serious breach of the building's perimeter. This video/intercom should be used to control this door (the system has an integral unlock button that is tied to the ACS.

Estimated Cost: $ 0
Immediate Action

Recommendation: All video/intercom door stations should be integrated with the VMS (to keep video data of who requested entry with a time/date stamp).

Estimated Cost: $ 2,000
Future Investment

Intrusion Detection (IDS)

An intrusion detection system provides a means to have the building secured and monitored remotely. Door contacts and motion detectors (as well as other detection devices) are terminated to a control panel that reports alerts to a remote Central Station, who in turn contacts police, roving security and school staff.

Existing Conditions: The present IDS consists of perimeter door contacts and motion detectors in corridors throughout the buildings. Each building can be armed/disarmed through an IDS Keypad.

Recommendation: Similar to the comments made regarding perimeter door monitoring (in ACS section), perimeter doors that are part of the IDS should report to the ACS which has greater capabilities for programming and user interface (i.e. monitoring capabilities and shunt time changes due to events) ACS to the IDS would allow both systems to simultaneously monitor perimeter doors and programming of the ACS outputs should be set to allow only after hour alarms to be reported to the Central Station. The integration between the two systems would

allow for local monitoring (in-house security and multi-media alerts to administrators) of all doors during hours the buildings are occupied, and off-site (Central Station) monitoring when the buildings are unoccupied.

Estimated Cost: Cost captured in ACS section

There is presently no set schedule for testing the IDS.

Recommendation: A policy and procedure should be instituted to test the IDS on a monthly (or quarterly) basis to ensure all components function properly. Testing should include transmitting alarms through to the Central Station to validate the digital dialer and phone line integrity.

Estimated Cost: $ 0 (if using existing security and custodial staff)
Immediate Action

Duress Buttons

Duress Buttons provide a means of notifying school administrative staff and police of a situation that requires an immediate response. Duress buttons can report to the ACS and IDS to ensure notification (on screen, text message and remote Central Station).

Existing Conditions*:* There are no duress buttons presently installed or in use. School administrators, Security Staff and School Resource Officers are at times dealing with agitated students and/or parents.

Recommendation: Duress Buttons should be installed in the Main Office and all House Offices. It is recommended that (2) buttons be installed in each of these locations to ensure that someone within the space would be able to activate the button without being seen by the individual causing concern. Additionally, Duress Buttons should be installed in Nursing Stations, the School Resource Office (where interviews may take place), and in Guidance Offices (where one on one counselling occurs).

Estimated Cost: $ 5,000
Future Investment

School administrators have looked into *COPsync911* software to allow rapid alerts to be sent to the Lowell Police Department. This is a third party software system that allows a staff member to click a link that is sent to the police. The system opens up a two-way communication link between the school and first responders to ensure that responders know the status of the situation and what resources are needed in their response.

Recommendation: It is recommended that this or a similar system is purchased and client software installed in the Main Office and all House Offices. Additionally, Security Staff and School Resource Officers should have access to the system to ensure all are aware of ongoing situations within the school to ensure the fastest, most informed response.

Estimated Cost: Cost unknown
Future Investment

Visitor Management

Visitor Management encompasses both physical control (who is allowed in the buildings) and identification of visitors (badges worn by visitors during normal school hours). There are many challenges involved in the control of visitors in a school setting, especially with the diverse programs, times and locations of events. Visitors range from parents, contractors, visiting teams, night students and a variety of others.

Existing Conditions: Security staffs the visitor entrance at Door#1 of the Lord Building from 7:00 AM to 11:00 PM. At the security desk, they operate a visitor badging system (Raptor) that records the visitor's name, purpose of their visit and who they are to meet with (if applicable). The Raptor system produces a paper badge that the visitor is to wear within the building. They like the system and it works well.

Concerns voiced by both Security and Administrative Staff are in regard to the entry configuration. The security desk is to the right entering the Lord Building in a large open foyer area. The door that visitors enter (one of three sets of double doors) is the furthest from the desk. That door is equipped with a card reader and electrified locking hardware. During high volume times, several individuals may enter and the security staff have a hard time watching to ensure that each visitor reports to the desk, is signed in and receives a badge. Only a few steps from the entry door in the opposite direction from the security desk is the elevator alcove (out of site of the desk) and central Lord Building corridors with access to stairs.

> ***Recommendation:*** Use of the furthest door should be reserved for those staff members with card access credentials. Electronic locking hardware should be installed on the door closest to the security desk and that door should be reserved for visitor use. Some means of partitioning should be used to ensure once a visitor enters, they cannot bypass the security check-in (i.e. a velvet rope and station system).
>
> ***Estimated Cost:*** $ 3,000
> **Future Investment**

When the gymnasium in the Field House is used for sporting events, the main entrance to the Lord Building by the security desk is the primary visitor entrance. When swim meets occur, the primary entrance is Door #16 on the rear of the Field House. This door also leads to the locker room area of the Field House.

> ***Recommendation:*** It is recommended that a temporary security desk be set up and used for Door #16 during swim meets to screen visitors.
>
> ***Estimated Cost:*** $ 0 (staffing costs would be related to frequency of event)

Due to building and life safety code issues, corridors and stairwells cannot be blocked off during after school events. This is a problem in that there are many after school activities (sports, music programs, tutoring, adult evening classes, etc.), where people have access to move through the buildings. Staff members are used where possible during events to ensure the public does not have free roam, but the problems can't be stopped with the many pathways available.

Recommendation: Additional corridor cameras were previously recommended (VMS Section), that will assist in stopping unauthorized movement within the buildings. All stairwells and elevators should be covered and specific multiplexed VMS views (grouping cameras showing these pathways) should be established to provide enhanced monitoring capabilities to the Security Staff.

Estimated Cost: Costs captured in VMS section

Delivery drivers sometimes enter the building (loading dock at rear of the Lord Building) without signing in.

Recommendation: TSG previously recommended the utilization of the existing audio/video intercom (in the COMMS Section). Controlling this door with the existing card reader and the video/intercom system would minimize the potential of any unauthorized or unrecorded individuals entering the building.

Estimated Cost: $ 0
Immediate Action

Staffing

Security related staffing concerns involve school administrators, custodial staff, faculty, security personnel and police. Each group has duties and responsibilities that, in combination, provide the backbone of school security.

Existing Conditions: LHS is well staffed in regards to security. In addition to administrative, custodial and faculty staff, the school employs an internal security force and has School Resource Officers from the Lowell Police Department.

Administrative staff have the responsibility of maintaining systems in proper operating condition, as well as ensuring all staff members who interact with the electronic systems are thoroughly trained. At this time, there is not a true system administrator to handle these duties.

Recommendation: As previously recommended in the ACS and VMS sections, either an individual or a department should be assigned the duty of system administrator. That position should be responsible for policies and procedures to ensure all is equipment is functional and all personnel are trained.

Estimated Cost: $ 0
Immediate Action

Custodial staff control the locking and unlocking of the buildings on a daily basis and are always in the school when any function occurs. Custodians arm the IDS at the end of the day and disarm it first thing in the morning. Custodial staff are in the buildings from 6:00 AM to 11:00 PM. There is a primary and at times a secondary custodian in each building.

Security Staff have multiple shifts to deal with school operations:

- 6:00 AM - 2:15 PM (1) staff member

- 7:00 AM – 3:00 PM (6) staff members
- 3:00 PM – 11:00 PM (1) staff member

Security Staff are located at various locations throughout the day:

- (1) staff member at security desk in Lord Building lobby
- (1) floater at all times for each building
- Security monitoring room staffed at most times during the day, but there are times when no one is available due to other duties

Recommendation: Due to the fact that the security monitoring room is equipped with several large screen monitors that would be essential command and control equipment in the event of an emergency situation, it is recommended that this room be staffed at all times.

Estimated Cost: $ 0
Immediate Action

Other

There were a few comments or concerns that did not fall under the previously discussed categories. We have included them under the Other heading to ensure they were captured within the report.

Existing Condition: TSG reviewed a small sample of classroom door hardware for lockdown capability. Those doors reviewed have knob set lock bodies with a push button on the interior to activate the lock. This style lock is well suited for a classroom in that the door can be locked from inside the room (as opposed to a lockset that requires a key from the outside), in the event of a school lock down situation. One concern noticed was that doors that interconnect two classrooms had the same lockset, securing only one room of the two.

Recommendation: A code review should be performed to understand the significance of the second (connecting) door in regards to room capacity and egress. If the connecting door is a required egress path from both rooms, the existing knob set needs to be changed to a passage set (latchbolt is always retracted by the lever from either side), allowing free travel in both directions (no locking capabilities). If the connecting door is not a required egress path, the hardware should be changed to either an institutional lockset (the latchbolt is retracted by a key on either side), or a passage set with a deadbolt that is keyed on both sides.

Estimated Cost: $ 300/door
Immediate Action (Base Repair)

Recommendation: All classrooms and offices should have the ability for the door to be locked from the inside.
Estimated Cost: $ 300/door
Immediate Action (Base Repair)

In reviewing the *Lowell High School Code Report_2016-09-16*, a few items listed have significant impact on security. There were perimeter and stairwell doors without functioning mechanical door closures.

Recommendation: Door closures are a key security component and need to be repaired or replaced to ensure the integrity of the building perimeter.

Estimated Cost: $ 500/door
Immediate Action (Base Repair)

Also noted in the *Lowell High School Code Report_2016-09-16*, was the fact that stairwells were used for storage. In addition to the code issue (blocking a means of egress), the items stored could contribute to injuries, the area could be used to hide objects and it increases the potential for theft.

Recommendation: No storage should be allowed in a publically accessible area.

Estimated Cost: $ 0
Immediate Action

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LOWELL HIGH SCHOOL
Lowell, Massachusetts

Existing Conditions Evaluation / Base Repair Structural Report
October 21, 2016
PE Project #67150.00

INTRODUCTION

Foley Buhl Roberts & Associates, Inc. (FBRA) is collaborating with *Perkins Eastman (PE)* and their consultants in the review and evaluation of structural issues/conditions at the Lowell High School in Lowell, MA. The purpose of this report is to identify and describe the structural systems of the various buildings and to comment on the structural issues/conditions observed. Recommended repairs to the subject buildings are also identified. Potential Renovation/Addition and New Construction options will be addressed in a future, separate narrative; however, general comments are provided at the end of this report.

Structural conditions at the Lowell High School were reviewed at the site on August 26, 2016 and on September 8, 2016. FBRA also conducted site reviews of Lowell High School buildings in July 2013, as part of the Comprehensive Facilities Assessment | Master Plan Report prepared for the Lowell Public Schools District.

No exploratory demolition or structural materials testing were performed in conducting this study. No subsurface soils information or geotechnical studies/reports were available.

Refer to the Existing Conditions/Base Repair reports prepared by PE and the other consultants for further information. Code related issues are addressed in the *Existing Conditions Code Report* prepared by the Sullivan Code Group of R. W. Sullivan Engineering, dated September 16, 2016. Gross floor areas noted in this report were obtained from 2013 *Comprehensive Facilities Assessment* and are subject to confirmation.

GENERAL OVERVIEW

The Lowell High School is comprised of four main buildings (Kouloheras, Lord/Fieldhouse, the Freshman Academy and the Steam Plant), located along Father Morissette Boulevard/French Street in Lowell. The Lord building is the only building on the campus located on the west side of the Merrimack Canal. It is connected to the Kouloheras building by two enclosed pedestrian bridges, spanning over the canal between the buildings at their Second Floor levels. The Freshman Academy (originally the Lowell Trade School) and Steam Plant buildings are located on the east side of the High School's campus, one block over from the Kouloheras building. Separate descriptions of each building are provided below.

I. KOULOHERAS BUILDING

Structural conditions at the Kouloheras Building were reviewed at the site on August 26, 2016 and September 8, 2016.

The following documents for this building were reviewed in the preparation of this report:

Addition to the Lowell High School: Henry L. Rourke Architect; Various HVAC and Electrical Drawings, prepared by Richard D. Kimball Co. Engineers, undated (Circa 1917).

Alterations to Coburn Hall: Structural Drawing S1, prepared by James E. MacDonald Assoc., Inc., dated February 15, 1980.

Alterations to Coburn Hall: Architectural Drawings A1 to A11, prepared by Paul L. Davies & Associates/William J. Gavin & Associates, dated February 15, 1980.

Improvements to Lowell High School: Structural Drawings S-1 and S-2, prepared by Andrew S. Pike & Associates, dated July 11, 1983.

Improvements to Lowell High School: Architectural Drawings A-1 to A-7, prepared by Davies & Gavin, Architects, Inc., dated July 22, 1983.

Lowell High School Renovations – Task 1: Structural Drawings S001 to S504 and Architectural Drawings A101 to A03, prepared by Sverdrup Facilities Inc., dated December 11, 1995.

Lowell High School Renovations – Task 2: Structural Drawings S001 to S512 and Architectural Drawings A001 to A811, prepared by Sverdrup Facilities Inc., dated December 11, 1995.

Lowell Public Schools - Comprehensive Facilities Assessment: Master Plan Report and Existing Conditions Documentation, prepared by OMR Architects, dated July 2013.

Original Structural and Architectural Drawings were not available for the 1892 and 1922 sections of the building at the time of this report. The descriptions of Structural and Architectural systems provided within this report for these sections were derived from observations on site or obtained from the renovation and alteration drawings listed above.

A. General Description

The Kouloheras Building consists of the three main parts: the original Coburn Hall Building, constructed in 1892, a significant classroom/Auditorium addition, constructed on the north side of Coburn Hall in 1922, and the smaller, 1995 addition to the north end of the 1922 building. The 1995 addition is separated from the 1922 building at each level by an expansion joint. The three-story Kouloheras Building has a full basement and is located on the east side of the Merrimack Canal, which separates it from the Lord Building. The total, gross floor area of the building is approximately 322,000 square feet.

Each level of the building is comprised mainly of classrooms. The Auditorium, a triple-height space, is located on the First Floor at the north end of the 1922 building.

B. Structural Systems Description

General Construction: Pitched roof construction of the original 1892 section of the building is wood framed, supported by steel and wood trusses. The existing wood framing and trusses underwent extensive repairs/reinforcing during the 1995 renovations to the building. The First, Second and Third Floor construction of the 1892 portion of the building consists of tongue and groove wood plank on wood joists spanning to brick masonry bearing walls. The existing wood framing at these levels also underwent extensive repairs/reinforcing during the 1995 renovations to the building.

Due to a lack of existing drawings and the presence of hard finishes which obscure the structure, the flat roof construction of the 1922 portion of the building is largely unknown (with the exception of the Auditorium roof where steel trusses are present). However, our observations and limited original drawings suggest that at least some sections of the building

are reinforced concrete slab construction (concrete slabs with masonry block or tile forms, supported on masonry bearing walls).

Flat roof construction of the 1995 addition is steel framed, with metal deck spanning to steel joists and beams/girders supported by steel columns. The First, Second and Third Floor construction of the 1995 addition consists of concrete slab on metal deck spanning to steel beams supported by steel girders and columns.

Lowest level construction is a concrete slab on grade with a mixture of fieldstone and concrete foundations.

Structural Materials: Structural material strengths for the 1892 and 1922 portions of the building are not available. Material strengths for the 1995 addition and renovation are as follows:

Minimum 28 - Day concrete compressive strength for concrete:
Foundations and Slabs on Grade – 3,000 psi
Flat Work – 4,000 psi

Steel reinforcing is deformed bars conforming to ASTM A615, Grade 60.

Allowable bending stress for Structural Steel:
Rolled Shapes and Plates – ASTM A36 (36,000 psi)
Steel Tubes (Round) – ASTM A500 Grade B (42,000 psi)
Steel Tubes (Rectangular) – ASTM A500 Grade B (46,000 psi)
Steel Pipes – ASTM A53 Grade B (35,000 psi)

Subsurface Soils and Foundations: Subsurface conditions for the 1892 and 1922 portions of the building are not available. Brick and field stone foundation walls in these areas were observed on site. Conventional spread footings for the 1995 addition were proportioned on the basis of a 4.0 tons per square foot (tsf) maximum allowable bearing pressure.

Story Heights: Story heights are as follows:

Basement to First:	13’-3”
First to Second:	13’-6”
Second to Third:	13’-7”
Third to Roof:	21’-3”

Design Live Loads: Design live loads for the 1892 and 1922 portions of the building are not available. Loads for the 1995 addition and renovation are as follows:

Library:	130 psf
Classrooms:	50 psf
Corridors:	100 psf
Stairs:	100 psf
Snow:	30 psf

The building structure appears to have performed satisfactorily over time; there are no indications of structural overstress or failure. A comprehensive investigation and evaluation of the floor and roof structural capacity is beyond the scope of this report. Note that the current code requires a flat roof design snow load (non-drift areas) of 38.5 psf.

Expansion Joints: The 1995 addition is separated from the 1922 building by an expansion joint at each level. No other expansion joints are present within the building.

Roof Construction: Construction of the pitched low roof areas on the east and west ends of the 1892 building consists of 7/8" wood sheathing over 2x10 and 2x8 rafters spaced at 18" on centers and supported by 6x12 purlins. The wood purlins span to wood trusses. During the 1995 renovations, 12" deep steel bar joists were added between existing rafters to reinforce the roof structure at areas susceptible to snow drift loading. Steel members (channels and angles) were also installed to reinforce the existing valley and ridge beams, purlins and wood trusses at that time. An Attic space is present below the low roof areas of the 1892 building. Attic floor construction consists of ¾" plywood sheathing over 2x10 and 2x8 joists spanning to 6x8 beams and/or masonry bearing walls. In 1995, the Attic Floor was reinforced with 12" and 14" deep steel bar joists, installed at 3'-0" on centers between the existing 2x8 and 2x10 wood joists, respectively.

Construction of the high, pitched roof area over the middle portion of the 1892 building consists of 1" wood sheathing spanning to 2x10 rafters spaced at 16" on centers supported by 6x12 purlins. The wood purlins span to steel trusses spaced at approximately 16'-0" on centers. Similar to the low roof structure, steel members were installed to reinforce the existing purlins and steel trusses in 1995. A structural grid for a new suspended ceiling, consisting of steel channels and cold formed metal studs hung from the bottom chords of the existing steel trusses, was also installed at that time.

Roof construction for the 1922 portion of the building is unknown. However, as previously mentioned, a reinforced concrete structure is suspected.

Roof construction of the 1995 addition consists of 1½" deep, 20 gauge metal decking over steel joists spaced at approximately 5'-4" on centers. Steel joists span to wide flange steel girders supported by wide flange steel columns.

Upper Floor Construction: Second and Third Floor construction for the 1892 portion of the building consists of 2-3/4" thick tongue and groove planks spanning to 10x16 wood joists, reinforced with 9" deep steel channels on each side. Floor joists are supported by steel wide flange beams and/or masonry bearing walls. First Floor construction for the 1892 portion of the building consists of 2¾" thick tongue and groove planks spanning to 8x14 wood joists, reinforced with 9" deep steel channels on each side. Joists span to 10x14 wood beams, with 12" deep steel channel reinforcing.

Floor construction for the 1922 portion of the building is unknown. However, as previously mentioned, a reinforced concrete structure is suspected.

First, Second and Third Floor construction of the 1995 addition consists of a 2½" thick concrete topping slab over 2" deep, 20 gauge composite metal floor deck (4½" total slab thickness) spanning to wide flange steel beams spaced at approximately 5'-4" on centers. The steel beams span to wide flange steel girders, which are supported by wide flange steel columns.

Wall Construction: Exterior wall construction for the 1892 portion of the building consists of brick bearing walls, approximately 28" thick. The exterior walls of the 1922 addition are masonry construction as well.

Exterior wall construction for the 1995 addition consists of a light gauge stud backup with brick veneer and punched window units. A continuous relieving angle was provided at each framed level of the 1995 addition.

Interior partitions are typically light gauge metal stud wall construction within the 1995 addition and wood stud walls and/or brick masonry bearing walls within the 1892 building. Partitions in the 1922 addition are typically masonry.

Fire Resistance: Construction types vary throughout the building; ranging from unprotected wood and steel framing (original 1892 building), reinforced concrete construction (1922 addition) and structural steel (1995 addition). Per the previously referenced Code Report, the mix of different construction types in the original building and the 1922 addition results in a minimum of Type IIIB Construction (Combustible interior – no fire-resistance rating; 2 hour noncombustible exterior wall). The 1995 addition is protected steel framing; potentially Type IIIA Construction (1 hour rating). Further evaluation of the existing conditions and construction types permitted by the Code is required to determine what measures may or may not be necessary to address fire rating issues. The Kouloheras Building appears to be fully sprinklered.

Lateral Load Resistance: The lateral load resisting system for the 1995 addition consists of steel braced frames in the north-south direction and steel moment frames in the east-west direction. There is no defined lateral load resisting system in the 1892 building or the 1922 addition; by default, lateral loads are resisted by the (unreinforced) masonry walls.

C. Structural Conditions/Recommended Repairs

Structural Conditions at the Kouloheras Building were reviewed at the site (to the extent possible) on August 26, 2016 and September 8, 2016. Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members.

Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements.

Floors and roofs appear to have been constructed in general accordance with the Structural Drawings that were available.

Structural/structurally related conditions observed on site are summarized below; recommended repairs are noted in *italics*:

1. Building Exterior: In general, the existing yellow brick and mortar around the building's exterior are in good condition, with a few exceptions:

    - In a several locations, steel lintels over punched windows are showing signs of distress (lintel is sagging, rust is present, brick above is displaced, etc.); specifically those over the lower level basement windows. *Assume that approximately 10% lintel replacement; the balance of lintels should be cleaned and coated.*
    - There are open joints in the brick and stone in limited areas, were repointing is required. *Assume that less than 10% of the façade area requires repointing.*
    - Concrete spalling/deterioration around the aluminum railing posts at the Auditorium entrance was observed. *Remove and replace the existing railings with properly designed railings and repair the damaged concrete.*
    - Sections of the masonry cornice around the perimeter of the building were damaged or missing in some locations. *Evaluate the condition of the cornice around the building perimeter; repair/reset cornice units as required.*

- Downspouts from roof gutters discharge directly adjacent to the basement walls of the 1892 building. *All downspouts should be properly piped away from the building (to a drainage structure), to eliminate roof rainwater from being discharged adjacent to basement walls.*

2. Roof: The roof was not accessed during the either site visit. However, per the referenced, 2013 Master Plan Report, the pitched roof of the original 1892 building was recently replaced. Per the same report, the roofing over the remainder of the building is in poor condition and likely in need of replacement. Evidence of roof leaks was observed throughout the building. *PE has reviewed the existing roofs; replacement of the flat roofs is required. Drainage issues should be evaluated and addressed as part of the new roof design.*

3. Masonry Partitions: Interior masonry partitions generally appear to be in satisfactory condition. The anchorage/bracing of interior masonry partitions to the floor and roof construction as well of the height-to-thickness ratios will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor/brace the tops of all (non-structural) interior masonry partitions (approximately 4'-0" o.c. spacing of anchors/braces).*

4. The anchorage of exterior masonry walls to the floor and roof construction will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor the tops of all exterior masonry walls (approximately 4'-0" o.c. spacing of anchors).*

5. Efflorescence was observed on the north façade of the 1995 addition. *Clean/restore masonry surface in conjunction with future renovations to the building.*

6. Terrazzo flooring has cracked in some areas; elsewhere (tile) flooring has failed (potentially due sub-slab to moisture conditions). *Repair areas of damaged and/or deteriorated flooring as required, in conjunction future renovations to the building.*

7. The railing at the front of the Auditorium Balcony is only 33"+/- high and does not meet current code requirements. *Remove the existing railing and install a new, code compliant railing system.*

Refer to the APPENDIX at the end of this report, for photographs of structural/structural conditions that require repair.

II. LORD BUILDING

Structural conditions at the Lord Building were reviewed at the site on August 26, 2016 and September 8, 2016.

The following documents for this building were reviewed in the preparation of this report:

*Additions to the Lowell High Schoo*l: Structural Drawings S1 to S26 and Architectural Drawings A-01 to A-55, prepared by Lev Zetlin Associates Inc., dated May 26, 1978.

Alterations to the Lowell High School: Structural Drawings SS-1 to SS-5 and Architectural Drawings AA-01 to AA-22, prepared by Lev Zetlin Associates Inc., dated May 26, 1978.

Lowell High School Renovations – Task 1: Structural Drawings S001 to S504 and Architectural Drawings A101 to A403, prepared by Sverdrup Facilities Inc., dated December 11, 1995.

Lowell High School Renovations – Task 2: Structural Drawings S001 to S512 and Architectural Drawings A001 to A811, prepared by Sverdrup Facilities Inc., dated December 11, 1995.

Lowell Public Schools - Comprehensive Facilities Assessment: Master Plan Report and Existing Conditions Documentation, prepared by OMR Architects, dated July 2013.

A. General Description

The Lord Building is a steel and concrete framed building comprised of a three-story Academic Building and a two-story Fieldhouse/Natatorium that are connected by a glazed lobby. The Lord Building, located on the eastern bank of the Merrimack Canal, was constructed in 1980 and underwent minor renovations and an addition in 1995. Two enclosed pedestrian bridges, spanning over the canal, connect the Second Floors of the Lord and Kouloheras Buildings. The two bridges were constructed at different times: the south bridge at the same time as the Lord Building and the north bridge during the 1995 renovations to the school. The total, gross floor area of the building is approximately 211,330 square feet.

The Cafeteria, Kitchen and Administrative offices are located on the First Floor of the Academic Building. To the west, a long ramp off the glazed lobby connects the lowest level of the Fieldhouse/Natatorium to the main building. The Pool, Locker Rooms and Wresting and Weight Rooms are located at this level. On the Second Floor, a block of Classrooms is located between the Library to the south and the Little Theatre to the north. The Field House is also located this level. Additional Classrooms and the school's TV Studio compose the Third Floor.

B. Structural Systems Description

***General Construction*:** Roof construction of the Academic Building is steel framed, with metal deck spanning to steel joists and beams/girders supported by steel columns. The Fieldhouse roof construction consists of metal deck spanning to steel trusses, supported by steel bents which clear span the hexagonal space. Second and Third Floor construction of the Academic Building consists of a concrete slab on metal deck spanning to steel joists and beams/girders supported by steel columns. Second Floor construction of the Fieldhouse is similar, with the exception of the structure located over the Pool. Floor construction in this area consists of a reinforced concrete slab spanning to concrete encased wide flange steel beams, supported by steel columns. First Floor construction for both buildings consists of a concrete slab on grade, varying in thickness and reinforcing. Building columns are typically supported on pile foundations, as is the small, steel framed addition on the south end of the Academic Building constructed in 1995.

Structural Materials: Structural material strengths are noted on the original Structural Drawings as follows:

Minimum 28 - Day concrete compressive strength for concrete:
- Piles – 4,400 psi
- Framed Slabs – 4,000 psi
- Slab on Grade – 3,000 psi
- All others – 3,500 psi

Steel reinforcing is deformed bars conforming to ASTM A615, Grade 60.

Structural steel has an allowable bending stress of 50,000 psi.

Subsurface Soils and Foundations: Spread footings (portions of the Fieldhouse/Natatorium) were proportioned on the basis of a 6.0 tons per square foot (tsf) maximum allowable bearing pressure on the natural soils and 4.0 tsf maximum on controlled fill. However, the majority of the Lord Building is supported on a pile foundation. Grade beams (also serving as tie beams) of various size and reinforcing have been provided between pile caps and below perimeter walls and interior shear walls.

Story Heights: Story heights are as follows:

First to Second (Academic Building):	18'-0"
First to Second (Field House):	20'-0"
Second to Third (Academic Building):	13'-4"
Second to Roof (Field House):	21'-4" (to eave)
Third to Roof (Academic Building):	13'-4"

Design Live Loads: Design live loads are noted on the original Structural Drawings as follows:

Classrooms:	50 psf
Open Classrooms:	100 psf
Corridors:	100 psf
Locker and Assembly Rooms:	100 psf
Toilets:	60 psf
Others:	80 psf
Snow:	30 psf

The building structure appears to have performed satisfactorily over time; there are no indications of structural overstress or failure. A comprehensive investigation and evaluation of the floor and roof structural capacity is beyond the scope of this report. Note that the current code requires a flat roof design snow load (non-drift areas) of 38.5 psf.

Expansion Joints: There are two expansion joints in the building. One, running north-south, is located on the east side of the corridor linking the Academic Building and the Fieldhouse and is present at the Second Floor only. The second, running east-west, separates the southern portion of the Academic Building (between the Fieldhouse and southern pedestrian bridge) from the rest of the building. As previously noted, the Lord Building is structurally separated from the Kouloheras Building by expansion joints located on the west side of each pedestrian bridge.

Roof Construction: Roof construction of the Academic Building consists of 1½" deep, 20 gauge metal decking spanning to steel joists or wide flange beams, spaced at approximately 5'-0" on centers. Joists/beams span to wide flange steel girders supported by rectangular hollow tube (HSS) steel columns. The typical structural bay is 25'-0" by 25'-0".

Roof construction over the Fieldhouse consists of 6" deep, 16/18 gauge cellular metal decking spanning to steel trusses spaced at 18' ± on centers. The trusses, consisting of double angle diagonal members and WT top and bottom chords, are supported by six built-up steel bents, each spanning from one corner of the hexagonal space to a central connection point. Steel wide flange columns, spaced at 26'-0" on centers, are embedded in 12" thick CMU shear walls located at the perimeter of the six-sided Fieldhouse structure.

Second and Third Floor Construction: Second and Third Floor construction of the Academic Building consists of a 3½" concrete topping slab over 9/16", 28 gauge metal deck (4"+/- total slab thickness) spanning to steel joists spaced at approximately 2'-0" on centers. Steel joists span to wide flange steel girders, supported by steel columns. See the roof construction description above for typical bay sizes.

Second Floor construction in the Fieldhouse is similar to that in the Academic Building (described above), except for the portion of floor located over the Pool. At this location, the concrete slab on deck is replaced by a 10" thick reinforced concrete slab supported by 36" deep, concrete encased, wide flange steel beams. The concrete encased beams, spaced at 25'-0" on centers, span 60'-0" to rectangular hollow tube steel columns located on the east and west sides of the Pool.

Foundations and First Floor Construction: As previously noted, the building is supported by reinforced concrete grade beams (at exterior walls and below CMU shear walls) and pile foundations. First Floor slab on grade construction varies throughout the building. Below the southern portion of the Academic Building, an 8" thick, structural concrete slab on grade has been provided. The slab on grade is supported by 3'-0" deep x 1'-8" wide reinforced concrete grade beams running along the major east-west column lines.

First Floor construction for the remainder of the Academic Building consists of an 8" thick concrete slab on grade, reinforced with welded wire fabric, thickened to 14" for 2'-0" wide strips on all major column lines.

First Floor construction of the Fieldhouse consists of a 4" thick concrete slab on grade reinforced with welded wire fabric. Below the Pool, an 8" thick concrete slab has been provided. Columns at the perimeter of the Pool are supported by conventional spread footings. A 10" thick reinforced concrete slab with integral beams, supported by reinforced concrete columns on spread footings, completes the First Floor construction over the partial basement (Pool Chemical Room) on the west side of the Fieldhouse.

Pedestrian Bridge Construction: Although constructed at different times, the structure of the two, three-span pedestrian bridges is similar. The south bridge, built in 1980, is constructed with 6" deep, 16/18 gauge metal deck with a 4" concrete topping slab spanning to 36" deep, upturned wide flange steel beams running along each side of the bridge. Embedded within the slab are 8" deep steel channels, spaced at 4'-0" on centers along the length of the bridge, which tie/brace the bottom flanges of the upturned beams on each side of the bridge. The upturned steel beams are supported on each side of the Merrimack Canal by 24" deep wide flange steel girders (with 3/8" full height face plates each side); each supported at midpoint by a single 20" diameter steel pipe column on pile foundations. Slide bearing pads have been provided at the each end of each bridge, where they tie into the Kouloheras and Lord Buildings, and also above the W24 girder located on the east side of the canal (however, not at the W24 girder located on the west side of the canal).

The north bridge, built in 1995, is constructed with 2" deep metal deck and a 2½" concrete topping slab (4½" total slab thickness), spanning to 8" deep steel channels spaced at 4'-0" on centers. Similar to the 1980 bridge, the channels span to 36" deep, upturned wide flange steel beams which are supported by 24" deep steel girders on 20" diameter steel columns with a pile foundation. Slide bearing conditions are similar to the older bridge.

Wall Construction: Exterior wall construction consists of brick veneer and/or split face concrete block, cement asbestos panels, glazing, and continuous or punched window units. Concrete block backup wall thicknesses vary from 8" to 12". A continuous relieving angle is provided at each framed level around the entire perimeter of the building.

Interior partitions (classroom demising walls, corridors, etc.) are typically light gauge metal stud wall construction or interior CMU shear walls strategically located throughout the building.

Fire Resistance: The unprotected steel framing has no fire resistance rating (Type IIB Construction). The Academic Building appears to be fully sprinklered; however, sprinklers have not been provided in the Fieldhouse/Natatorium. It appears that a fire wall was provided in the original construction, separating the Academic Building from the Fieldhouse/Natatorium (different uses) and allowing each to be noncombustible, unprotected construction. As the Kouloheras Building is connected to the Lord Building via the two pedestrian bridges, additional measures (i.e. fire/smoke rated doors at the ends of the bridges) would be required to consider the buildings to be fire separated (note that they are structurally separated, due to the presence of the aforementioned expansion joints).

Lateral Load Resistance: The Lord Building was designed and constructed following the introduction of seismic code provisions in Massachusetts. Lateral loads are resisted by reinforced masonry shear walls, strategically located throughout the Academic Building and the Fieldhouse/Natatorium.

C. Structural Conditions/Recommended Repairs

Structural Conditions at the Lord Building were reviewed at the site (to the extent possible) on August 26, 2016 and September 8, 2016. Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members.

Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements.

Floors and roofs appear to have been constructed in general accordance with the original Structural Drawings.

Structural/structurally related conditions observed on site are summarized below; recommended repairs are noted in *italics*:

1. Building Exterior:

    - Horizontal cracks in the masonry supported by the continuous relieving angles provided at each level were observed at the Academic Building and at the Fieldhouse/Natatorium. *Further evaluation of as-built details/conditions is recommended. These conditions exist throughout each of the buildings and represent a potential hazardous situation. The preliminary cost estimate should include costs to repair the brick and relieving angle system.*
    - Soffit construction (aluminum panel) is sagging/damaged in the area over the exhaust for the below ground Pool Room. *Repair/replacement of aluminum soffit required.*
    - Staining and spalling of the brick façade at the integral downspouts around the perimeter of the Fieldhouse was observed. The integral downspout system does not appear to be functioning as intended. *Further evaluation and*

design/installation of an alternate downspout detailing recommended. Cleaning of adjacent masonry will also be required.

- Cement board panels around the building are in various stages of deterioration (broken, detached, missing, open joints, etc.). *Repair/replacement of panels required.*
- Some cracks were observed in exposed foundation walls; including one location at the northwest corner of the Academic Wing. *Repair by epoxy injection recommended, to prevent further freeze-thaw deterioration.*

2. Masonry Walls: Interior (stack bond) masonry walls are generally in satisfactory condition. However, cracking was observed in the stair well on the west end of the Fieldhouse. Further review of stairwell masonry construction is recommended. The anchorage/bracing of interior masonry partitions to the floor and roof construction as well of the height-to-thickness ratios will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor/brace the tops of all (non-structural) interior masonry partitions (approximately 4'-0" o.c. spacing of anchors/braces).*

3. The anchorage of exterior masonry walls to the floor and roof construction will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor the tops of all exterior masonry walls (approximately 4'-0" o.c. spacing of anchors).*

4. Pool Deck: The Pool area was not accessed during either recent site visit; however, FBRA observed deterioration of the concrete slab pool deck (from below) in 2013. The reinforced concrete structure in this area should be evaluated and repaired as required. *The preliminary cost estimate should include costs for concrete repairs to the entire pool deck (chipping, cleaning, rebar coating, patching, etc.).*

5. The condition of the Field House floor (above the pool) was not determined. Due to the deleterious nature of the swimming pool environment, FBRA recommends that this construction be inspected for signs of distress/deterioration (currently obscured by finishes).

6. Roof: The roof was not accessed during the either site visit. However, evidence of roof leaks was observed throughout the building. *PE has reviewed the existing roofs; replacement of the flat roofs is required. Drainage issues should be evaluated and addressed as part of the new roof design.*

Refer to the APPENDIX at the end of this report, for photographs of structural/structural conditions that require repair.

III. FRESHMAN ACADEMY

Structural conditions at the Freshman Academy were reviewed at the site on September 8, 2016.

The following documents for this building were reviewed in the preparation of this report:

Renovations for the Arts & City Schools: Structural Drawings S1 to S7, prepared by Engineers Design Group Inc., dated July 29, 1985.

Renovations for the Arts & City Schools: Architectural Drawings A1 to A44, prepared by HMFH Architects Inc., dated July 29, 1985.

The Magnet Arts & City Schools Renovations: Various Architectural (Reflected Ceiling Plans), HVAC and Electrical Drawings, prepared by Sverdrup Facilities, Inc., dated April 2, 1997.

Lowell Public Schools - Comprehensive Facilities Assessment: Master Plan Report and Existing Conditions Documentation, prepared by OMR Architects, dated July 2013.

Original Structural and Architectural Drawings were not available for the 1900 and 1939 sections of the building at the time of this report. The descriptions of Structural and Architectural systems provided within this report for these sections were derived from observations on site or obtained from the renovation and alteration drawings listed above.

A. General Description

The Freshman Academy is comprised of an original, three-story wood and steel framed structure, with a full basement, constructed in 1900 (one block east of the Kouloheras Building), fronting Paige Street. An attached, two-story steel and concrete framed addition (of similar size), with a partial basement was constructed in 1939 on the north side of the original building. The facility underwent significant renovations 1985. The total, gross floor area of the building is approximately 92,760 square feet.

The Cafeteria/Multi-Purpose Room, Kitchen and Theater are located in the Basement of the 1900 portion of the building. The 1939 steel framed portion of the facility is mostly unexcavated at this level, except for the middle third of the building, which houses a few Classrooms. Administrative Offices and Classrooms are located on the First Floor, which also hosts a central Courtyard with large skylights. Classrooms compose the Second and Third Floors. An Elevator Penthouse, constructed as a part of the 1985 renovations, and a Mechanical Room are located on the west side of the 1939 portion of the building at the Third Floor level.

B. Structural Systems Description

Structural Description: The original (1900) building is primarily wood framed. Third and Second Floor construction consists of wood flooring over wood joists. First Floor construction is similar, with wood floor joists spanning to large steel trusses which clear span the Cafeteria and Theater spaces below. The 1939 (addition) portion of the building is concrete and steel framed, with roof construction consisting of metal deck spanning to steel joists and beams/girders. Second Floor construction consists of concrete slab on metal deck spanning to steel joists and beams/girders. First Floor construction consists mainly of concrete slab on grade construction. Floor construction over the middle third of the addition (where a basement is present below) is concrete slab on metal deck, spanning to steel joists. The central Courtyard, located at the First Floor between the 1900 and 1939 buildings, is constructed with metal deck spanning to wide flange steel beams. Three steel framed skylight openings allow natural light to pass into the basement corridor below. The lowest level construction is concrete slab on grade. Structural information related to existing foundation was not available.

Structural Materials: Structural material strengths for the building were not available.

Subsurface Soils and Foundations: No subsurface soils information was available. It is assumed that the building is supported on a spread footing foundation. Foundation walls in the original building are mortared field stone; concrete foundation walls were constructed in the 1939 addition.

Story Heights: Story heights are as follows:

Basement to First:	11'-0"
First to Second:	13'-0"
Second to Third:	13'-6"
Third to Roof:	13'-3"

Design Live Loads: Design live load information is not available for the building; however, the floor structure appears to be performing satisfactorily under the current use.

Expansion Joints: There is no expansion joint between the original building and the 1939 addition.

Exterior Walls: Exterior wall construction is load bearing unreinforced masonry (approximately 16" thick at the 1939 addition).

Fire Resistance: Wood and steel framed floor and roof construction has no fire resistance rating, other than that which may be provided by the original plaster ceilings. Per the Code Report, the minimum classification for this building would be Type IIIB Construction (combustible interior – 1 hour fire resistance rating; 2 hour noncombustible exterior wall). The Freshman Academy appears to be fully sprinklered.

Lateral Load Resistance: There is no defined lateral load resisting system; by default, lateral loads are resisted by the (unreinforced) masonry walls.

C. Structural Conditions/Recommended Repairs

Structural Conditions at the Freshman Academy were reviewed at the site (to the extent possible) on September 8, 2016. Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members.

Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements.

Structural/structurally related conditions observed on site are summarized below; recommended repairs are noted in *italics*:

1. Building Exterior:

    - Patching and repointing of concrete and masonry elements in the original 1900 building were observed in various locations adjacent to the 1939 Addition. *Similar repairs are recommended elsewhere, on the exterior of the original 1900 building.*
    - Brick joints in the 1939 addition generally appear to be in satisfactory condition; however, joints in the original building are typically in poor condition. *The preliminary cost estimate should include costs for repointing 10% of the 1939 addition and 100% of the original 1900 building.*
    - Face brick at the original building and the addition (the east side in particular) has spalled in a number of locations; this brick is vulnerable to further deterioration resulting from freeze-thaw action. *Remove and replace face brick in limited areas of each building.*

- Cracks in stone window sills were observed in limited locations (1939 addition). *Repair stone sills as required*.
- Steel loose lintels at the 1939 addition have corroded in a number of locations; rust-jacking of the brick has occurred. There are no steel lintels at the original building (brick arches provided). *Remove and replace approximately 10% of the lintels; elsewhere, clean and coat the existing lintels.*

2. Further review of the (low) skylight/roof between the original building and the 1939 addition is recommended. This is an area where significant snow and rainwater can accumulate. *The preliminary cost estimate should include costs for a separately piped, overflow drain system to prevent a potential unsafe accumulation of rainwater on this roof. Costs for reinforcing this roof (approximately $20.00/SF) should be included as well.*

3. Masonry Walls: Interior masonry walls are generally in satisfactory condition. The anchorage/bracing of interior masonry partitions to the floor and roof construction as well of the height-to-thickness ratios will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor/brace the tops of all (non-structural) interior masonry partitions (approximately 4'-0" o.c. spacing of anchors/braces).*

4. The anchorage of exterior masonry walls to floor and roof construction will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor the tops of all exterior masonry walls (approximately 4'-0" o.c. spacing of anchors).*

5. Water damage to ceilings was observed in a number of locations, relating to roof leakage. *PE has reviewed the existing roofs; replacement of the flat roofs is required. Drainage issues should be evaluated and addressed as part of the new roof design.*

6. Flooring has failed in a number of locations and the substrate appears to be "punk". A gypsum leveling course may be present, which has deteriorated over time from high traffic and routine maintenance (mopping). *Further evaluation is recommended. The preliminary cost estimate should include costs to remove and replace flooring/leveling materials.*

Refer to the APPENDIX at the end of this report, for photographs of structural/structural conditions that require repair.

IV. STEAM PLANT

Structural conditions at the Steam Plant were reviewed at the site on September 8, 2016.

The following documents for this building were reviewed in the preparation of this report:

Addition to the Lowell High School: Henry L. Rourke Architect; Various HVAC and Electrical Drawings (Including the Steam Plant), prepared by Richard D. Kimball Co. Engineers, undated (Circa 1917).

Lowell Steam Plant: Architectural Drawings A101 to A401, prepared by Sverdrup Facilities Inc., dated April 22, 1996.

Lowell Public Schools - Comprehensive Facilities Assessment: Master Plan Report and Existing Conditions Documentation, prepared by OMR Architects, dated July 2013.

Original Structural and Architectural Drawings were not available for the Steam Plant at the time of this report (only HVAC and Electrical Drawings were available). The descriptions of Structural and Architectural systems provided within this report for this building were derived from observations on site or obtained from the renovation and alteration drawings listed above.

A. General Description

The Steam Plant is a one-story concrete and steel framed structure, with brick bearing walls, constructed in 1939 and renovated in 1996. The approximately 2,500 square foot building houses the major mechanical equipment (generator and boiler) for the adjacent Freshman Academy. A clerestory space, with louvers on all sides, projects up above the main roof at the center of the building. An access ladder extends from the ground floor to a small grated platform at roof level. A full height CMU enclosure was constructed around the Generator/Electrical Room during the 1996 renovations. At the southwest corner of the building, a stairway leads down to a passageway/storage area below the neighboring National Park Service building and a tunnel below Kirk Street to the Lord Building.

B. Structural Systems Description

General Construction: The building is steel and concrete framed with brick bearing walls. Roof construction consists of concrete slab over steel trusses which clear span the space to brick bearing walls on building's north and south sides. First Floor construction consists of concrete slab on grade with concrete pads below the larger pieces of equipment. Structural information related to existing foundation construction is limited.

Structural Materials: Structural material strengths for the building are not available.

Subsurface Soils and Foundations: Subsurface soils and foundation information for the building are not available.

Story Heights: Story height information for the building was not determined.

Design Live Loads: Design live load information is not available for the building.

Expansion Joints: There are no expansion joints within the building.

Roof Construction: Roof construction consists of concrete slab supported by concrete encased steel beams, which span to three equally spaced steel trusses. Steel trusses clear span the building and are supported by perimeter brick bearing walls on the north and south sides of the building.

Floor Construction: Floor construction consists of concrete slab on grade (thickness unknown). Concrete housekeeping pads have been provided for equipment.

Wall Construction: Exterior wall construction consists of brick bearing walls (approximately 16" thick). A full height enclosure, consisting of 12" thick CMU wall construction, was installed around the Electrical Room as part of the 1996 renovations. Continuous concrete footings were provided below the interior CMU walls.

Fire Resistance: The unprotected steel roof framing has no fire resistance rating (Type IIB Construction). The Steam Plant has not been equipped with a sprinkler system.

Lateral Load Resistance: There is no defined lateral load resisting system; by default, lateral loads are resisted by the (unreinforced) masonry walls.

C. Structural Conditions/Recommended Repairs

Structural Conditions at the Steam Plant were reviewed at the site (to the extent possible) on September 8, 2016. Generally speaking, floor and roof construction appear to be in satisfactory condition; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated or failed structural members.

Foundations appear to be performing adequately; there are no signs of significant, total or differential settlements.

Structural/structurally related conditions observed during our site visit are summarized below; recommended repairs are noted in *italics*:

1. Building Exterior:

    - Patching and repointing of masonry elements were conducted during the 1996 renovations. *Similar repairs are recommended for the brick stack (see photos).*

    - Masonry Walls: There are areas where the existing brick bearing walls are showing signs of deterioration, specifically at the building's southwest corner where an exterior ramp was constructed tight to the exterior wall. *The preliminary cost estimate should include costs to repair the brick construction (see photos).*

2. Masonry Walls: Interior masonry walls surrounding the Generator/Electrical Room are generally in satisfactory condition. The anchorage/bracing of these walls to the roof construction as well of the height-to-thickness ratios will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor/brace the tops of (non-structural) these walls (approximately 4'-0" o.c. spacing of anchors/braces).*

3. The anchorage of exterior masonry walls to the roof construction will need to be evaluated and addressed (per code) if the building is renovated in the future (or undergoes a voluntary repair). *The preliminary cost estimate should include an allowance to anchor the tops of all exterior masonry walls (approximately 4'-0" o.c. spacing of anchors).*

Refer to the APPENDIX at the end of this report, for photographs of structural/structural conditions that require repair.

RECOMMENDED FIELD INVESTIGATIONS

With the exception of the Lord Building (including the Fieldhouse/Natatorium) and the 1995 addition to the Kouloheras Building, limited structural documentation was available. In particular, there were no structural documents for the 1922 addition to the Kouloheras Building and the Freshman Academy (both the original building and the 1939 addition). Accordingly, FBRA recommends that

finishes be removed in selected locations during the Feasibility Study, so the general details of the floor and roof construction in these buildings can be determined. This information will be crucial in determining the structural feasibility of reinforcing, modifying, adding to, or removing portions of the existing floor and roof construction, as well as the approximate costs involved in doing so.

RENOVATIONS AND ADDITIONS – MEBC REQUIREMENTS

General comments relating to potential renovations, alterations and additions to the Lowell High School are presented in this section. Renovations, alterations, repairs and additions to existing buildings in Massachusetts are governed by the provisions of the Massachusetts State Building Code (MSBC – 8th Edition) and the Massachusetts Existing Building Code (MEBC). These documents are based on amended versions of the 2009 International Building Code (IBC) and the 2009 International Existing Building Code (IEBC), respectively.

The MEBC defines three (3) compliance methods for the repair, alteration, change of occupancy, addition or relocation of an existing building. The method of compliance is chosen by the Design Team (based on the project scope and cost considerations) and cannot be combined with other methods.

The Prescriptive Compliance Method (IEBC Chapter 3) duplicates Sections 3403 through 3411 of Chapter 34 in the IBC and prescribes specific minimum requirements for construction related to additions, alterations, repairs, fire escapes, glass replacement, change of occupancy, historic buildings, moved buildings and accessibility. A complete structural evaluation of the building is required by the Massachusetts Amendments. If the impact of the proposed alterations and additions to structural elements carrying gravity loads and lateral loads is minimal (less than 5% and 10% respectively), seismic upgrades to an existing building are generally not required.

The *Work Area Compliance Method* (IEBC Chapters 4 through 12) is based on a proportional approach to compliance, where upgrades to an existing building are triggered by the type and extent of work. The Work Area Compliance Method includes requirements for three levels of alterations, in addition to requirements for repairs, changes in occupancy, additions, historic buildings or moved buildings. A complete seismic evaluation of the existing building is required under the following conditions: Level 2 alterations where the demand to capacity ratio of lateral load resisting elements has been increased by more than 10%, all Level 3 alterations, a change in occupancy to a higher category, and where structurally attached additions (vertical or horizontal) are planned.

The *Performance Compliance Method* (IEBC Chapter13) duplicates Section 3412 of Chapter 34 in the IBC and provides for evaluating a building based on fire safety, means of egress and general safety (19 parameters total). This method allows for the evaluation of the existing building to demonstrate that proposed alterations, while not meeting new construction requirements, will maintain existing conditions to at their current levels (at a minimum) or improve conditions, as required. A structural investigation and analysis of the existing building is required to determine the adequacy of the structural systems for the proposed alteration, addition or change of occupancy. A report of the investigation and evaluation, along with proposed compliance alternatives must be submitted to the code official for approval.

The previously referenced, Sullivan Code Group report is based on the Work Area Compliance Method.

Additions – General Comments - MEBC

The design and construction of any addition to the Lowell High School would be conducted in accordance with the Code for new construction. Any proposed additions should be structurally separated from the existing, adjacent construction by an expansion (seismic) joint to avoid an increase in gravity loads or lateral loads to existing structural elements. Refer to the Code Report for a discussion of fire separation issues (i.e. fire wall requirements) relating to potential additions to the existing buildings.

Renovations/Alterations – General Comments - MEBC

Where proposed alterations to existing structural elements carrying gravity loads result in a stress increase of over 5%, the affected element will need to be reinforced or replaced to comply with the Code for new construction. Proposed alterations to existing structural elements carrying lateral load (i.e. existing, unreinforced masonry walls) which result in an increase in the demand - capacity ratio of over 10% should be avoided, if possible. Essentially, this means that removal of, or major alterations to the existing, exterior unreinforced masonry bearing walls in the original building and subsequent additions should be minimized.

Additional Comments – Seismic Issues

- None of the buildings which comprise the Lowell High School meet current seismic code requirements. With the exception of the Lord Building (reinforced masonry shear walls) the lateral force resisting system is not well defined for any of the buildings. By default, lateral force resistance is provided by interior and exterior (unreinforced) masonry walls.

- The code generally does not require a seismic retrofit/upgrade, provided the use stays the same (as will be the case for this project), structural alterations are not considered to be "substantial", and the *demand-to-capacity ratio* of any element resisting lateral loads (i.e. masonry walls), *does not increase by more than 10% over current levels*. "Demand" is the seismic force (proportional to mass); adding significant mass to the building should be avoided (major additions should be structurally separated). "Capacity" is the capacity of the walls to resist lateral forces. Creating new, large openings in masonry walls or removing large sections of the walls should be avoided; otherwise, they would need to be replaced elsewhere (with new, reinforced masonry or concrete walls), making the argument that the stresses in the remaining, existing walls do not increase by more than 10%. If the modifications are such that this argument cannot be made, then the building would need to be retrofitted/upgraded to resist 50% to 75% of the seismic loading required by the code for new construction (% depends on the extent of structural alterations). This would have a significant cost impact.

- If the "Work Area" (defined as the area of reconfigured spaces within the building) less than 50% of the total area, the renovation would be classified as a *Level 2 Alteration* – no seismic upgrades would be necessary unless the 10% requirement noted above is not met. If the work area exceeds 50% of the total area of the building, the renovation would be classified as a *Level 3 Alteration.* Certain seismic hazards (anchorage of floor and roof diaphragms to masonry walls, bracing of chimneys, bracing of parapets, etc.) would need to be addressed. No further seismic upgrades would be required unless the 10% requirement noted above is not met.

- In either a *Level 2* or a *Level 3 Alteration,* if the 10% requirement cannot be met, and the structural alterations are not considered to be "substantial" (see below), the building would need to be evaluated and reinforced to withstand 50% of the seismic loading required by the code for new construction (significant cost impact).

- If a *Level 3 Substantial Structural Alteration* is proposed, where more than 30% of the total floor and roof area is structurally altered, the building will need to be evaluated and reinforced to withstand full wind loading and 75% of the seismic loading required by the code for new construction (again, a significant cost impact).

End of Existing Conditions Evaluation/Base Repair Structural Report

APPENDIX – PHOTOGRAPHS

Kouloheras
Lord
Freshman Academy
Steam Plant



Photo K-1: Flooring failure - possible sub-slab moisture issues.



Photo K-2: Cracks in terrazzo flooring.



Photo K-3: Ceiling damage from roof leakage.

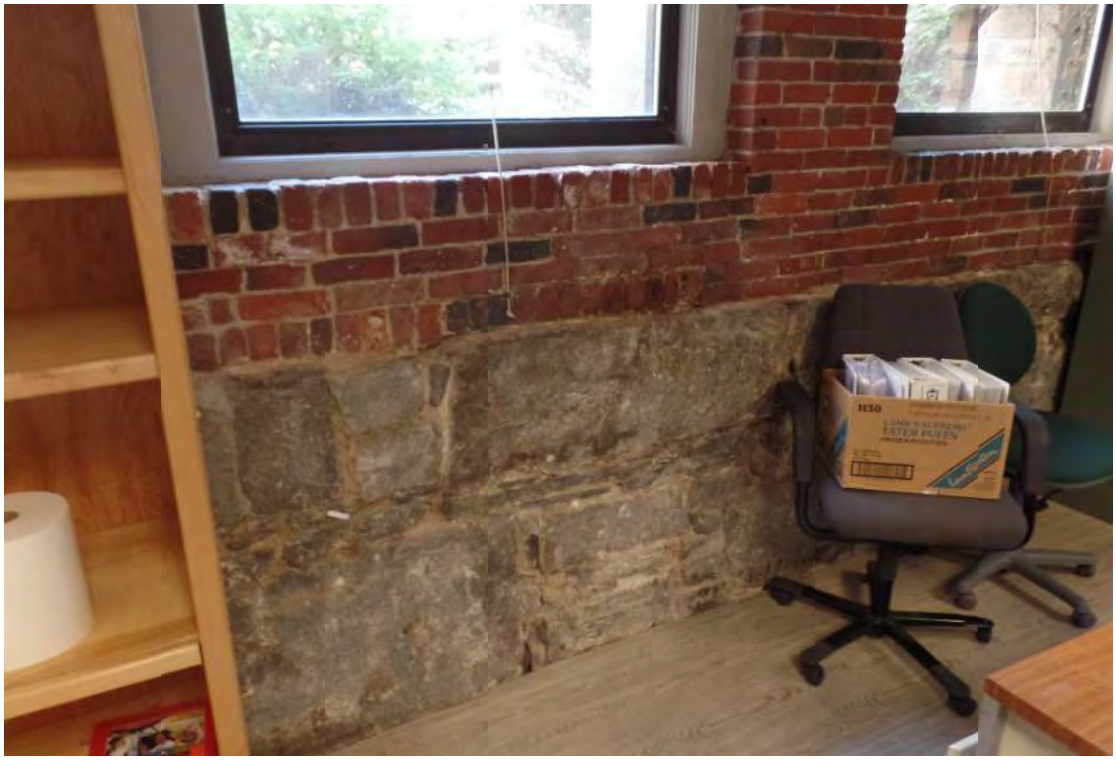

Photo K-4: Water damage at north foundation wall of Coburn. Basement reportedly has flooded in the past.

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Photo K-5: Steel channel reinforcing of original wood joists in Coburn.



Photo K-6: Joint deterioration above stone watertable course.



Photo K-7: Rust-jacking of face brick - upwards and outwards.



Photo K-8: Missing cornice stone.



Photo K-9: Downspout discharges adjacent to basement wall.



Photo K-10: Damaged concrete at embedded (aluminum) railing post.

LORD/FIELDHOUSE

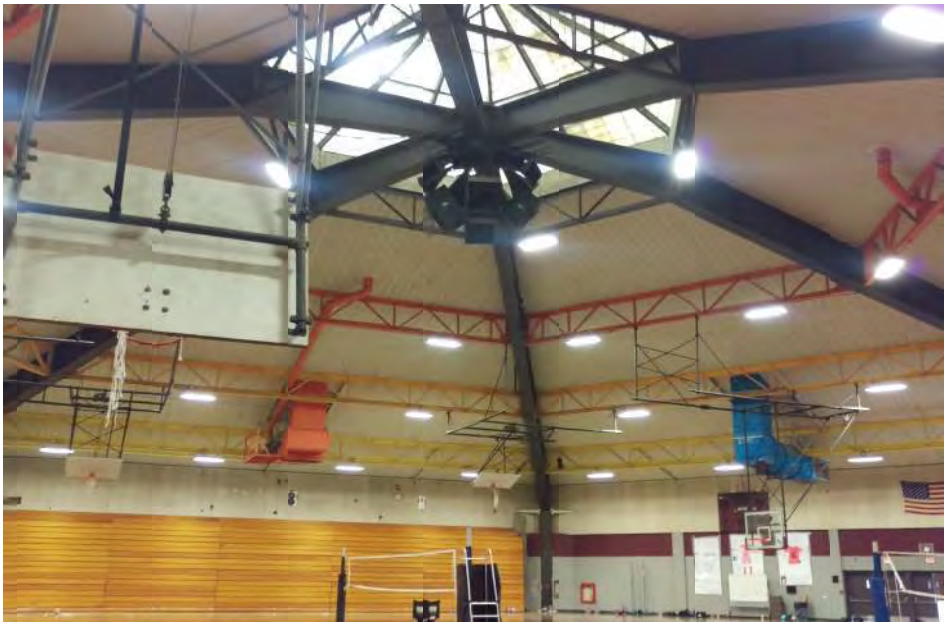

Photo L-1: Fieldhouse roof structure.



Photo L-2: Crack in CMU wall at stair on west side of Fieldhouse.

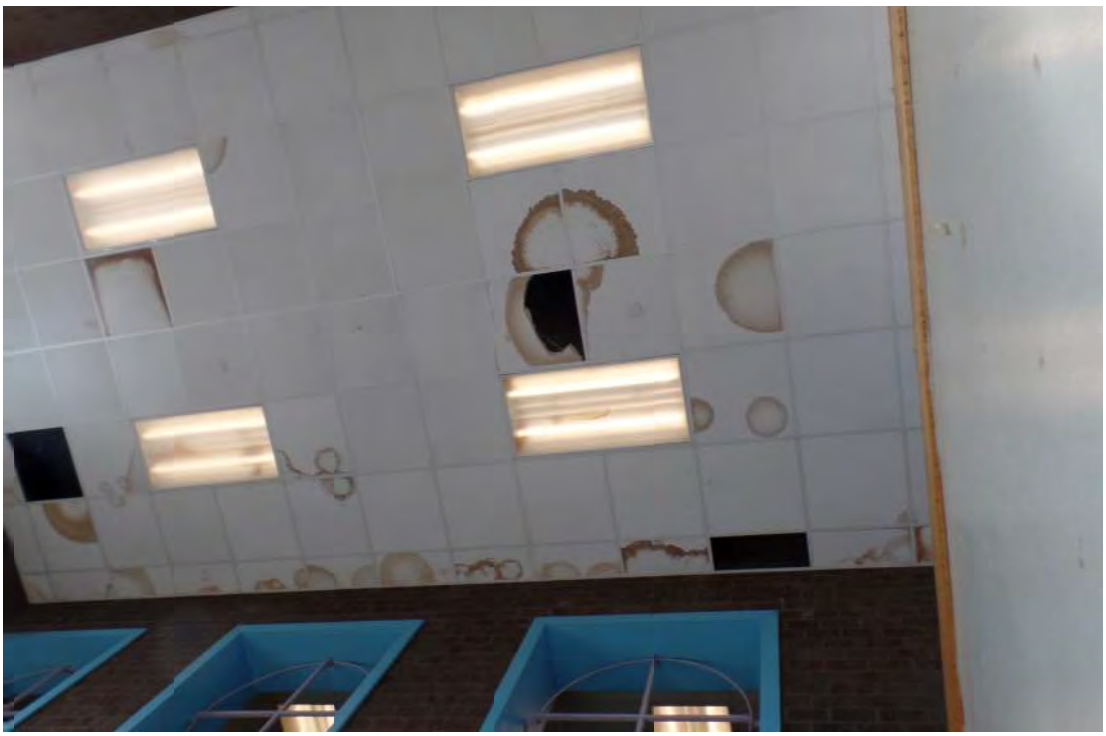

Photo L-3: Ceiling damage due to roof leakage.



Photo L-4: Deterioration/open joints at cement board enclosures (typical condition).



Photo L-5: Cracked brick at relieving angle (typical condition).



Photo L-6: Deteriorated/failed masonry at roof edge (Fieldhouse).



Photo L-7: Deterioration, discoloration and efflorescence at integral downspouts.



Photo L-8: Vertical crack in brick at corner.



Photo L-9: Cracked brick at relieving angle.



Photo L-10: Exposed, rusted steel and deck at Fieldhouse.



Photo L-11: Deteriorated cement board panels, discoloration at downspout.



Photo L-12: Cracked Brick at relieving angle.



Photo L-13: Fieldhouse downspout - not piped to a drainage structure; erosion occurring.



Photo L-14: Crack at NE corner of Academic Building

FRESHMAN ACADEMY



Photo FA-1: Past brick repairs to original (1900) building, open joints at foundation stones.



Photo FA-2: Flooring failure in 1900 building - possible gypsum based underlayment present.



Photo FA-3: Steel transfer trusses at Cafeteria (1900 Building).



Photo FA-4: Steel transfer trusses at Auditorium (1900 Building).



Photo FA-5: Deteriorated/failed brick joints and rusting lintels (1900 Building).

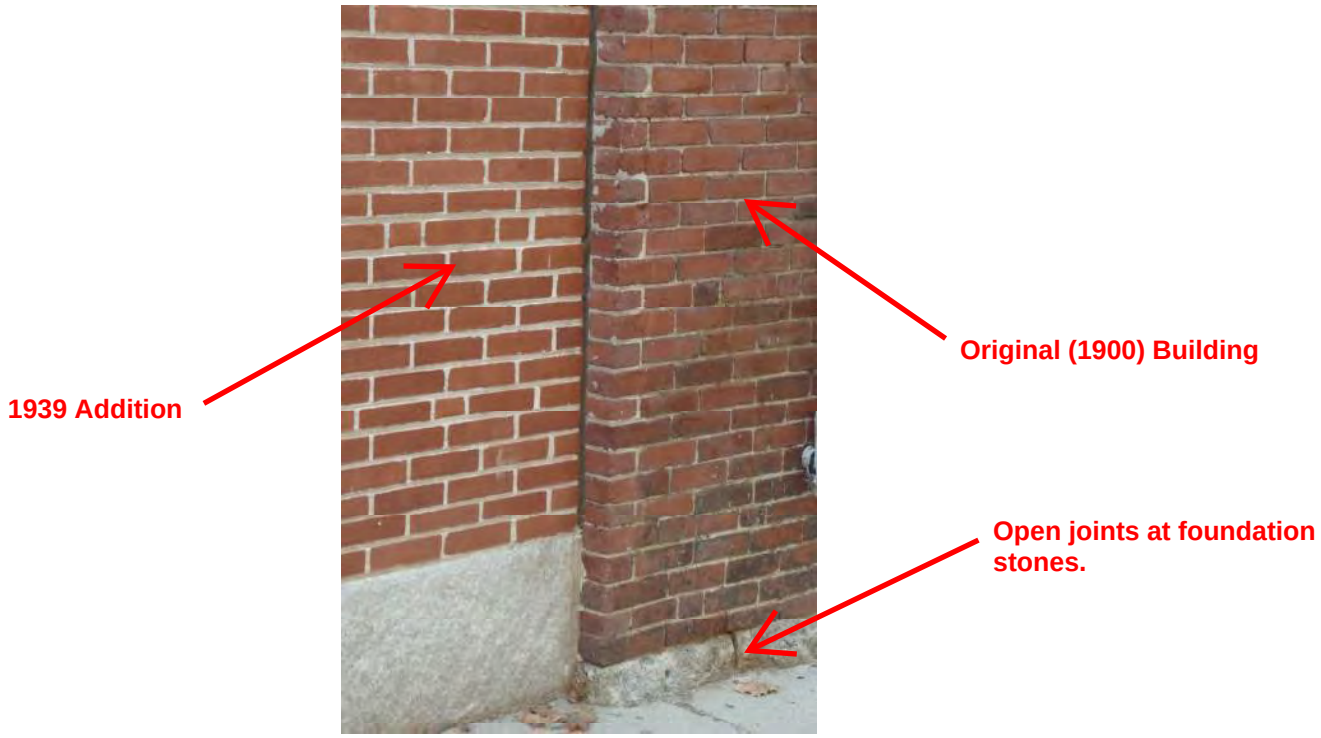

Photo FA-6: Joint between (original) 1900 building and 1939 addition.



Photo FA-7: Cracked stone sill at 1900 building.



Photo FA-8: Open joint at foundation stone and deteriorated face brick.

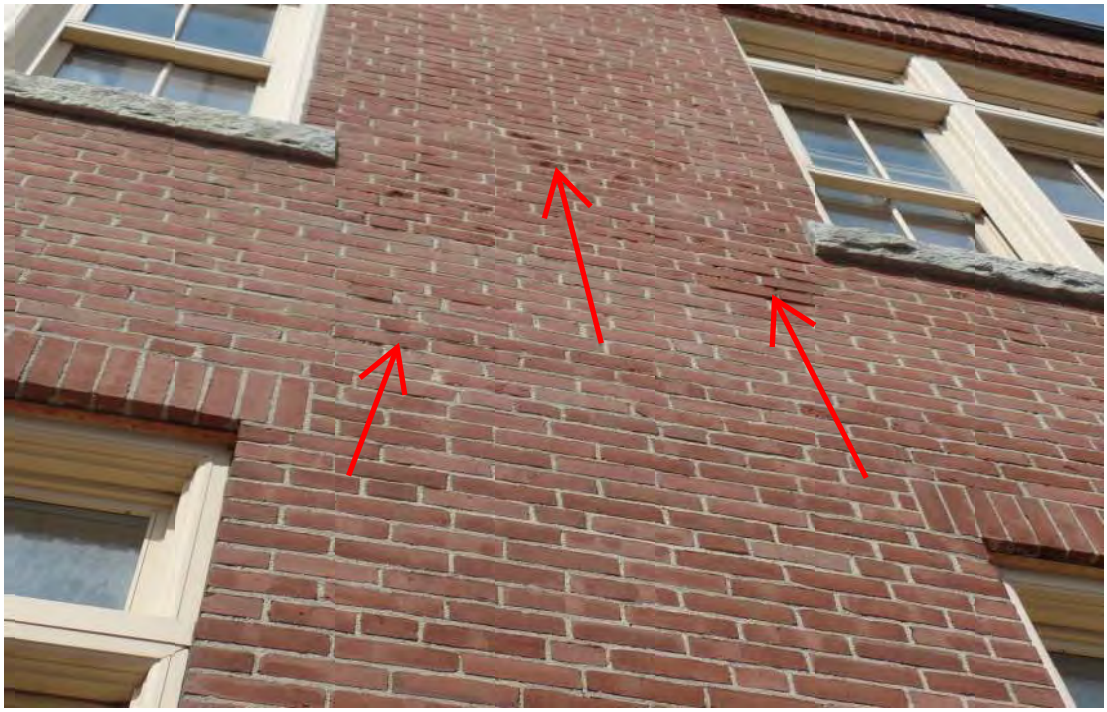

Photo FA-9: Deteriorated face brick at 1900 building.



Photo FA-10: Ceiling damage due to roof leakage.

STEAM PLANT



Photo SP-1: Interior of plant, showing tall brick masonry exterior walls and roof construction.



Photo SP-2: Brick deterioration at SW corner of building, adjacent to drain leader.



Photo SP-3: Masonry deterioration below roof at the southwest corner.



Photo SP-4: Wood roof construction below sidewalk between the Steam Plant and the adjacent NPS Building.



Photo SP-5: Wood roof construction below sidewalk between the Steam Plant and the adjacent NPS Building.



Photo SP-6: North elevation of Steam Plant, with stack in the background



Photos SP-7 and SP-8: Stack repointing required.

Perkins Eastman | DPC

Lowell High School Base Repair Project Scope

November 21, 2016

1. HC Accessible Ramps
2. Masonry veneer replacement at Field House
3. Replacement of all exterior sealants
4. Replacement of all windows
5. Replacement of all exterior doors
6. Replacements of all roofs
7. Modification of existing interior walls for accessibility
8. Modifications to existing science rooms for accessibility
9. Replacement of selective doors for accessibility
10. Replacement of all hardware locksets
11. Replacement of selective toilet rooms for accessibility
12. Replacement of shower rooms for accessibility
13. Paint all interior walls
14. Replace all floor finishes
15. Replace all ceilings
16. Renovate all stairs for accessibility
17. Replace and add elevators for accessibility
18. Add HC lifts for accessibility
19. Replace Plumbing system
20. Replace HVAC Systems
21. Replace electrical systems
22. Replace fire protection system
23. Replace casework
24. Hazmat abatement
25. Replace concrete sidewalks and entry
26. Replace granite curbing
27. Replace bituminous paving
28. Replace catch basins
29. Separate sanitary and storm water system for future connection by city
30. Provide some level of storm water infiltration
31. Replace all utilities
32. Provide site lighting

LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
KOULOHERAS BUILDING
10/28/16
Rev. 10/31/16
PE # 67150.00

GENERAL NOTES:

1. **GENERAL NOTES APPLY TO ALL CONDITIONS NOTED BELOW EVEN IF NOT NOTED ON BASE REPAIR SPREADSHEETS.**
2. **REFER TO EXISTING CONDITIONS / BASE REPAIR REPORTS FOR CONSULTANT SCOPE.**
3. **REPLACE ALL DOORS.**
4. **ALL GWB & PLASTER WALLS ARE PAINTED / REPAINTED.**
5. **REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS.**
6. ***NOT USED***
7. **REPLACE ALL COMPLETE HARDWARE SETS.**
8. **INSTALL POWER OPERATORS AT 50% OF DOORS TO PROVIDE HC COMPLIANCE.**
9. **INSTALL 2'-0" W. X 4'-0" L. 2-HR. RATED SHAFTWALL CHASE; MODIFY FRAMING AS REQUIRED. PROVIDED RATED SHAFTBOTTOM AT 1ST FLR. FRAMING NOTE: CHASE GRAPHIC NOT SHOWN ON PLAN.**
10. **REPAIR GWB/PLASTER/WD WAINSCOAT AT ALL EXTERIOR WALLS RESULTING FROM REMOVAL OF RADIATORS.. NOTE: RADIATOR GRAPHIC NOT SHOWN ON PLANS**
11. **CHALKBOARDS ARE REMOVED PER HAZ MAT REPORT. PATCH ALL PLASTER WALLS WHERE CHALKBOARDS ARE REMOVED. REPAIR/REPAINT ALL RUNNING TRIM TO REMAIN AT CHALKBOARD SURROUND.**
12. **INSTALL NEW TOILET ACCESSORIES THROUGHOUT.**
13. **REPLACE ALL CEILINGS.**
14. **REPLACE ALL DOORS.**
15. **REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS.**
16. **REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE**

FLOOR:

VCT/VINYL SHEET

F100	REPLACE VCT/VINYL SHEET OR CARPET W/ BIOBASED TILE.
F101	REPLACE VAT
F102	PATCH REPAIR VCT
F103	CLEAN AND WAX VCT/SHEET VINYL
F104	REPLACE TRANSITION STRIP
F105	CLEAN SHEET VINYL FLOORING
F106	REPLACE RADIAL RUBBER
F107	REPLACE SHEET VINYL FLOORING TREADS AND RISERS

F108 REPLACE WOOD FLOOR W/ BIOBASED TILE. REMOVE WOOD FLOOR, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING AT THRESHOLD.

F109 REPLACE CARPET W/ BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.

F110 CLEAN SHEET VINYL

F111 REPLACE CARPET W/ BIOBASED TILE.

F112 REPLACE RESILIENT DANCE FLOOR

F113 REPLACE SHEET VINYL FLOORING W/ LINOLEUM.

F114 INSTALL BIOBASED TILE

F115 REPLACE CERAMIC TILE AND INSTALL BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.

CARPET

F201 REPLACE CARPET

F202 CLEAN AND SHAMPOO CPT

WOOD

F301 REPLACE WOOD FLOOR

F302 PATCH AND REPAIR WOOD FLOOR

F303 REFINISH WOOD FLOOR

F304 POWER SAND AND REFINISH WOOD FLOOR

F307 REPAIR STRIP WD. FLOORING AND REFINISH

CONCRETE

F401 REPLACE CONC. FLOOR

F402 PATCH AND REPAIR CONC. FLOOR

F403 LEVEL CONC. FLOOR

F404 REPLACE CONC. FLOOR

F405 REPAIR CONCRETE FLOOR

F406 CLEAN AND RESEAL CONCRETE FLOOR

F407 REPAINT CONC. FLOOR

F408 PATCH HOLES IN CONC. FLOOR FROM REMOVAL OF MEP PIPES

CERAMIC TILE

F501 REPLACE CERAMIC TILE

F502 PATCH AND REPAIR CERAMIC TILE

F503 CLEAN CERAMIC TILE

F504 REGROUT FLOOR TO BASE CERAMIC TILE

F505 REPLACE CARPET W/ CERAMIC TILE

TERRAZZO :

F601 REPLACE TERRAZZO

F602 REPLACE METAL TRIM IN TERRAZZO

F603 PATCH AND REPAIR CRACKS IN TERRAZZO

F604	CLEAN AND WAX TERRAZZO
F605	CLEAN QUARRY TILE/STONE
F606	REPAIR TERRAZZO BASE
F607	CLEAN/POLISH TERRAZZO FLOOR

EPOXY

F701	REPLACE EPOXY FLOORING
F702	REPAIR EPOXY FLOORING AND BASE
F703	CLEAN EPOXY FLOORING
F704	INSTALL EPOXY FLOORING

ENTRY MAT

F801	REPLACE ENTRY MAT
F802	REPLACE RECESSED ENTRY MAT
F803	REPLACE RECESSED ENTRY MAT FRAME

MARBLE

F1001	CLEAN MARBLE FLOOR

BASE:

VINYL

B101	REPLACE OR INSTALL VINYL BASE
B102	REFASTEN HEAVY DUTY VINYL BASE BOARD
B103	CLEAN QUARRY TILE BASE
B105	CLEAN TILE BASE
B106	REPLACE ATHLETIC BASE
B107	CLEAN VINYL BASE
B108	REPLACE VCT W/ LINOLEUM

WOOD

B201	REPLACE OR INSTALL WOOD BASE
B202	REFINISH WOOD BASE
B203	REPAINT WOOD BASE

TILE

B301	REPLACE TILE BASE
B302	PATCH AND REPAIR TILE BASE
B303	REPAINT CMU WALL

TERRAZZO

B401	REPLACE TERRAZZO
B402	PATCH AND REAPAIR TERRAZO
B403	CLEAN/POLISH TERRAZZO

GLAZED CMU

B501	CLEAN GLAZED CMU BASE

B502	PATCH GLAZED CMU

CONCRETE

B601	REPAINT CONCRETE BASE

MARBLE

B701	CLEAN MARBLE BASE

STEEL

B801	PAINT STEEL BASE

WALLS:

WALL PLASTER

W001	REMOVE WOOD PANELED WALLS W/ HOMOSOTE ABOVE ON METAL STUDS & REPLACE PLASTER W/GWB IN METAL STUDS
W101	REPLACE PLASTER WALL
W102	PATCH &REPAIR PLASTER WALL
W103	REPAINT PLASTER WALL
W104	REPLACE VINYL WALLCOVERING ON PLASTER WALL
W105	INSTALL NEW PLASTER WALL
W106	REMOVE WOOD PANELING
W107	CLEAN & REPAIR C.T. ON PLASTER

GWB

W201	REPLACE GWB WALL
W202	PATCH AND REPAIR GWB WALL
W203	REPAINT GWB WALL
W204	REPAIR CRACK IN GWB WALL
W205	PAINT AND PATCH COLUMN
W206	RECAULK AT GYPSUM BOARD AND TILE CONNECTION
W207	INSTALL 2'-0" W. X 4'-0" L. 2-HR. RATED SHAFTWALL CHASE; MODIFY FRAMING AS REQUIRED. PROVIDED RATED SHAFTBOTTOM AT 1ST FLR. FRAMING NOTE: CHASE GRAPHIC NOT SHOWN ON PLAN.
W208	REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS. INSTALL NEW WALL TO MATCH EXISTING NOTE: THIS CONDITION OCCURS AT ALL PLUMBING FIXTURES AND PIPING EVEN IF NOT NOTED ON SPREADSHEET.

CMU

W301	REPLACE CMU WALL
W302	PATCH AND REPAIR CMU WALL
W303	REPAINT CMU WALL
W304	REPOINT CMU WALL
W305	EXTEND CMU WALL TO UNDERSIDE OF STRUCTURE
W306	FIRESTOP AT TOP OF CMU WALL
W307	PAINT UNFINISHED CMU
W308	INFILL WINDOW OPEING AT CMU

W309	INSTALL CMU
W310	EXPOSED CMU

BRICK

W401	REPLACE BRICK WALL
W402	PATCH AND REPAIR BRICK WALL
W403	REPAINT BRICK WALL
W404	REPOINT BRICK WALL
W405	CLEAN BRICK
W406	CLEAN GLASS BLOCK

GLAZED CMU

W501	REPLACE GLAZED CMU
W502	PATCH AND REPAIR GLAZED CMU
W503	REPOINT GLAZED CMU
W504	CLEAN GLAZED CMU
W505	CLEAN 2 X 2 WALL TILE

WOOD PANEL

W601	REPLACE WOOD PANEL
W602	PATCH AND REPAIR WOOD PANEL
W603	REPAINT WOOD PANEL
W604	REFINISH WOOD PANEL
W605	PAINT PLYWOOD SHEATHING
W606	REPAIR VERTICAL
W607	PAINT WOOD VALANCE
W608	REPAINT TACK SURFACE
W609	REPLACE PEG BOARD
W610	REMOVE WOOD PANEL AND PLASTER WALL
W611	REMOVE WOOD PANEL
W612	REMOVE HOMOSOTE
W613	PROVIDE NEW WOOD PANELING

WOOD WINDOW WALL

W701	REPLACE FIN WOOD WINDOW WALL
W702	REPAIR FIN WOOD WINDOW WALL
W703	REFINISH FIN WOOD WINDOW WALL
W704	REPAINT FIN WOOD WINDOW WALL
W705	REPAINT METAL WINDOW WALL

WOOD CHAIRRAIL AND WAINSCOT

W801	REPLACE WD WAINSCOT
W802	REPAIR WD WAINSCOT
W803	REFINISH WD PNL WAINSCOT

W804 REPAINT WD WAINSCOT
W805 REPAINT ED CHAIRRAIL
W806 REFINISH WD CHAIRAIL
W807 REWORK WD CHAIRRAIL

WAINSCOT

W901 REPLACE CERAMIC TILE WAINSCOT
W902 REPAIR CERAMIC TILE WAINSCOT
W903 REFINISH CERAMIC TILE WAINSCOT
W904 REPAINT CERAMIC TILE WAINSCOT
W905 CLEAN CERAMIC TILE WAINSCOT/WALL
W906 REPLACE PLAS. LAM. CHAIRAIL

CERAMIC TILE

W1001 PATCH CT WALL
W1002 CLEAN CT WALL

CONCRETE

W1101 REPAINT CONC. WALL
W1102 PAINT UNFINISHED CONC. WALL
W1103 REPAIR CRACK CONC. FOUND

CLAY TILE

W1202 REPAINT CLAY TILE

METAL WALL PANEL

W1301 CLEAN METAL WALL PANEL SYSTEM
W1302 REPAINT STEEL COLUMN
W1401 REPAIR CONC. FOUNDATION
W1501 REFINISH DEMOUNTABLE PARTITION AND BRACE FROM TOP OF PARTITIION @ CEILING TO DECK W/ LIGHT GUAGE FRAMING.

WINDOWS:

METAL WINDOWS

WD001 REMOVE MANUAL OPERATION SYSTEM
WD101 REPLACE MTL WINDOW
WD102 REGLAZE MTL WINDOW
WD103 RESEAL MTL WINDOW AT OPERABLE SASH
WD104 REPLACE WINDOW TRIM
WD105 REFINISH WOOD TRIM
WD106 REPLACE WINDOW HARDWARE
WD107 WINDOW NOT THERMALLY BROKEN
WD108 REFINISH METAL WINDOW
WD109 REPAINT MTL BORROWED LIGHT
WD110 REPLACE INSUL. PANEL
WD111 REMOVE & REPLACE WINDOW STOOL

WD113 REFINISH WOOD WINDOW SILL

WD114 REPLACE WINDOWS FRAMES AND SASHES AS INDICATED ON ELEVATIONS W/ ALUMINUM THERAMLLY BROKEN WINDOWS W/ LOW-GLAZING, INSECT SCREENS AND OPERABLE BOTTOM SASH (AWNING). WINDOW SHALL HAVE HISTORIC PATTERN (INTERNAL MUNTINS AND PROFILE SIMILAR TO 1922 BUILDING. REPLACE WINDOW TREATMENTS W/ MECHOSHADES (5% OPENNESS). REPLACE WINDOW STOOLS AND APRONS W/ SOLID SURFACE DARK COLOR STOOL & APRON. REPAIR & PAINT EXISTING WOOD TRIM AT 1892 & 1922 BUILDING.

WOOD WINDOWS

WD201 REPLACE WD WINDOW
WD202 REGLAZED WD WINDOW
WD203 RESEAL WD WINDOW
WD204 REPAINT WD WINDOW
WD205 REFINISH WD WINDOW
WD206 REPLACE WINDOW TRIM
WD207 REFINISH WINDOW TRIM
WD208 REPLACE WINDOW HARDWARE
WD209 REPLACE PARTING BEADS
WD210 REPLACE SCREEN
WD211 EX WINDOW WILL NOT CLOSE
WD212 HARDWARE MISSING
WD213 REPAINT WD WINDOW TRIM
WD214 REPLACE WD WINDOW SILL
WD215 REPLACE WD WINDOW WALL SYSTEM

GLASS BLOCK

WD401 REPLACE WINDOW & GLASS BLOCK SYSTEM

DOORS:

METAL DOOR AND FRAME

D101 REPLACE MTL DOOR AND FRAME
D102 REPAINT MTL DOOR AND FRAME
D103 REPLACE DOOR LIGHT AND STOPS
D104 REPAINT MTL DOOR
D108 REPLACE HM FRAME
D109 INSUFFICIENT HCP CLEAR W1401
D110 EGRESS DOORS ARE NOT REQUIRED 3’-0” WIDTH
D111 HM DOOR NEEDS LABEL RATING
D112 REPLACE DOOR LITE W/ WIRE GLASS
D113 REPLACE TRANSOM W/WIRE GLASS
D114 REWORK HM DOORS OR OPENINGS TO PROVIDE HCP ACCESSIBILITY
D115 REPLACE HM DOOR ONLY & REPAINT FRAME
D116 REPLACE ALUM. ENTRY W/ HM
D117 THRESHOLD NOT ACCESSIBLE
D118 PAINT HM WINDOW WALL

D119 PAINT HM FRAME

WOOD DOORS

D201 REPLACE WD DOOR AND FRAME
D202 REPLACE WD DOOR AND FRAME W/HM DOOR AND FRAME
D203 REPLACE WD DOOR ONLY W/ EXTERIOR HM DOOR
D204 REFINISH WD DOOR AND FRAME
D205 REPLACE DOOR LIGHTS
D206 UNEQUAL LEAFS ARE REQUIRED
D207 REPAINT WOOD DOOR
D208 REPAINT HM FRAME
D209 INSUFFICIENT HCP CLEARANCE
D210 REFINISH WD DOOR AND PAINT MTL FRAME AND REPLACE HARDWARE
D211 PAINT DUTCH BOTTOM
D212 REPLACE WD DOOR AND FRAME W/RATED WD DOOR AND FRAME
D213 REPLACE DOOR LIGHT W/1/4" WIRE GLASS
D214 REFINISH WD TRANSOM AND PAINT METAL FRAME
D215 REPLACE WOOD DOOR ONLY
D215A REPLACE WD REVERSE SWING & REWORK WOOD FRAME (DUTCHMAN)
D216 REMOVE WOOD DOOR AND FRAME
D217 REPLACE DUTCH DOOR
D219 REPLACE WOOD DOOR
D219A INCREASE HM DOOR FRAME OPENINGS FOR HC COMPLIANCE
D220 REPLACE WD & INSTALL HM RATED FRAME W/ WD TRIM TO MATCH
D221 REPLACE WD AND PAINT EXIST. HM FRAME
D222 REPLACE WOOD DOOR AND REFINISH WOOD FRAME
D223 REWORK WOOD DOORS/FRAMES OR OPENING TO PROVIDE HCP ACCESS
D224 BONDO, SAND & PAINT FRAME
D225 REPLACE WD DOOR W/ LABEL DOOR, PAINT HM FRAME/ PROVIDE HC HARDWARE
D226 REFINISH WOOD FRAME & SIDE LIGHTS
D227 REFINISH/REPAIR WOOD FRAME

STEEL DOORS

D301 REPLACE STEEL DOOR & FRAME W/ HM DOOR & FRAME
D401 REFINISH WD TRANSOM & PAINT MTL FRAME

OVERHEAD DOORS

D401 REPLACE SECTIONAL OVERHEAD DOOR

CEILINGS:

ACT

C001 CEILING TILES DO NOT MATCH REPLACE - MATCH TILE AT ELEV. VEST
C101 REPLACE ACT CLG 2 X 4
C102 REPLACE 12 X 12 CLG TILES
C103 REPLACE 12 X 12 ACT W/ 2 X 4 ACT
C104 REPLACE 12 X 12 ACT W/ 2 X 4 ACT

C105 REPLACE ACT 2 X 2
C106 REPAINT SCT CLG
C107 INSTALL ACT CLG 2 X 2 & LIGHTING
C108 NEW ACT 2 X 4 GOOD CONDITION
C109 PROVIDE 2 X 4 LIGHTING
C110 PROVIDE 2 X 4 ACT
C111 12 X 12 GOOD CONDITION
C112 REPLACE ACT (CLASSROOMS/OFFICES/CONFERENCE) ULTIMA TEGULAR 2'X4'
C113 REPLACE ACT (MUSIC ROOM) ULTIMA TEGULAR W/ 50% WEDGE SHAPED TILES CONWED DESIGNSCAPE BY OWNS CORNING.
C114 REPLACE ACT (CORRIDORS/STORAGE/STAIRS) ULTIMA LAY-IN 2'X4'
C115 REPLACE ACT (KITCHEN) HEALTH ZONE OPTIMA 2X2

PLASTER

C201 REPLACE PLASTER CLG
C202 PATCH & REPAIR PLASTER CLG
C203 REPAINT PLASTER CLG
C204 PATCH AND REPAIR PLASTER AT SKYLIGHT WELL
C205 EXIST. PLASTER CLG CONTAIN ASBESTOS SPRAYED STIPPLE FINISH
C206 INSTALL PLASTER SOFFFIT & FASCIA @ DROPPED CLG
C207 REMOVE SKYLIGHT PATCH OPENING
C208 REMOVE PLASTER CLG & MTL LATH SYSTEM @ STRUCTURE
C209 INFILL AT CLG STORAGE AREA MEZZANINES W/ 1 HR ENCLOSURES
C210 PROVIDE PLASTER CEILING

GWB

C301 REPLACE GWB CLG.
C302 PATCH AND REPAIR GWB CLG.
C303 REPAINT GWB CLG.
C304 PROVIDE GWB CEILING
C305 REPAIR CRACK AT GWB CLG.
C306 REPAINT SKYLIGHT WELL

CEILING PANELS

C401 REPLACE CEILING PANELS
C402 PATCH & REPAIR CLG. PNLS
C403 REPAINT CEILING PNLS

EXPOSED STRUCTURE

C501 PAINT EXPOSED STL STRUCT. & DECK
C502 PAINT EXPOSED ED BEAMS
C503 REFINISH EXPOSED WD PLANKS, GLULAM BEAMS, COLUMN, AND BASE
C504 REFINISH GLULAM BEAMS
C506 EXIST. CEMENT FIBER DECK EXPOSED UNPAINTED W/ BULBTEES
C507 PAINT EXPOSED HVAC/MECH/ELEC. PIPING CONDUIT
C508 PAINT CONC. CLG.

CONCRETE

C601	PAINT EXPOSED CONC. STRUCT.

METAL PANEL

C701	REPLACE 12 X 12 METAL PANEL CLG.

METAL PANEL

C702	REPLACE 12 X 12 METAL PANEL CEILING ELEVATOR
E1	CAB SIDE NON-COMPLAINT
E2	CONTROLS ARE TOO HIGH
E3	FLOOR LEVEL NEEDS ELEVATOR

ATTACHMENTS

ACOUSTICAL TREATMENTS
REPLACE 4 X 8 TECTUM PANELS ON WALLS

WOOD TRIM

A101	REPLACE WOOD TRIM
A102	REPAIR WOOD TRIM
A103	REFINISH WOOD TRIM
A104	REPAINT WOOD TRIM
A105	REFINISH WOOD SEAT
A106	REFINISH WD GUARD RAIL 2 X 8
A107	PAINT HVAC GRILLE

VISUAL DISPLAY SURFACES: CHALK/TACK/AND FRAME

A201	REPLACE CHALK AND FRAME
A202	REPAIR CHALK AND TACK AND METAL FRAME
A203	REPAIR CHALK AND TACK AND WOOD FRAME
A204	PAINT TACK BOARDS AND FRAME
A205	REPLACE TACK AND FRAME
A206	REPLACE TACK, REMOVE & REINSTALL WD TRIM
A207	REPLACE TACK W/MTL FRAME
A208	REPLACE CHALK & MTL FRAME
A209	REPLACE CHALK, REMOVE & REINSTALL
A210	PAINT TACK BD. TRM
A211	PAINT WOOD TACK STRIP
A212	REPAINT TACK BD
A213	STRIP PAINT FROM ALUM CH & TACK BDS.
VD214	REPLACE/PROVIDE EXISTING CHALK/WHITE/TACK BDS & PROVIDE TWO – 8'LONG WHITE BOARDS & FOUR-4' LONG TACK BOARDS. CHALKBOARDS ARE REMOVED PER HAZMAT REPORT; PATCH PLASTER AT WHERE CHALKBOARDS ARE REMOVED IN 1892 AND 1922 BUILDING CLASSROOMS.
VD215	REPLACE/PROVIDE EXISTING WHITE/TACK BDS & PROVIDE ONE – 4'LONG WHITE BOARD & ONE – 4' LONG TACK BD

VD216 REPLACE/PROVIDE ALL EXISTING TACK BDS & DISPLAY CASES & PROVIDE TWO'8' LONG TACKBOARDS
& 1 DISPLAY CASE

SPEAKER/CLOCK

A301 REPLACE SPEAKER/CLOCK
A302 PROVIDE SPEAKER/CLOCK
A303 NO SPEAKER
A304 REPLACE CLOCK

FIRE EXTINGUISHER & EXIT SIGNAGE (NOTE: LOWELL HIGH SCHOOL REPLACE ALL EXTINGUISHERS & CABINETS TYP EVEN IF NOTES NOT INCLUDED ON SPREADSHEET).

A401 REPLACE FIRE EXTINGUISHER ONLY
A402 REPLACE FIRE EXTINGUISHER AND CABINETS
A403 ADD FIRE EXTINGUISHER
A404 EXIT SIGNS NOT ILLUMINATED
A405 NO EXIT SIGNS PRESENT
A406 REPLACE EXIT SIGN
A407 PAINT FIRE EXT. CABINET
A408 REPLACE WIRE GLASS IN FIRE EXT. CABINET

MOVABLE PARTITIONS

A501 REPLACE OPERABLE PARTITION
A502 REPLACE DIVIDER SCREEN
A503 ADJUST AS REQUIRED
A504 REPAIR AND REFINISH

GYM EQUIPMENT

A601 REPLACE BLEACHERS
A602 ADJUST BLEACHERS
A603 REPAIR SEATING
A604 REFINISH SEATING

CASEWORK AND EQUIPMENT

CASEWORK

CW001 REPLACE UNIT VENTILATOR AND INTEGRAL STORAGE UNIT
CW101 REPLACE CASEWORK (PLASTIC LAMINATE)
CW102 REPAIR CASEWORK
CW103 REPLACE COUNTER TOP ONLY (FINISH)
CW104 REFINISH CASEWORK
CW105 REPAINT CASEWORK
CW106 REPLACE HARDWARE
CW107 PROVIDE SHELVES
CW108 RECONFIGURE FOR HCP AT SINK
CW109 REPAINT SHELVING
CW110 CLEAN BASE & WALL CABINET ADJUSTINGS

CW111	CASEWORK NT HCP ACCESSIBLE - REWORK
CW112	ADD LOCKS TO CASEWORK
CW113	REPLACE CASEWORK AND COUNTERTOP/SINK
CW114	REPLACE CASEWORK AND COUNTERTOP AND WALL CABINET
CW115	KITCHEN AREA- COUNTER/SINK/ STOVE/ DW/ REF NOT ACCESSIBLE
CW116	REWORK SHELVING FOR ACCESSIBILITY
CW117	REPLACE WOOD CASEWORK W/ WOOD (DARK STAIN CASEWORK IN CONFIGURATION TO MATCH EXISTING EXCEPT NO GLASS @ DOORS, ALL SOLID FRONTS.
CW118	REPLACE LAB CASEWORK

WARDROBES

CW201	REPLACE WARDROBES
CW202	REPAIR WARDROBES
CW203	REFINISH WARDROBES AND REPLACE HARDWARE WITH HCP
CW204	REPAINT WARDROBES
CW206	REPLACE WARDROBES
CW207	REPLACE WARDROBES DOOR MECHANISMS
CW208	ADJUST WARDROBES DOOR MECHANISMS
CW209	MAKE CLOSET HCP ACCESSIBLE

STORAGE UNITS

CW301	REFINISH STORAGE UNITS - WD (MAT)
CW302	PAINT STORAGE UNITS - MTL
CW302A	PAINT STORAGE UNITS - WD
CW303	REPAINT WALL STATION CABINET WITH CUBBY
CW304	REPLACE STORAGE UNITS (MAT)
CW305	REPLACE STORAGE UNITS HARDWARE

DISPLAY CASES

CW401	REPLACE DISPLAY CASE
CW402	REPAIR DISPLAY CASE
CW403	REFINISH DISPLAY CASE
CW404	REPLACE HARDWARE
CW405	PAINT DISPLAY CASE
CW406	REPLACE GLASS DOORS AT TEMP. GLAZED DOORS

LOCKERS:

L101	REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS NOTE: KEY NOTE NOT ON SPREADSHEET, REFER TO PLANS FOR LOCKERS

SIGNAGE:

REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE
REPLACE ALL EXTERIOR SIGNAGE

LAB EQUIPMENT

CW501 REPLACE LAB TABLES
CW502 PROVDE SCIENCE LAB HCP WORK STATIONS
CW503 REPLACE SCIENCE CASEWORK
CW504 REPLACE SCIENCE DEMONSTRATION STATION
CW505 SCIENCE DEMONSTRATION STATION NOT ACCESSIBLE

BATHROOMS/FIXTURES

FIXTURES - HCP COMP.

BF101 REPLACE SINK (HCP)
BF102 REPLACE TOILETS (HCP)
BF103 REPLACE URINAL (HCP)
BF104 REPLACE DF
BF105 GANG WASH STATION NOT HP ACCESSIBLE
BF106 REMOVE URINAL
BF107 REMOVE SINK

FIXTURES

BF201 REPLACE SINK (BROKEN)
BF202 REPLACE TOILETS (HCP)
BF203 REPLACE URINAL (BROKEN)
BF204 REPLACE DF

FLOOR DRAINS

BF301 REPLACE FLOOR DRAIN

PARTITONS

BF401 REPLACE TOILET PARTITON (HCP)
BF402 REPLACE TOILET PARTITON (BROKEN)
BF403 REWORK TOILET PARTITIONS FOR HP COMPLIANCE
BF404 REPAIR TOILET PARTITONS
BF405 PAINT TOILET PARTITON

MISC.

BF501 PROVIDE NEW HC COMPLIANT TOILET ROOM ACCESSORIES
BF502 GRAB BARS NOT PROVIDED
BF503 DOOR SWINGS INTO FREE AREA
BF504 TOILET ROOM UNACCEPTABLE
BF505 CLEAR DIMENSION BETWEEN FIXTURES INADEQUATE
BF506 REWORK BATHROOM FOR HP COMPLIANCE
BF507 SHOWER NO HCP ACCESSIBLE
BF508 PROVIDE HCP HOME KITCHEN

TOILET ACCESSORIES (TYPICAL ALL BATHROOMS LOWELL HIGH SCHOOL)

BTA106 REPLACE ALL TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: MIRRORS, GRAB BARS, PAPER TOWEL DISPENSERS, SOAP DISPENSERS, SANITARY NAPKIN DISPENSERS, TRASH DISPENSERS.

STAIRS:

TREADS AND RISERS

S101	TREADS INSUFFICIENT
S102	RISER INSUFFICENT
S103	INFILL REQUIRED
S104	PROIVDE NON-SLIP SURFACE
S105	PAINT UNDERSIDE OF STAIR
S106	REPLACE RUBBER TREADS AND RISERS
S107	REPLACE HANDRAIL
S108	REFINISH WOOD TREADS AND RISERS
S109	REPAIR BROKEN TERRAZZO NOSING
S110	RISE/RUN ILLEGAL

STAIR REPLACEMENT

S111	REPLACE ENTIRE STAIR W/ CONCRETE FILLED METAL PAN STAIRS AND INTERMEDIATE LANDINGS IN SIMILAR CONFIGURATION TO EXIST. PROVIDE METAL PAINTING HANDRAILS @ EACH SIDE AT 2'-10" AFF. PROVIDE METAL PAINTING RAILINGS/GUARDRAILS @ 3'-6" AFF W/ VERTICAL PICKETS @ 4" O.C. MAX. PROVIDE RUBBER DISK FLOORING AT ALL TREADS, RISERS AND LANDINGS. EXISTING FLOOR STRUCTURE TO REMAIN; INSTALL NEW RUBBER DISK FLOORING.

OTHER

S201	HANDRAILS OR GUARDRAILS NON-COMPLIANT
S202	REPAINT HANDRAILS OR GUARDRAILS
S203	LANDING INSUFFICIENT
S204	REPAIR LANDING
S205	INSUFFICIENT RAIL EXTENTION
S206	PROVIDE WALL MOUNTED HANDRAIL
S207	WALL MOUNTED HANDRAIL NON-COMPLIANT
S208	RE-PAINT STEEL LADDER AND CASE
S209	NO HANDRAILS PRESENT
S210	REWORK NEWEL MTL POST DOOR ADDED HEIGHT OF HANDRAIL
S211	REPAIR/REPLACE SKYLIGHTS
S212	REMOVE OFFICE CUBICLE (NOT ACCESSIBLE)
S213	NON HC COMPLIANT UNIT KITCHEN
S214	REPLACE OFFICE FURNITURE METAL FLOOR MTD PARTITIONS
S215	REPLACE S.S. CORNER GUARD
S216	FIRE PULL STATION NOT ACCESSIBLE
S217	REPLACE GUARDRAIL AT AREAWAY
S218	REPLACE CONC. STAIR

RAMP

R101	SLOPE NON-COMPLIANT
R102	HANDRAILS, NON-COMPLIANT
R103	REPAINT HANDRAILS
R104	LANDING NON-COMPLIANT

R105	PROVIDE NON-SLIP SURFACE
R106	NO HANDRAILS
R107	ADD NEW RAMP TO MAKE SPACE HC ACCESSIBLE

HARDWARE:

H101	REPLACE HARDWARE (HCP COMPLIANCE)
H102	ADD PANIC DEVICESER
H103	ADD DOOR CLOSURE
H104	UPDATE BOILER ROOM DOOR HARDWARE
H105	TACTILE WARNING HARDWARE REQUIRED
H106	REPLACE COMPLETE HARDWARE SET INCLUDING BUT NOT LIMITED TO; HINGES, LOCKSET (LEVER HANDLES), LATCHES, CLOSERS, KICKPLATES, WALL/FLOOR STOPS, PANIC DEVICES, THRESHOLDS,TRANSITION STRIPS.
H107	POWER OPERATORWITH SURFACE MOUNTED CONDUIT

THERMAL & MOISTURE PROTECTION

TM101	SEALANT AT WINDOW
TM102	CAULKING AT WINDOW
TM103	SEALANT AT DOOR
TM104	CAULKING AT DOOR
TM105	RECAULK AT HC
TM 106	ADD C.J.'S

ASBESTOS

AS101	EXPOSED PIPE INSUL-POSSIBLE ASBESTOS
AS102	REPLACE VAT IN FLOOR
AS103	REMOVE POSSIBLE ASBESTOS FIBREBOARD

MECHANICAL:

M101	REPLACE CEILING FAN
M102	PROVIDE SEPARATE CONTROLS FOR GANG SHOWER
M103	REMOVE AND REPLACE KILN AND PROVIDE SEPARATE ROOM W/ EXHAUST
M104	REPLACE UV
M105	REPLACE UV MECHANICAL LOUVER
M106	REPLACE KITCHEN HOOD
M107	PAINT EXHAUST LOUVER
M108	REPLACE EXHSAUT LOUVER
M109	REPLACE ELECTRICAL HEAT COLL.
M110	REPLACE FIN TUBE RADIATION COVER
M111	REPLACE METAL WALL VENT
M112	REPLACE CUH

ELECTRICAL

E100	REPLACE 2 X 4 LIGHT LENS
E101	REPLACE 1 X 4 LIGHT LENS

STRUCTURAL

ST101	STEEL BEAM RUSTED BELOW WINDOW
ST102	PAINT STEEL BEAM

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/BASE REPAIR REPORT- KOULOHARAS (Includes 1892 Building, 1922 Building and 1997 Addition)

GROUND FLOOR

PE #: 67150

Rev. 10/31/16

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	Doors/Frames D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Add. Door Comments	CASEWORK	Comments
001	ROTC - AIR FORCE	W203	BRICK/STONE W405	BRICK/STONE W405	W203		F110	B107	RECEMTLY RENOVATED		C112 C208	• 8'-6"	WD114		D219/D108	4X44	H106												
001A	ROTC STORAGE	W203	BRICK W405	W203	W203		F100	B101			C114 C208	• 8'-6"	WD114		D219/D108		H106												
001B	ROTC STORAGE (W/IN 001)	BRICK/STONE W405	BRICK/STONE W405	W203	W203		F100	B101	MOISTURE MITIGATION		C114 C208	• 8'-6	WD114	• CEILING LEAKS	D219/D108		H106												
002	ROTC - CLASSROOM	BRICK W405	BRICK/STONE W405	W203	W203		F111	B101	MOISTURE MITIGATION		C104 C208		WD114		D219/D108	4X44	H106												
002B	RIFLE STORAGE								MOISTURE MITIGATION																			LOCKED
003	LOGISTIC/ AIR FORCE ROTC	W203/W804	W203/W804	W203/W804	W203/W804		F100	B101	MOISTURE MITIGATION		C112 C208	• 9'-1" • 9'-2 1/2" TO HARD	WD114	• 5'-9 1/2" @ SILL	D219/D108	4X44	H106	D101		H106								
003B	ELEVATOR MACHINE ROOM	W103	W202	W307	W202		F402	NONE	MOISTURE MITIGATION		C302 C208	110-9"	WD114															CONFIRM SURVEYED
003C	STORAGE								MOISTURE MITIGATION		C208																	ENTRY CLOSED OFF W/ PARTICLE BOARD; NOT SURVEYED
004	TECH CENTER (INFO TECH)	W203	W203	W203	W203		F109	B101	MOISTURE MITIGATION	VD214	C112 C208	• 7'-10" TO ACT @ ENTRY • 9'-0" TO ACT • 9'-4" TO HARD	WD114	• CEILING LEAKS • REMOVE PLYW ON WD @ W3 •	D219/D108	4X44	H106											
004A	ELECTRICAL	W403	STONE	W403	W403/W309	PEELING PAINT/WATER DAMAGE, REMOVE WOOD PANEL INFILL INSALL INFILL W/ CMU W4	F402	NONE			C201 C208				D101		H106											CONFIRM SURVEYED
004B	ELECTRICAL	W405 BRICK	W405 BRICK	W405 BRICK	W405 BRICK		F402/F407	None			C201 C208	• 10'-5" TO HARD	WD114		D219/D108		H106												
004D	IT STORAGE	W405 BRICK	W405 BRICK/CMU	GWB/BRICK W203/W405	W203	Water Damage	F100	B101	MOISTURE MITIGATION		C114 C208	• 8'-1" TO ACT @ ENTRY • 9'-4" TO ACT • 9'-6 1/2" TO HARD	WD114	• CEILING LEAKS	D219/D108	4X44	H106											
005A	AFJROTC	W203 W405	W203 W405	W203	W203		F110	B107	RECEMTLY RENOVATED		C112 C208	8'-2"	WD114		D219/D108	4X44	H106												
005F	CLOSET (W/IN 005A)	W203	W203 W405	W203	W203		F111	B101	MOISTURE MITIGATION		C114 C208	8'-2"			D219/D108	None	H106												
006	ROTC OFFICE	W405	W405	W405	W405		F110	B107	RECEMTLY RENOVATED		C112 C208	8'-2"	WD114	• CEILING LEAKS	D219/D108	Full	H106												
007	ROTC - AIR FORCE	W203/W804	W203/W804	W203/W804	W203/W804		F111	B101	MOISTURE MITIGATION/LEVEL FLOOR		C112 C208	• 8'-6" TO ACT • 9'-3 1/2" TO HARD	WD114		D219/D108	4x44	H106												
008	AFJROTC	W203	BRICK/STONE W405	W203 W405	W203	• W1 PATCH GWB MISSING @ RIGHT UPPER CORNER	F110	B107	RECEMTLY RENOVATED	VD214	C112 C208	• 8'-6" TO ACT • 9'-0" TO PLAS	WD114		D219/D108	4X44	H106												
008B	CLOSET	W203	W203	W203	W203		F103	B101	RECEMTLY RENOVATED		C114 C208	8'-6"			D219/D108	DUTCH DOOR	H106												
009	DANIEL P. KANE RESTAURANT	W303	W303	W203	W403		F201/F213	B101	CARPET TILE, 150 SF LINOLEUM, MOISTURE MITIGATION		C114 C208	• 8'-9 1/2" TO ACT • 11'-5 1/2" TO PLAS	WD114	• ALL WD @ W4 @ 5'-8" @ SILL	D219/D108	4X44	H106	D101	NO LITE	H106	D101	NO LITE	H106			ON W1		
010	WORKSHOP/COMP GRAPHICS	W203/W804	W203/W804	W203/W804	W203/W804	• W1 GOES INTO 010B (SPRINKLER) W/ LEVEL CHANGE ELEVATION DROP, NO TRANSITION	F111	B101	MOISTURE MITIGATION	VD214	C112 C208	8'1 1/2"		• CEILING LEAKS	D219/D108	18x18	H106	D101	18x18	H106								
010B	SPRINKLER ROOM	BRICK	BRICK	BRICK	BRCK		EXP	N/A	• SUBFLOOR NEEDS REPAIR		EXP.		WD114		D104/D208	PAIR	H106											FIND ROOM ON PLAN	
011A	DANIEL P. KANE RESTAURANT (KITCHEN)	W303	W303	W303	W303	REFER TO FOOD SERVICE REPORT FOR ADDITIONAL INFORMATION ENTIRE ROOM	F704	F704	MOISTURE MITIGATION	VD214	C115 C208	8'-9 1/2"	WD114	REPLACE SKYLIGHTS REFER TO ROOF PLAN	D101	4x44	H106	D101	NO LITE	H106								REFER TO FOODSERVICE REPORT FOR ADDITIONAL INFORMATION
012A	LIFE SKILL	W203	W203	W203	W203	• BOX BUILD-OUT 3'-10"H	F100	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-1" TO ACT • 11'-6" TO HARD	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D227	7.5X36	H106											REPLACING FLOOR TO CONFIRM MOISTURE MIT.
012B	TOILET (W/IN 012)	W201	W103	W201	W201		F100	B101	MOISTURE MITIGATION		C210 C208	8'-4"	WD114		D209/D108		H106											BTA601, REFER TO SKETCH	
012C	MAIL ROOM	W203	W203	W203	W203		F103	B107	MOISTURE MITIGATION	VD215	C112 C208	• 8'-1" TO ACT • 11'-6" TO HARD	WD114															REPLACING FLOOR TO CONFIRM MOISTURE MIT.

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	Doors/Frames D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Add. Door Comments	CASEWORK	Comments
13	ART	W303	W303	W203	W203		F100	B101	MOISTURE MITIGATION	VD214	C112 C208	8-1"			D219/D 227	5X36	H106	D101	BL - 2'-6" X 7'-0"	H106									
013B	ART STORAGE (W/IN 013)	W303	W303	W203	W203	ADJUSTIBLE SHELVING	F100	B101	MOISTURE MITIGATION		C114 C208	8'-1"			D101		H106												
014	ART	W303	W303	W405 BRICK	W203		F100	B101	MOISTURE MITIGATION	VD214	C112 C208	8'-2" TO ACT	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	7.5X36, PAIR 3'	H106	219/D22	5X36	H106								C101 ON W2	• CW: COMP DESK; NEEDS ACCESSIBLE SECTION, PROVIDE W/ FF, ART SINKS PER PLAN
014B	STORAGE	W203	W203	W203	W203		F100	B101	MOISTURE		C114 C208	8-2"			D101			D101	NO LITE										
015A	ART ROOM	W203	W303 VC	W203	W303		F100	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-8" @ HIGHEST • 7'-2" B.O. CONCRETE • 7'-9" TO ACT		REPLACE SKYLIGHTS REFER TO ROOF PLAN	D101	4X24	H106										FFE/ART SINKS PER PLAN	
015B	DARK ROOM	W203	W203	W303	W303		F100	B101	MOISTURE MITIGATION	VD115	C115 C208	SLOPED		NONE	D101		H106												
015C	KILN ROOM	W303	W203	W303	W303		F100	B101	MOISTURE MITIGATION		C115 C208	• 8'-8" @ HIGHEST • 7'-2" B.O. CONCRETE		NONE	D101	4X44	H106												
015D	STORAGE	W303	W203	W303	W303		F100	B101	EX. BASE VARIES, MOISTURE MITIGATION		C114 C208	• 8'-8" @ HIGHEST • 7'-2" B.O. CONCRETE		NO WD	D101		H106										ADJUSTIBLE SHELVING	
016	LIFE SKILL	W203	W203	W203	W203		F103	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-1" TO ACT • 11'-6" TO HARD	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	4X44	H106	D219/D 227	4X44	H106								CLEAN	CASEWORK AND APPLIANCES RECENTLY REPLACED, REPLACING FLOOR TO CONFIRM MOISTURE MIT.
016D	DRESSING ROOM/STORAGE	W203	W203	W203	W203		F103	B107	MOISTURE MITIGATION		C114 C208	• 8'-1" TO ACT • 11'-6" TO HARD	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	4X44	H106											ACCESSIBLE BENCH AND CUBICLE CURTAINS	
016E	LAUNDRY	W203	W203	W203	W203		F103	B107	MOISTURE MITIGATION		C114 C208	8'-1"		NONE	D219/D 227		H106	D204	NO LITE	H101							ON W3	• 3'-0 3/4" SINK COUNTER HEIGHT - NOT HCA
017	CLASSROOM - LIFE SKILLS	W203	W103 W203	W203	W203	• W2 4'-1"X1'-4" GWB BUILT-OUT FOR PIPING	F100	B101	EX. BASE VARIES, MOISTURE MITIGATION	VD214	C112 C208	• 8'-9 1/2" TO ACT • 11'-3" TO PLAS	WD114		D219/D 227	4X44	H106	D219	:44, PAIR	H106							ON W3	PLASTIC LAMINATE PROVIDE KNEESPACE AT SINK
017C	FEMALE TOILET	W905	W905	W905	W905	W2 & 4: W208	F503	CLEAN CT			C210 C208	8'-4"			D219/D 108		H106											BTA601	
017D	MALE TOILET	W905	W905	W905	W905	W2 & 4: W208	F503	CLEAN CT			C210 C208	8'-4"			D219/D 108		H106											BTA601	
018	DANCE	W203	W303	W303	W203	• MIRRORS AND BARS TO BE MOUNTED ON W2 • •	F112	B101	EX. BASE VARIES, MOISTURE MITIGATION	VD214	C112 C208	• 8'-11" TO ACT •11'-11" TO HARD	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	4X44	H106	D101	30X84	H106									
018A	ROTC GYM/WELLNESS CENTER	W1002	W1002	W1002	W1002	MIRRORS W1, W3	F503	B105			C301 C208	8'-4" HARD			NONE												D1: REPLACE MARBE THRESHOLD W/ ACCESSIBLE ONE		PROVIDE MATS FFE
018B	STORAGE	W203	W203	W203	W203		F503	B203			C201 C208	8'-0" HARD		NO WD	D101		H106	D101	NO LITE	H106									
018C	PASSAGE	W905	W905	W905	W905		F503	B105			C301 C208	8'-4" HARD					H106										REPLACE METAL ACCORIDIAN GATE		
018D	ELEVATOR ROOM	W103	W103	W103	W103	• W3 CONFIRM IF SHEET METAL IS FIRE RATED/INFIL SHAFTWALL • •	F407	B101	MOISTURE MITIGATION		C201 C208	11'-6 1/2" HARD		2 HR. RATED	D101		H106										2 HOUR RATED		
018E	NETWORK HUB	W103	W103	W103	W103		B101	B101	MOISTURE MITIGATION		C114 C208	11'-6"			D101		H106												
018E.1	LIGHT WELL	W405	W405	W405	W405	REPLACE GLASS BLOCK					C208			REPLACE SKYLIGHT REFER TO ROOF															ADD FIRE RATED ACCESS HATCH
019	CLASSROOM - LIFE SKILLS	W203	W103 W203	W203	W203	• W2 4'-1"X1'-4" GWB BUILT-OUT FOR PIPING	F100	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-9 1/2" TO ACT • 11'-3" TO PLAS	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	4X44	H106										CW101 ON W2	PLASTIC LAMINATE, ACCESSIBLE KNEE SPACE
019A	SWITCHBOARD ROOM	W203	W307	W307	W307		F407	NONE			C201 C208			• CEILING LEAKS, SEE PLAN/PHOTOS	D101		H106	D101	NO LITE	H106							2 HOUR RATED		
019B	ELECTRICAL (W/IN 019A)	W103	W103	W303	W305 BRICK		F407	NONE			C201 C208			• CEILING LEAKS, SEE PLAN/PHOTOS	D101		H106										2 HOUR RATED		
019C	TRANSFORMER (W/IN 019A)	W305 BRICK	W305 BRICK	W305 BRICK	W305 BRICK		F407	NONE			C201 C208																3 HOUR RATED		
019D	SWITCHBOARD ROOM (W/IN 019	CMU	W103	CMU	CMU						C201 C208				D101		H106										• • •		
020	CLASSROOM	W203	W203	W203	W203		F100	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-1 1/2" TO ACT • 11'-5 1/2" TO PLAS	WD114		D219/D 227	4X44	H106												
021	CLASSROOM - LIFE SKILLS	W203	W103 W203	W203	W203	• W2 4'-1"X1'-4" GWB BUILT-OUT FOR PIPING	F100	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-9 1/2" TO ACT • 11'-3" TO PLAS	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 227	4X44	H106										CW101 ON W2	PLASTIC LAMINATE, ACCESSIBLE KNEE SPACE, ROOM LOCKED ALL ASSUMED PER 019
021A	CUSTODIAL	W1002	W1002	W1002	W1002	PATCH CT WHERE LAVS REMOVED	F502	CLEAN	REPLACE 20% TILE		C201 C208	8'-6"			REPLACE METAL ACCORDIAN GATE														ABANDONED TOILET ROOM, REMOVE FIXTURES AND CAP, INSTALL SLOP SINK
021B	CUSTODIAL	W201	W201	W201	W201		F501	F502	MOISTURE MITIGATION		C201 C208				D101		H106											SLOP SINK	
021C	TOILET ROOM								PENDING RECONFIG																			LOCKED	
021E	PUMP ROOM	W405	W405	W405	W405	SEAL WALL GAPS	F100	B101			C112 C208	13'-21/2"			D1-1		H106											SEPARATE PUMP ROOM FOLDER	
022A	HEALTH CENTER	W203	W103	W203	W203		F100	B101	MOISTURE MITIGATION	VD214	C114 C208	• 8'-7 1/2" TO ACT • 11'-3" TO HARD	WD114		D219/D 227	4X44	H106										CW101 ON W1	PLASTIC LAMINATE ACCESSIBLE KNEE SPACE

																Doors/Frames													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Add. Door Comments	CASEWORK	Comments
022B	OFFICE (W/IN 022A)	W103	W203	W203	W203		F100	B101	MOISTURE MITIGATION	VD215	C114 C208	8'-7 1/2"	WD114		D101	4X24	H106										KEY PAD		
022C	OFFICE (W/IN 022A)	W203	W203	W203	W203		F100	B101	MOISTURE MITIGATION	VD215	C114 C208	8'-7 1/2"			D101	4X24	H106										REGLAZE TRANSOM		
022D	TOILET (W/IN 022A)	W203	W203	W201	W203 W207		F501	F501		VD215	C210 C208	8'-8"			D219/D 108	NO LITE	H106												BTA 601, SEE SKETCH
022E	PASSAGE	W203	W203	W203	W203		F100	B101	• VERIFY SLOPE AT RAMP FOR HC COMPLIANCE	VD215	C114 C208	8'-6"			D101	4X44	H106												PROVIDE HIGH AND LOW RAILS AT SLOPED FLOOR
022F	STORAGE (W/IN 022A)	W104	W203	W203	W203	W1, PATCH WALL WHERE CW IS REMOVED	F100	B101	MOISTURE MITIGATION		C112 C208	8'-7 1/2"			D101	4X24, BL 2'-0" X 7'-0"	H106												
022G	QUIET ROOM	W104	W203	W203	W203		F100	B101	MOISTURE MITIGATION		C112 C208	8'-7 1/2"			D219/D 227	4X24, BL 2'-0" X 7'-0"	H106												
022H	EXAM 2	W104	W203	W203	W203		F100	B101	MOISTURE MITIGATION		C112 C208	8'-7 1/2"			D219/D 227	4X24, BL 2'-0" X 7'-0"	H106										TRANSLUCENT FILM AT BORROWED LITE	CW101 W/ SINK	CUBICLE CURTAIN, CURTAIN AT BORROWED LITE
022J	EXAM 1	W104	W203	W203	W203		F100	B101	MOISTURE MITIGATION		C112 C208	8'-7 1/2"			D219/D 227	4X24, BL 2'-0" X 7'-0"	H106										TRANSLUCENT FILM AT BORROWED LITE	CW101 W/ SINK	CUBICLE CURTAIN, CURTAIN AT BORROWED LITE
022L	PATIENT FILE (W/IN 022A)	W203	W203	W203	W203		F103	B107	RECEMTLY RENOVATED		C112 C208	8'-7 1/2"	WD114		D219/D 208	4X24	H106											W101	
022K	(OFFICE/HEALTH STORAGE)	W203	W203	W203	W203		F103	B107	RECEMTLY RENOVATED		C114 C208	8'-7 1/2"			D219/D 208	4X24	H106										• 6" STEP BETWEEN CORRIDOR/DOOR (INTERIOR OF ROOM) NO RAMP - NOT HCA •		ADJUSTIBLE SHELVING
024	ROBOTICS LAB	W303	W303	W303	W303		F109	B101	MOISTURE MITIGATION	VD214	C112 C208	• 8'-0" TO ACT			D219/D 108	4X42	H106	D219/D 108	4X42	H106								C101	
024C	ELECTRICAL																												LOCKED, REPORTED WATER WHEN IT RAINS
025	CUSTODIAL/STOR.	BRICK W403	BRICK W403	BRICK W403	BRICK W403		F100	B101	MOISTURE MITIGATION		C114 C208	7'-10"			D101	4X44	H106	D101	4X44	H106									
026	CHORUS ROOM	W403 W804	TECTUM	TECTUM	TECTUM	REPLACE ALL TECTUM, SEE SKETCH	F111	B101	MOISTURE MITIGATION,SEE SKETCH	VD214	C113 C208	• 7'-11 1/2" TO ACT @ HIGHEST • 15'-5" TO HARD, 11'-11"	WD114	• CEILING LEAKS	D101	3'-8", 4X24	H106									ACOUSTIC DOORs	CW101ON W4	SEE SKETCH FOR RECONFIGURATION TO REMOVE FLOOR TIERS AND MAKE ROOM ACCESSIBLE
026C	INSTRUMENT STORAGE/LISTENING ROOM (W/IN 026)	TECTUM	TECTUM	TECTUM	TECTUM	REPLACE ALL TECTUM, SEE SKETCH	F111	B101	MOISTURE MITIGATION,SEE SKETCH		C113 C208	• 7'-11 1/2" TO ACT			D101		H106										--	
026B	OFFICE	W203	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION,SEE	VD215	C112 C208	• 7'-11 1/2" TO ACT	WD114	• CEILING LEAKS	D101	4X24	H106									ACOUSTIC DOOR		
027	BAND PRACTICE (CORR)	W203	W203	W203	W203		F111	B101		VD214	C112 C208	• 8'-1" TO ACT			D219/D 227		H106									ACOUSTIC DOOR		
027A	BAND PRACTICE (MAIN)	W203	W203	W203	W203		F111	B101	SEE COMMENTS		C113 C208	• 8'-1" TO ACT			OPENING - FRAME ONLY		H106									ACOUSTIC DOOR		SEE SKETCH FOR RECONFIGURATION TO REMOVE FLOOR TIERS AND MAKE ROOM ACCESSIBLE
027B	TOILET (W/IN 027A)	W101	W201	W102	W102	W1: WATER DAMAGE	F100	B100	MOISTURE MITIGATION, WATER DAMAGE		C114 C208	• 8'-1" TO ACT			D219/D 227	NO LITE	H106												BTA601
027C	PRACTICE (W/IN 027A)	TECTUM	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION		C113 C208	• 8'-1" TO ACT			D219/D 227	Apr-44	H106									ACOUSTIC DOOR		
027D	OFFICE (W/IN 027A)	TECTUM	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION		C114 C208	• 8'-1" TO ACT	WD114		D104, D208	7.5X38	H106									ACOUSTIC DOOR		
027E	PRACTICE (W/IN 027A)	TECTUM	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION		C113 C208	• 8'-1" TO ACT	WD114		D104, D208	7.5X38	H106									ACOUSTIC DOOR		
027F	PRACTICE (W/IN 027A)	TECTUM	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION		C113 C208	• 8'-1" TO ACT	WD114		D104, D208	7.5X38	H106									ACOUSTIC DOOR		
028	COMPUTER LAB	W203/W804	W103	W103	W203		F111	B101	MOISTURE MITIGATION	VD214	C112	REPAIR FIREPROOFING • 8'-11" TO ACT • 9'-8 1/2" TO ACT • 10'-11" TO HARD	WD114	• 5'-9 1/2" @ SILL • CEILING LEAKS, SEE PLAN/PHOTOS	D219/D 119	NO LITE, BORROWED 2;-0" X 7;-0"	H106									CW 119/CW111	
028B	COMPUTER LAB	W203	W203	W203	W203	W804 @ ENTRY	F100	B101	MOISTURE MITIGATION	VD215	C112	REPAIR FIREPROOFING • 9'-8" TO ACT • 12'-8" TO HARD		• CEILING LEAKS, SEE PLAN/PHOTOS	D115	PAIR 3'	H106									• D1 W/ CLOSER • •		
029	CHORUS ROOM	W403 W804	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION,SEE SKETCH	VD214	C113	REPAIR FIREPROOFING • 7'-11 1/2" TO ACT @ HIGHEST • 15'-5" TO HARD, 11'-11"	WD114	• CEILING LEAKS, SEE PLAN/PHOTOS	D101	3'-8", 4X24	H106									ACOUSTIC DOORS	IN FFE	SEE SKETCH FOR RECONFIGURATION TO REMOVE FLOOR TIERS AND MAKE ROOM ACCESSIBLE
029B	INSTRUMENT STORAGE/LISTENING ROOM (W/IN 026)	TECTUM	TECTUM	TECTUM	TECTUM		F111	B101	MOISTURE MITIGATION,SEE SKETCH		C113 C208	• 7'-11 1/2" TO ACT			D101		H106												
030	CLASSROOM	W203	W203	W203/W804	W203/W804	• 3' WAINST SIMILAR TO LORD BLDG	F111	B101	MOISTURE MITIGATION	VD214	C112	REPAIR FIREPROOFING • 9'-3" TO ACT • 9'-11" TO ACT • 11'-0" TO HARD	WD114	• 5'-9 1/2" @ SILL	D219/D 115	4X44	H106										CW119	
34	CULINARY ARTS																												LOCKED
034A	FAN ROOM	BRICK/C W403	BRICK W403	BRICK W403	BRICK/ GLASSB LOCK W403		F402	NONE			C201 C208		REMOVE WINDOWS IN SHAFT AND INFILL W/ RATED CUM	ROOF, INFILL WINDOWS W/ RATED CMU; CONFIRM RATING	D101	NONE	H106								RATED DOOR		REPLACE CONCRETE STAIR AND TEMPORARY RAMP WITH CONCRETE STAIR, RAMP AND RAILINGS. SALVAGED CORNICE FROM COBURN/KOULOHERAS STORED HERE

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LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/BASE REPAIR REPORT- KOULOHARAS (Includes 1892 Building, 1922 Building and 1997 Addition)

FIRST FLOOR

PE #: 67150

Rev. 10/31/16

															Doors/Frames															
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Commer	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling		Ceiling Height	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	d. Door Comme	CASEWORK	Comments
101A	CLASSROOM	W103/W804	W103/W804	W203/W804	W203/W804	W207	F109	B201	PATCH WALLS WHERE RADIATOR REMOVED TYP.	VD214	C112	C208	• 9'-6" • 11'-10" @ EXT. WALL/WINDOWS TYP.	WD114		D219/ D227	6X36	H106											CW117	
101B	STORAGE (W/IN 101A)	W203/W804	W101	W101 W303	W203/W804	W207, WATER DAMAGE W2&W3, REMOVE PLASTER/WAINSCOAT, REBUILD PLASTER WALL	F109	B201			C114	C208	• 9'-6" • 11'-10" @ EXT. WALL/WINDOWS TYP.	WD114, CIRCULAR WINDOW		D219/ D227	6X36	H106	D219/ D227	6X36	H106									
101C	STORAGE (W/IN 101A)	W101	W101	W203/W W405	W203/W W405	W207, W1 WATER DAMAGE, REBUIILD PLASTER WALL, W2 INFILL OPENING W/ CMU AND REBUILD PLASTER WALL	F109	B201			C114	C208	• 9'-6" • 11'-10" @ EXT. WALL/WINDOWS TYP.	WD114		D219/ D227	6X36	H106												
102	CLASSROOM	W203/W804	W103/W804	W203/W804	W203/W804	W207	F109	B201		VD214	C114	C208	• 9'-6 1/2" TO ACT • 11'-10" EXT WALL	WD114		D219/ D108	6X36	H106	D219/ D108	6X36	H106									
103A	MALE TOILET	W1002	W1002	W1002	W1002	W1&2-W208	F503	B304			C201	C208	9'-0"																BTA601
103B	CUSTODIAN	W103	W103	W103	W103	REMOVE WAINSCOTT W1,2,3, REPLACE ALL PLASTER WALLS, WATER DAMAGE	F503	B304			C201	C208	11'-9"	WD114	CEILING WATER DAM	D101		H106											SLOP SINK	
104	CLASSROOM	W203/W804	W103/W804	W203/W804	W203/W804	W207	F109	B201		VD214	C114	C208	• 9'-6 1/2" • 11'-10" EXT. WALL	WD114		D219/ D108	6X36	H106	D219/ D108	6X36	H106									
105	CLASSROOM (ENGLISH LIT)	W203/W804	W103/W804	W203/W804	W203/W804	W207, REPLACE PLASTER TOP OF W2, CORNER OF W3 TO DOOR, WATER DAMAGE	F109	B201		VD214	C114	C208	• 9'-7" TO • 11'-10" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106									
105B	ELECTRICAL (W/IN 105)	W101	W101 RADIATO	W101	W101	REMOVE WAINSCOTT, REPLACE PLASTER, WATER DAMAGE W1	F109	B101			C114	C208	• 9'-9"	WD114, CIRCULAR WINDOW		D219/ D108	6X36	H106												
106	DATA PROCESSING	W203/W804	W103/W804	W103/W804	W203/W804	W207	F109	B201		VD214	C114	C208	• 9'-7" • 11'-10" EXT. WALL	WD114		D219/ D108	6X36	H106										• H1 NOT HCA		
106B	STORAGE (W/IN 106)	W203	W203	W203	W203/W804		F109	B201			C114	C208	• 10'-1" • 11'-10" EXT WALL	WD114, CIRCULAR WINDOW		D219/ D108	NO LITE	H106										• H1 NOT HCA • D1 REMOVE PAINT AT VISION LITE		
106A	OFFICE	W203/W804	W103/W804	W203/W804	W203	REPLACE PLASTER W2 WATER DAMAGE	F109	B201		VD215	C114	C208	• 9'-5" • 11'-10" EXT. WALL	WD114		D219/ D108	6X36	H106	D219/ D108	6X36	H106	D219/ D108	6X36	H106				CONFIRM 7'-0" MIN FOR OFFICE		
106C	ELECTRICAL	W203/W804	W203/W804	W203/W804	W203		F100	B201			C201	C208	11'-9" TO GWB			D219/ D227	6X36	H106												
107	CLASSROOM	W203/W804	W103/W804	W103/W804	W203/W804	W207	F109	B201		VD214	C112	C208	• 9'-5 1/2" • 11'-10" EXT WALL	WD114		D219/D10	6X36	H106	D219/ D108	6X36	H106							• IINACCESSIBLE THRESHOLD		
108A	TESTING CENTER	W103/W RADIATO	W203/W804	W203/W804	W203/W804	• W207, • W4 (LEFT SIDE): 40SF, NEW GWB TO COVER EXP. MTL STUDS, REMOVE OLD GWB & REPLACE NEW (WATER DAMAGE)	F109	B201		VD214	C112	C208	• 9'-6 1/2" • 11'-10" EXT WALL	WD114	CEILING WATER DAM	D219/ D227	6X36	H106	D219/ D227	6X36	H106							• D2 REMOVE WOOD INFILL, REPLACE NEW VISION LITE		
108B	NETWORK HUB	W103/W804	W203/W804	W203	W203/W804			B101	•STATIC DISSIPATED FLOOR TILES TYP. NETWORK HUBS		C114	C208	• 10'-O"	• W114, CIRCULAR WINDOW		D101	6X36	H106												
109	CLASSROOM	W203/W804	W103/W804	W203/W804	W203/W804	W207	F109	B201	• B101: W3, W4 • B203: W1, W2	VD214	C112	C208	• 9'-6" • 11'-10" EXT. WALL	WD114		D219/ D108	6X36	H106	D204	3.5X44	H104							• IINACCESSIBLE THRESHOLD		
110	CLASSROOM (ESL)	W203	W103	W203 RADIATO	W203	• W207	F108	B202		VD214	C112	C208	• 11'-4" • 11'-10 1/2" EXT. WALL • 9'-2" TO ACT @ SOFFIT	WD114		D219/ D227	6X36	H106										• IINACCESSIBLE THRESHOLD	CW117	
111A	FEMALE TOILET	W1002	W1002	W1002	W1002	W1&2-W208	F503	B304			C201	C208	9'-0"																BTA601	

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															Doors/Frames													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Commer	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Height	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Id. Door Comme	CASEWORK	Comments
132	CLASSROOM	W203	W103	W203	W203	W207	F108	B201		VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	6X36	H106										• INACCESSIBLE THRESHOLD	W4-C117	
133	CLASSROOM (KHMAR)	W203	W103	W203	W203	W207	F108	B201	• BASE MISSING @ CORNER OF HEATER	VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	iX36, PAII	H106	D219	16X22	H101							D1 EXISTING 2-2'-6" LEAFS NOT HC, PROVIDE 1 - 3' & 1' 2' LEAF, INAC. THRESH.		
134	CLASSROOM	W203	W103	W203/W804	W203	W207	F109	B201		VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	iX36, PAII	H106	D219/ D227	6X36	H106							D1 EXISTING 2-2'-6" LEAFS NOT HC, PROVIDE 1 - 3' & 1' 2' LEAF, INAC. THRESH.	W4-C117	
135	AUDITORIUM	W103 W804	W103	W103 W804	W103 W804	CLEAN CANVAS PANELS W:1,3,4	F201	B203	CARPET AT AISLES & ORCHESTRA, WOOD BELOW SEATS SEE SKETCH		C203	UNDERSIDE BALCONY SLOPES	NONE		D101/P AIR, 3'- 10" LEAFS	NO LITE	H106	D101/P AIR 3'- 10" LEAFS		H106	D101/P AIR, 3'- 10" LEAFS	NO LITE	H106	D101/P AIR 3'- 10" LEAFS		H106	D5, D6, D7, D8: D101/PAIR (3'-0" LEAFS), NO LITES, H106, H107 @ DRS		SEE SKETCH FOR ACCESSIBILITY MODIFICATIONS, RECOVER ALL FIXED SEATING
136	CLASSROOM (LITERATURE)	W203/W804	W103	W203/W804	W203	W207	F108	B201	EX. BASE VARIES	VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	iX36, PAII	H106										INACCESSIBLE THRESHOLD	W3-C117	
137	CLASSROOM (LATIN)	W203/W804	W103	W203	W203	W207	F108	B201	EX. BASE VARIES	VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	iX36, PAII	H106	B LABEL I	3X44	H101							INACCESSIBLE THRESHOLD	W4-C117	
138A	FACULTY LADIES TOILET (W/IN 138)	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201 C208	9'-6"			D219/ D227	NONE	H106										REPLACE MARBLE THRESHOLD W/		BTA601
139	CLASSROOM (LITERATURE)	W203/W804	W103	W203/W804	W203	W207	F103	B201	EX. BASE VARIES	VD214	C112 C208	• 11'-10" EXT. WALL • 10'-2"	WD114		D219/ D227	iX36, PAII	H106										INACCESSIBLE THRESHOLD		
140	NETWORK HUB	W203	W203	W203	W203	• W2, W3, W4: EXTEND GWB. TO DECK	F100	B101			C114	REPAIR FIREPROOFING • 13'-2" TO FIREPROOF DECK			D219/D 119	NO LITE	H106												
141	CUSTODIAL	W203	W203	W203	W203	• REBUILD W1, W2 @ 4' DOWN	F100	B101			C114	REPAIR FIREPROOFING • 13'-0" TO FIREPROOF DECK			D219/D 119	NO LITE	H106												SLOP SINK
142	COMPUTER LAB	W203/W804	W103	W103	W203 W504	W207	F111	B101		VD214	C112	REPAIR FIREPROOFING • 11'-10" EXT. WALL • 10'-2"	WD114	• CEILING LEAKS	D219/D 119	NO LITE	H106											CW119/CW111	
143	ELECTRICAL	W203	W203	W203	W203		F100	B101			EXP.	REPAIR FIREPROOFING • 13'-2" TO FIREPROOF DECK			D219/D 119	NO LITE	H106								D1 RATED DOOR			
144A	SPECIAL ED RECEPTION	W203	W103 RADIATO	W203	W203		F111	B101		VD215	C112	REPAIR FIREPROOFING • 9'-11" •11'-3 1/2 EXT WALL	WD114		D219/D 119	6X36	H106												
144B	OFFICE (W/IN 144A)	W203	W103 RADIATO	W203	W203		F111	B101		VD215	C112	REPAIR FIREPROOFING • 9'-11" •11'-3 1/2 EXT WALL	WD114		D219/D 119	6X36	H106												
144C	OFFICE (W/IN 144A)	W203	W203	W203	W203		F111	B101		VD215	C112	REPAIR FIREPROOFING 10'-0"			D219/D 119	6X36	H106												
145	COMPUTER LAB	W103	W103	W203/W804	W203 W504	W207, W4 GLASS BOCK	F111	B101		VD214	C112	REPAIR FIREPROOFING • 9'-11" •11'-3 1/2 EXT WALL	WD114	• CEILING LEAKS	D219/ D108	6X36	H106											CW119/CW111	
146A	BOYS RESTROOM	W1002	W1002 W902	W1002	W1002	• W2: PATCH CERAMIC TILES ON WALL AND REATTACH TOILET PARTITION	F503	CLEAN CT			C201	REPAIR FIREPROOFING 9'-6"	WD114	OBSCURE GLAZING															BTA601
147	CLASSROOM	W203/W804	W103	W203	W203/W804		F201	B101		VD214	C112	REPAIR FIREPROOFING • 9'-8" TO ACT • 11'-6" TO ACT.	WD114		D219/D 119	6X36	H106											CW119/CW111	
148A	GIRLS RESTROOM	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201	REPAIR FIREPROOFING 9'-6"		OBSCURE GLAZING, CEILING LEAKS															BTA601
1C1	CORRIDOR	W203 W804	W203 W804	W203 W804	W203 W804	LOCKERS	F113	B101	MOISTURE MITIGATION		C104	C301 SEL 9'-0"																	
1C2	CORRIDOR	W203 W804	W203 W804	W203 W804	W203 W804	LOCKERS	F113	B101	MOISTURE MITIGATION		C104	C301 SEL 9'-0"																	
1C3	CORRIDOR	W203 W804	W203 W804	W203 W804	W203 W804	LOCKERS	F113	B101	MOISTURE MITIGATION		C104	C301 SEL 9'-0"																	
1C4	CORRIDOR (SEE ADJACENT STAIR H)																												
1C5	CORRIDOR	W102/ W103 LOCKERS	W102/ W103 LOCKERS			• REMOVE VINYL WALL COVERING @ RM 136 • LOCKERS	F607	F607	REPAIR 20 LF TERRAZZO CRACKS	VD216	C114/ C201 SOFFITS	C208	• 9'-4" ACT •8'-0" PLASTER SOFFITS •															
1C6	CORRIDOR	W/102/\ LOCKERS	W102/ V LOCKERS			LOCKERS	F607	B403	REPAIR 5 LINEAR FEET CRACKS		C104	C208	9'-9 3/8"																
1C11	CORRIDOR (SEE ADJACENT STAIR B)																												

| | | | | | | | | | | | | | | | Doors/Frames | | | | | | | | | | | | | | |

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/BASE REPAIR REPORT- KOULOHARAS (Includes 1892 Building, 1922 Building and 1997 Addition)

SECOND FLOOR

PE #: 67150

Rev. 10/31/16

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling		Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	Doors/Frames D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Add. Door Comments	CASEWORK	Comments
201B	CLASSROOM - STATISTIC	W103/W804	W103/W804	W103/W804	W103/W804		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
201C	STORAGE (W/IN 201B)	W203	W203/W804	W103/W804	W203/W804	REMOVE WALL COVERING WALL 3	F109	B201			C114	C208	9'-8"		• CEILING LEAKS	D219/ D227		H106										INACCESSIBLE THRESHOLD		
202	CLASSROOM	W203/W804	W103/W804	W203/W804	W203/W804		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227		H106							INACCESSIBLE THRESHOLD		
203	CLASSROOM - HISTORY	W103/W804	W103/W804	W203/W804	W203/W804		F109	B201		VD214	C112	C208	• 9'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	NO LITE	H106									
203A	STORAGE (W/IN 201B)	W101/ W106 W201	W101/ W106 W201	W203/W804	W203/W804	W1&W2: REBUILD WALLS, WATER DAMAGE, INFILL DOOR OPENING W2 W/ SHAFTWALL	F109	B201			C114	C208	10'-6"	WD114		D219/ D227		H106										INACCESSIBLE THRESHOLD		
204	CLASSROOM (MRS COLLOCA)	W203/W804	W203/W804	W203/W804	W203/W804	W3: 1'-0" LONG PATCH WD TRIM AT TOP OF BLACKBOARD BLACKBOARD	F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
204A	SOCIAL WORKER (MR. BATISTA)	W103/W804	W103/W804	W103/W804	W103		F109	B201		VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/D 108	6X36	H106	D219/ D227	6X36	H106	D219/ D227	6X36	H106				INACCESSIBLE THRESHOLD		
204B	ELECTRIC OR STORAGE?	W203/W804	W203/W804	W203/W804	W203/W804		F109	B201			C201	C208	11'-11"	WD114		D219/D 108		H106										CARRY RATED DOOR PENDING SERVICE		
206A	TALENT SEARCH & GEAR UP RECEPTION	W103/W804	W203	W203	W103/W804		F109	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
206B	TALENT SEARCH & GEAR UP (MIDDLESEX COMM COL.)	W103/W RADIATO	W203	W203	W103/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
206C	TALENT SEARCH & GEAR UP (MIDDLESEX COMM COL.)	W203	W203	W203	W103/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"			D219/ D227	6X36	H106	D219/ D108	6X36	H106									
206D	TALENT SEARCH & GEAR UP OFFICE	W103/W804	W203	W203	W203		F109	B201	EX BASE VARIES	VD215	C104		9'-6"			D219/ D108	6X36	H106												
206E	TALENT SEARCH & GEAR UP OFFICE	W203	W103/W RADIATO	W103/W804	W203	W4: REMOVE CASEWORK / SINK, PATCH	F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"	WD114		D219/ D108	6X36	H106												CASEWORK NOT REQUIRED FOR OFFICE
207A	CLASSROOM	W103/W804	W103/W804	W203/W804	W203/W804		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D108	6X36	H106	D219/ D108	NO LITE	H106							CONFIRM SLOPE AT DOOR		
207B	CLASSROOM - HISTORY	W203	W103/W804	W103/W804	W203/W804		F109	B201	EX BASE VARIES	VD215	C104, C201		• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D108	6X36	H106	D219/ D108	6X36	H106						
207C	ELECTRICAL (W/IN 207B)	W103/W804	W203/W804	W203/W804	W203/W804		F109	B201			C201	C208	11'-11"	WD114		D219/ D227		H106										CONFIRM RATED DOOR		
208A	CATIE'S CLOSET	W103/W804	W203	W103/W804	W103/W804		F109	B201	EX BASE VARIES		C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
208B	OFFICE/WAITING, NEW HORIZON	W203	W203	W203	W103/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"			D219/ D227	6X36	H106												
208C	TALENT SEARCH OFFICE?	W203	W103/W804	W203	W203		F109	B201	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106												
208D	STORAGE	W203	W203	W203	W203		F109	b101	EX BASE VARIES		C112	C208	9'-6"			D219/ D108		H106												
208E	PASSAGE	W103	W103	W103	W103	W2: SALVAGE MURAL	F109	101	EX BASE VARIES		C112	C208	9'-6"			D219/ D101	6X36	H106	D101	6X36	H106									SALVAGE MURAL
208F	NETWORK HUB	W103/W804	W103/W804	W101	W103/W804	W3: WATER DAMAGE	F109	B201	EX BASE VARIES		C201	C208	11'-11"	WD114		D219/ D227		H106												
209	PALS MENTOR: C-HOUSE PROGRA	W103/W804	W203	W203	W203/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"			D219/ D227	6X 36	H106												
209A	MS. HONDRAS'S OFFICE	W103/W804	W103/W804	W203	W203		F109	B201	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D108	6X36	H106												
209B	CONFERENCE	W203	W203	W103/W804	W203		F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"		• CEILING LEAKS	D219/ D108	6X36	H106										CONFIRM DOOR CONFIG/PHOTO		
209C	OFFICE	W203	W103/W804	W203	W203		F109	B201	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D108	6X36	H106										CONFIRM DOOR CONFIG/PHOTO		
209.1	OFFICE	W203	W203	W103/W804	W103/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D204	6X36	H101	D204	6X36	H106							CONFIRM DOOR CONFIG/PHOTO		
209E	OFFICE	W203	W203	W203	W103/W804		F109	B201	EX BASE VARIES	VD215	C112	C208	9'-6"		• CEILING LEAKS	D219/ D227	6X36	H106										CONFIRM DOOR CONFIG/PHOTO		
210	CLASSROOM (MATH)	W203	W103	W103	W203		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
211A	MALE TOILET	W1002	W1002	W1002	W1002	W1&3: W208	F503	CLEAN CT			C210	C208	9'-0"	WD114															BTA 601
211B	FEMALE TOILET	W1002	W1002	W1002	W1002	W1&3: W208	F503	CLEAN CT			C201	C208	9'-0"	WD114															BTA 601
2111C	CUSTODIAN	W101 W103	W101 W103	W101 W103	W101 W103	REPLACE PLASTER AT BASE, INSTALL FRP WAINSCOAT ALL CUSTODIAL CLOSETS TYP.	F503	CLEAN CT			C114	C208	11'-9"			D101		H106												SLOP SINK
211D	STORAGE	W203	W203	W203	W203		F503	B105			C114	C208	9'-0"			D101		H106												
212A	COMPUTER ROOM	W305	W103	W203/W804	W203/W804		F109	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D101		H106							INACCESSIBLE THRESHOLD	CW101	CONFIRM EXTENSIVE CASEWORK DRAWN ON PLANS
212B	TELEPHONE CLOSET (WITHIN 212	W203	W203	W203	W203	•	F109	B201	--		C114	C208	10'-6"							PAIR 3'										
213	CLASSROOM	W203	W103	W203	W203		F109	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
214A	CLASSROOM (HISTORY)	W203/W804	W103	W203	W203		F108	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
214B	CLASSROOM (SP ED)	W203	W103	W103/W804	W203		F109	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
215	CLASSROOM	W103	W103	W103	W203		F108	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
216	CLASSROOM - MATH	W203	W103	W103	W203	CHALK BOARDS	F108	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
217	CLASSROOM	W203	W103	W103	W203		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
218	CLASSROOM	W203	W103	W103	W203	CHALK BOARDS	F108	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
219	CLASSROOM	W203	W103	W103	W203		F108	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6X36	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
220	RECEPTION (HC CHAIR STORAGE)	W203	W203	W203	W203		F109	B101	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL		• CEILING LEAKS	D219/ D227	6X36	H106									INACCESSIBLE THRESHOLD		
220B	OFFICE	W203	W203	W203	W203		F109	B101	EX BASE VARIES		C114	C208	9'-6"			D219/ D108	6X36	H106												
220C	CONFERENCE	W203	W103	W203	W203		F109	B101	EX BASE VARIES	VD215	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D108	6X36	H106												
222A	FEMALE TOILET	W305	W305	W305	W305		F503	B105			C201	C208	9'-6"																BTA 601, COORDINATE W/ JD SKETCH AS REQUIRED
222C	NETWORK HUB	W405	W405	W203	W203		F109	B101			C114	C208	10'-6"	NONE		D101	NO LITE	H106												
223	CLASSROOM - FRENCH	W203	W103	W203	W203		F108	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6" X 36"	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
224	CLASSROOM - LANGUAGE	W203	W103	W203	W203		F109	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6" X 36"	H106	D219/ D227	6X36	H106	D219/ D227	6" X 36"	H106	D219/ D227	6" X 36"	H106	INACCESSIBLE THRESHOLD		
226	CLASSROOM	W102/W103	W102/W RESTORE	W102/W103	W102/W103		F108	B201		VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6" X 36"	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
227	CLASSROOM - WORLD LANGUAG	W203	W103	W203	W203		F108	B201	EX BASE VARIES	VD214	C112	C208	• 10'-6" • 11'-11" EXT. WALL	WD114		D219/ D227	6" X 36"	H106	D219/ D227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
227A	MALE TOILET	W1002	W1002	W1002	W1002	W1&3: W208	F503	CLEAN CT			C210	C208	9'-6"																BTA601
228A	WOMENS FACULTY TOILET	W1002	W1002	W1002	W1002	W2&4: W208	F503	CLEAN CT			C210	C208	9'-6"	CLEAN GLASS BLOCK		D219/D 227	NO LITE	H106										REPLACE MARBLE THRESHOLD W/ ACCESSIBLE ONE	--	BTA601

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LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/BASE REPAIR REPORT- KOULOHARAS (Includes 1892 Building, 1922 Building and 1997 Addition)

THIRD FLOOR & MEZZANINE

PE #: 67150

Rev. 10/31/16

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	Doors/Frames D1 Gl. Dim. H1	D2 Gl. Dim. H2	D3 Gl. Dim. H3	D4 Gl. Dim. H4	Add. Door Comments	CASEWORK	Comments
	Teacher Center Suite																				
302	LOUNGE	W102	W102 W801	W102	W102		F109	B101	W2: B201	VD215	C112 C208		WD114							CW110/CW111	
302A	CORRIDOR	W102	W102	W102	W102		F109	B101/B201	WOOD AT WAINSCOAT		C112 C208	9'-10"									
302B	LOUNGE/CORRIDOR	W203	W102/W801	W203	W203		F109	B201			C114 C208	9'-9"/11'-11" EXT. WALL	WD114							CW101	
302C	STORAGE	W203	W203	W203	W203		F109	B101			C114 C208										
303	KITCHEN	W102/W801	W203	W203	W203		F109	B101/B201	WOOD AT WAINSCOAT		C112 C208	9'-9"/11'-11" EXT. WALL	WD114							CW111	REPLACE APPLIANCES, REPLACE ACCESSORIES (SOAP, PAPER TOWEL)
306	LOUNGE	W203	W102/W801	W203 W801	W203	W3: INFILL MISSING WAINSCOAT 4'-0" WIDE	F109	B201/B2	WOOD AT WAINSCO	VD215	C112 C208	10'-9 1/2"	WD114								
307	BOOK STORAGE	W203	W203	W203	W203		F109	B201			C112 C208	10'-912"									
309	INTERN CENTER	W203	W102/W801	W102 W801	W203		F109	B201			C112 C208	8'-6"	WD114		D201	D219/ D108 H106					
309A	BOOK STORAGE	W202	W202/203	W202	W202		F109	B201			C112 C208	8'-6"			D209/D108 H106				D1: CURRENTLY UNCLASED OPENING W/NO GWB		
309B	OFFICE	W203	W203	W203	W203		F109	B201			C112 C208	8'-6"			D219/ D108 H106				BORROWED LITE		
309C	OFFICE (W/IN 309)	W203	W203	W203	W203		F109	B201			C112 C208	8'-6"			D219/ D108 H106						
313	OFFICE - DIRECTOR OF CURRICULUM	W203	W102/W801	W203	W203		F109	B201/B202			C114 C208	8' 5", 11'-11" EXT. WALL	WD114		D1 - 3'HM - D115;H101; D2 - 3'HM - D115;H101						
315	OFFICE	W203	W203	W203	W203		F109	B101			C114 C208	9'-6"			D101 H106				D1: SIDELIGHT		CONFIRM ALL
316	OFFICE	W203	W203	W203	W203		F109	B101			C112 C208	9'-6"			D101 H106				D1: SIDELIGHT		CONFIRM ALL
317	CONFERENCE	W102 W801	W102/W801	W203	W203		F109	B101/ B202			C114 C208	8'-7"	WD114							CW110/CW111	
318A	WOMEN'S TOILET ROOM/CONFI	W905	W905	W905	W905		F503	B105			C201 REPAIR FIREPROOFING	9'-0"									BTA601
318B	MEN'S TOILET ROOM	W905	W905	W905	W905		F503	B105							D219/D 108 H106						BTA601
318C	JANITORS CLOSET/CONFIRM LOC	W203	W203	W203	W203		F503	B105	REPLACE JANITORS SINK EXP TO UNDERSIDE OF STA			VARIES			D1 - 3'WD-D204;H104						
C39	HALL	W203	W203	W203	W203		F111	B107		WD215	C114 C208										
C310	HALL - CORRIDOR	W203	W203	W203	W203	LOCKERS	F111	B101 -6"		WD215	C114 C208	8'-2"								EXISTING LOCKERS T	--
	Teacher Center (Mezz)																				
M301	WORK ROOM (MEZZANINE)	W203	W203	W203 W101	W203	• W3 IS HALF WALL GWB. @ 3'-6" H • CRACKS ON W3 @ ARCH WINDOWS W2: PLASTER EXTERIOR WALL	F100 - R	B101		VD215	C112 C208	14'-9"	WD114	• NO SHADES AT ARCHED PORTION OF WINDOW							
M301A	ATTIC	W404	W404	W404 W304	W404		B100	NONE	NEW PLYWOOD SUBFLOOR		EXP. C208	15'-10" TO WOOD DEK		EXPOSED STRUCTURE/NEW BATT INSULATION	104, D20 4X42 H106						
M305	WORK AREA(MEZZANINE)	W203	W203	W203	W203	HALF WALL AT STAIR	F201	B101			C114 C208	14'-0"			D101 6X36 H106						
M306	OFFICE (MEZZANINE)	W203 W102	W203	W203	W203	• CRACKS ON W1 @ ARCH WINDOWS	F101	B101		VD215	C112 C208	14'-3 1/2"	WD114	• NO SHADES AT ARCHED PORTION OF WINDOW	D101 6X36 H106	104, D20 4X42 H104				CW101	
M307	MECHANICAL(MEZZANINE)	W102	W102	W102	W202	• GWB. ON W4 & EXP. INSULATION	PLYWD	NONE	NEW PLYWOOD W/ B100		EXP.	EXPOSED STRUCTURE/INSUL		WD114: OBSCURE GLASS	D101 6X36 H106						
M308	WORK AREA(MEZZANINE)	W203	W203	W203 W101	W203	• W3 IS HALF WALL GWB. @ 3'-6" H • CRACKS ON W3 @ ARCH WINDOWS W2: PLASTER EXTERIOR WALL	F100 - R	B101		VD215	C112 C208	14'-11"	* WD103 ALL W, NEW ROLLER SHADE	• CEILING LEAKS, NO SHADES AT ARCHED PORTION OF WINDOW							
M308A	ATTIC	W404	W404	W404 W304	W404		B100	NONE	NEW PLYWOOD SUBFLOOR					REPLACE INSULATION							
	All Other Rooms																				
301	E-HOUSE	W102/W801	W203	W102 W801	W102 W801		F109	B201		VD215	C112 C208	10'-1"/11'-11" EXT. WALL	WD114		W219/ W227 6X36 H106						

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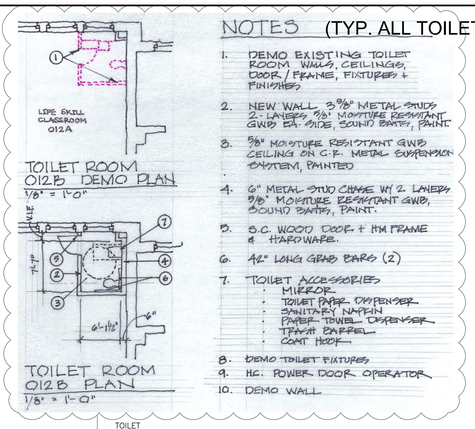
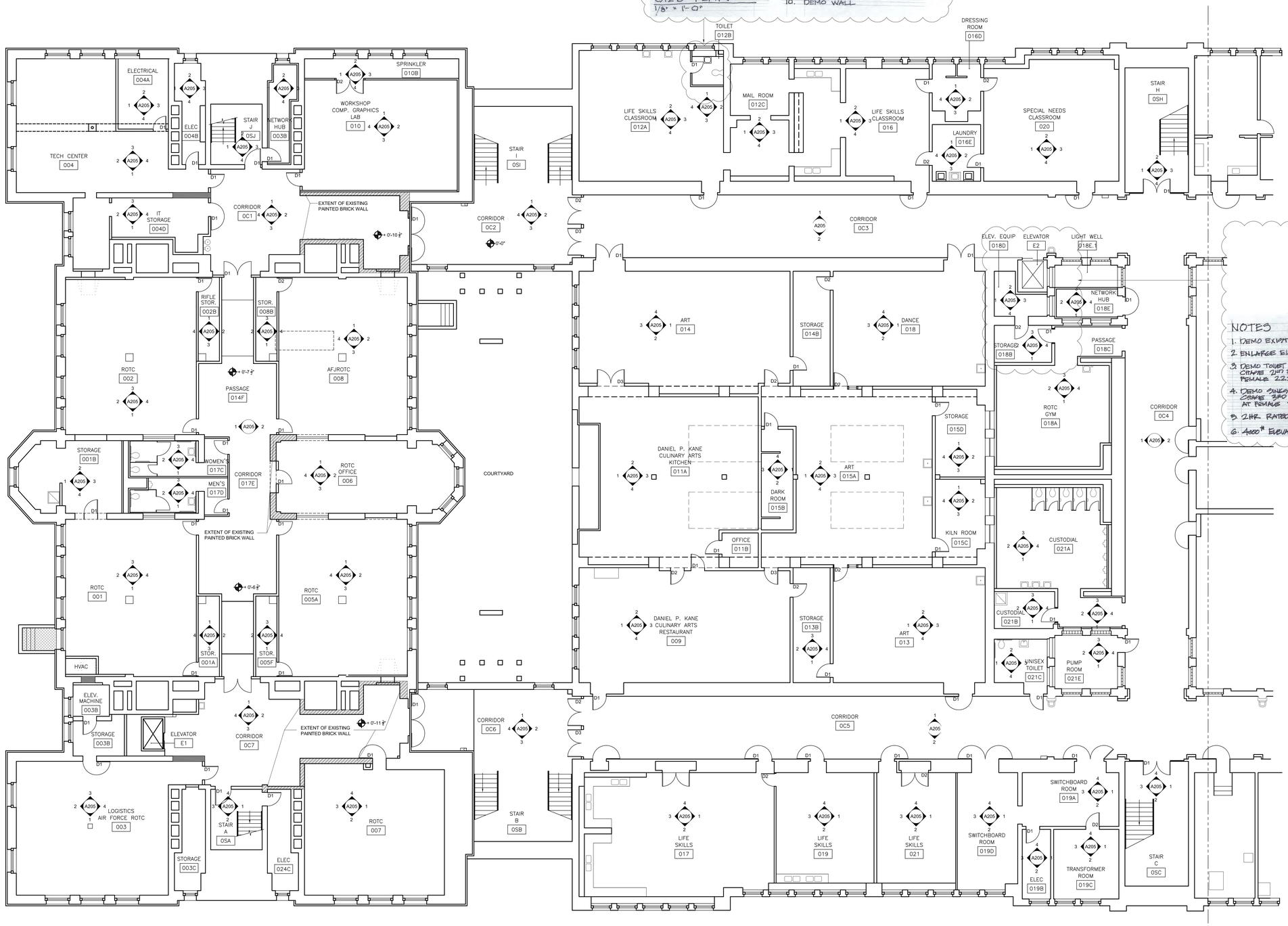
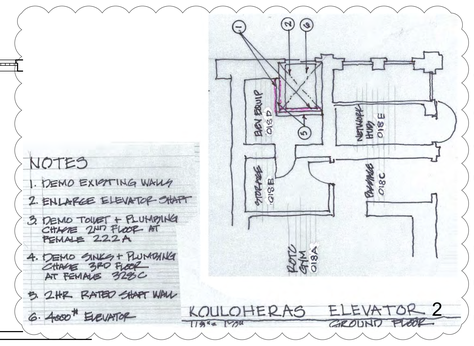
															Doors/Frames																			
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling		Ceiling Hgt.	Windows (See Exterior Elevations)	Add. Windows/ Ceiling Comments	D1	Gl. Dim.	H1	D2	Gl. Dim.	H2	D3	Gl. Dim.	H3	D4	Gl. Dim.	H4	Add. Door Comments	CASEWORK	Comments
322A	MALE TOILET	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201	C208	9'-0"															REPLACE INACCESSIBLE MARBLE THRESHOLD		BTA601
322C	CUSTODIAL	W102	W102	W102	W102		F100	B101			C201	C208	11'-10"			D101		H106												SLOPE SINK
323	CLASSROOM																													SEE SKETCH
323A	STORAGE																													SEE SKETCH
323B	OFFICE/CLASSROOM																													SEE SKETCH
324	CLASSROOM(PHYSICS)	W102	W102	W102	W102	W207	F109	B202		VD214	C112	C208	9'-9"/11'-11" EXT. WALL	WD114		W219/ W227	6X36	H106	W219/ W227	6X36	H106	W219/ W227	6X36	H106	W219/ W227	6X36	H106		CW118	
325	CLASSROOM	W203	W103	W203	W203	W207	F108	B202		VD214	C112	C208	• 11'-1" • 12'-11" EXT. WALL	WD114		W219/ W227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
326	SPECIAL NEEDS CLASSROOM	W203	W103	W203	W203	W207	F109	B202	• • •	VD214	C112	C208	• 11'-1" • 12'-11" EXT. WALL	WD114		W219/ W227	6X36	H106										INACCESSIBLE THRESHOLD		
327A	MALE STAFF TOILET	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201	C208	9'-0"	CLEAN GLASS BLOCK		W219/ W227		H106										REPLACE MARBLE THRESHOLD W/ ACCESSIBLE ONE		BTA601
328A	FEMALE STAFF TOILET	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201	C208	9'-0"	CLEAN GLASS BLOCK		W219/ W227		H106										REPLACE MARBLE THRESHOLD W/ ACCESSIBLE ONE		BTA601
328C	FEMALE TOILET	W1002	W1002	W1002	W1002		F503	CLEAN CT			C201	C208	9'-0"															REPLACE MARBLE THRESHOLD W/ ACCESSIBLE ONE		BTA601
328D	NETWORK HUB	W405 W203	W405 W203	W203	W203		F100	B101			C114	C208	13'-6"			D101														
329	CLASSROOM	W203	W103	W203	W203	W207	F108	B202		VD214	C112	C208	• 11'-0" • 11'11" EXT WALL	WD114		W219/ W227	6X36	H106	W219/ W227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
330	CLASSROOM (ENG. CHEM. PHYS.	W203	W103	W203/W804	W103	W207	F109	B201		VD214	C112	C208	• 9'-11" • 11'-10" EXT WALL	WD114		W219/ W227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
331	CLASSROOM	W203/W804	W103	W203	W203	W207	F108	B201	• • •	VD214	C112	C208	• 11'-0" • 11'11" EXT WALL	WD114	• CEILING LEAKS	W219/ W227/ PAIR	6X36	H106									D1: ONE 3'-0" LEAF, ONE 2'-0" LEAF (EXISTING 2'-6" NOT HC), INACCESSIBLE THRESHOLD	CW117	
332	CLASSROOM (ALGEBRA, GEOMET	W203/W804	W103	W203	W203	W207	F109	B201		VD214	C112	C208	• 9'-11" • 11'-10" EXT WALL	WD114	• CEILING LEAKS	W219/ W227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
333	CLASSROOM (PHILOSOPHY)	W203/W 3' WAIN	W103	W203/W 3' WAIN	W203	W207	F108	B201		VD214	C112	C208	• 11'-0" • 11'11" EXT WALL	WD114		W219/ W227/ PAIR	6X36	H106									D1: ONE 3'-0" LEAF, ONE 2'-0" LEAF (EXISTING 2'-6" NOT HC), INACCESSIBLE THRESHOLD	CW117	
334	CLASSROOM (MATH)	W203	W103	W203	W203	W207	F109	B201		VD214	C112	C208	• 11'-0" • 11'11" EXT WALL	WD114	• CEILING LEAKS	W219/ W227	6X36	H106	W219/ W227	6X36	H106							INACCESSIBLE THRESHOLD	CW117	
336	STORAGE	W203	W203	W203	W203		F100	B101			C114		11'-1"		• CEILING LEAKS	D219/D 227	PAIR 3'	H106												
338	CLASSROOM	W203	W103	W203/W804	W203		F108	B201		VD214	C112	C208	• 11'-0" • 11'-9" EXT. WALL	WD114		W219/ W227	6X36	H106										INACCESSIBLE THRESHOLD	CW117	
344	NETWORK HUB	W203	W203	W203	W203		F100	B101			C114	REPAIR FIREPR OOFIN G	21'-1"		EXP. DECK	D115		H106												
345	CUSTODIAL	CLEAN BRICK W203	W203	W203	W201	• W1: INSTALL GWB AT BRICK, CLOSE GAPSW4: REPLACE GWB	F101	B101			EXP.	REPAIR FIREPR OOFIN G	21'-1" TO DECK, CONFIRM		EXP DECK	D102		H106												SLOP SINK
346	COMPUTER LAB	W203/W804	W103	W103	W203 W504	W4: CLEAN GLASS BLOCK	F111	B101	MOISTURE MITIGATI	VD214	C112	C208	• 9'-11 • 11'-3 EXT WALL	WD114		D219/ D119		H104											CW119/CW111	
347	ELECTRICAL	W203	W203 BRICK	W203	W203		F100	B101	MOISTURE MITIGATION?		C114	REPAIR FIREPR OOFIN G	21'-1" TO DECK	NONE		D102		H106												
348	CLASSROOM LITERATURE	W203	W103	W203/W804	W203/W804	W207	F111	B101	MOISTURE MITIGATI	VD214	C114	REPAIR FIREPR OOFIN G	• 9'-11" • 11'-4" EXT. WALL	WD114	• CEILING LEAKS	D219/ D119	3X36	H106										CW119/CW111	
349	COMPUTER LAB	W203/W 3' WAIN	W103	W103	W203 W504	W207, W4: CLEAN GLASS BLOCK	F111	B101	MOISTURE MITIGATI	VD214	C112	REPAIR FIREPR OOFIN G	• 9'-11 • 11'-3 EXT WALL	WD114		D219/ D119		H104											CW119/CW111	
350A	MALE TOILET	W1002	W1002	W1002	W1002		F503	B202			C201	REPAIR FIREPR OOFIN G	9-0", 11-3 EXT WALL	WD114																BTA106

| | | | | | | | | | | | | | | | | Doors/Frames | | | | | | | | | | | | | | | |







1 **KOULOHERAS GROUND FLOOR PLAN - SOUTH**
1/8" = 1'-0"

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS GROUND FLOOR PLAN - SOUTH

SCALE: 1/8" = 1'-0"

A-205

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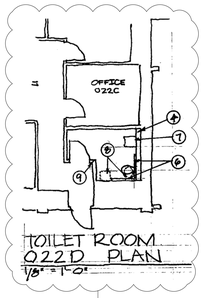
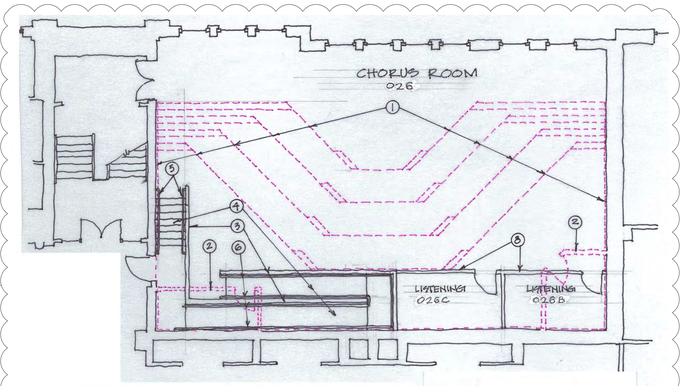
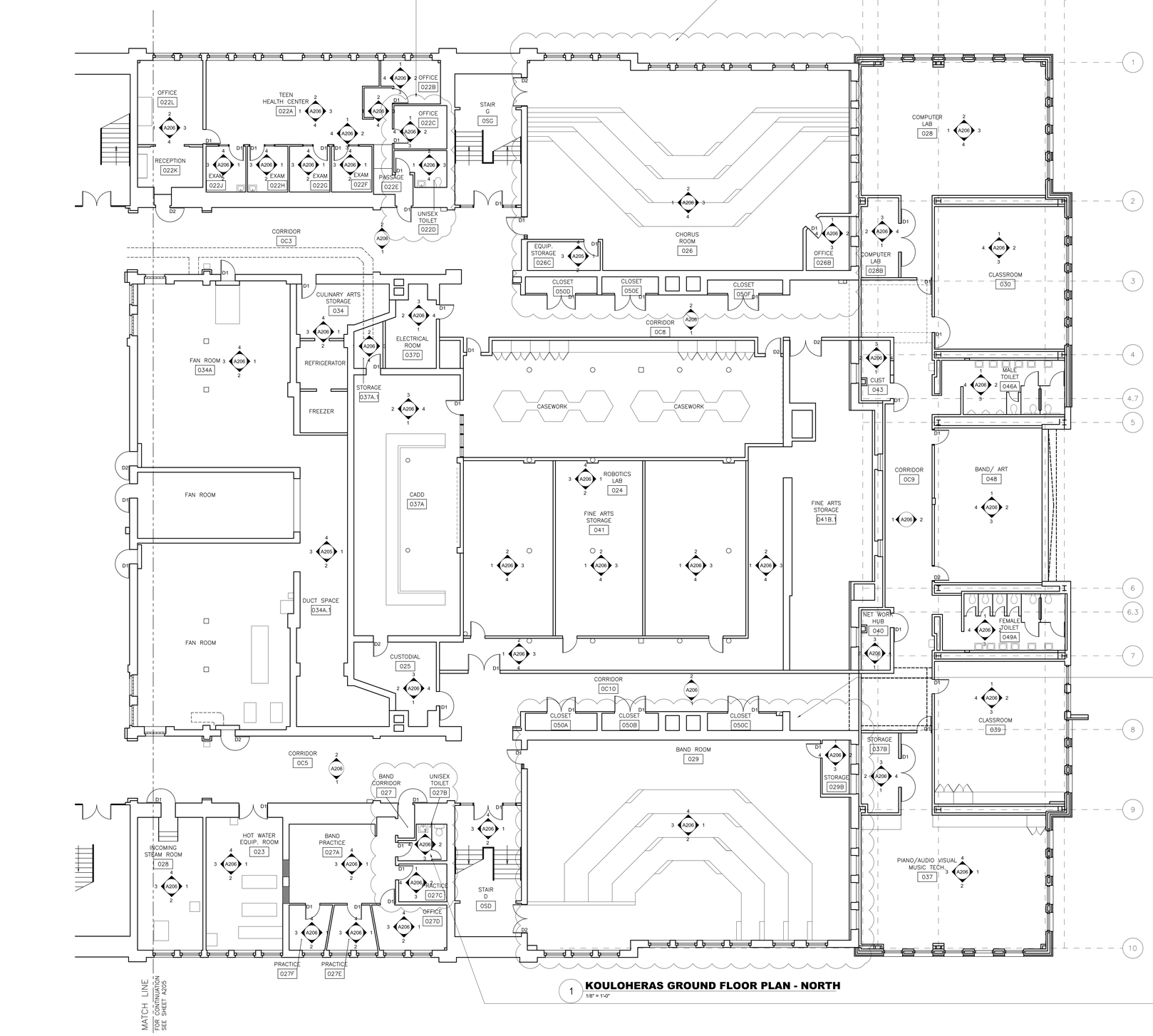


TOILET ROOM
022D PLAN
1/8" = 1'-0"

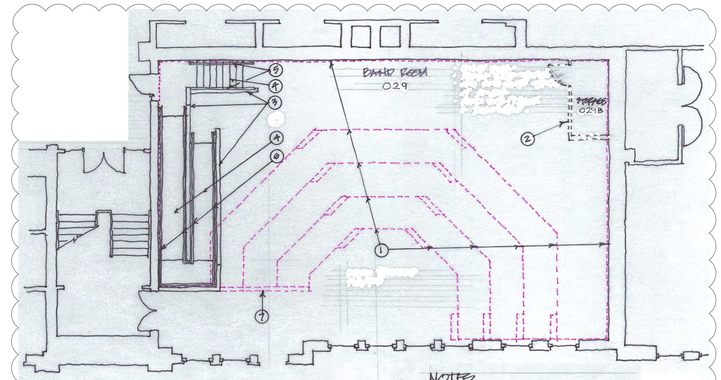


KOULOHERAS CHORUS
1/8" = 1'-0"

NOTES
1. DEMO FRAMED RISERS
2. DEMO STORGE CLOSET + REBUILD AT NEW FINISH FLOOR (- 1'-0") BELOW EXISTING LOCATION.
3. 3 5/8" LT. GAGE FRAMED SLOPING WALL AT RAMP + STAIR W/ 5/8" GWB EA. SIDE. 42" GUARD RAIL HT. TYPICAL.
4. LT. GAGED METAL FRAMED RAMP + STAIR W/ 3/4" T+G FRT PLYWOOD SHEATHING RE. RAMP, LANDING, TREADS + RISERS
5. 1 1/4" PIPE HANDRAILS AT STAIR
6. 1 1/4" PIPE HIGH + LOW PIPE HANDRAIL AT RAMP.
7. DEMO FRAMED WALL
8. 3 5/8" STUDS W/ 5/8" GWB EA. SIDE ACOUSTIC BATT, ACT CEILINGS HM FRAME + WOOD DOOR / HARDWARE

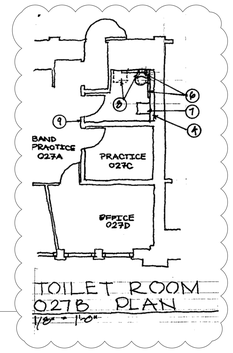


1 KOULOHERAS GROUND FLOOR PLAN - NORTH
1/8" = 1'-0"



KOULOHERAS BAND ROOM
1/8" = 1'-0"

NOTES
1. DEMO FRAMED RISERS
2. DEMO STORGE CLOSET + REBUILD AT NEW FINISH FLOOR (- 1'-0") BELOW EXISTING LOCATION.
3. 3 5/8" LT. GAGE FRAMED SLOPING WALL AT RAMP + STAIR W/ 5/8" GWB EA. SIDE. 42" GUARD RAIL HT. TYPICAL.
4. LT. GAGED METAL FRAMED RAMP + STAIR W/ 3/4" T+G FRT PLYWOOD SHEATHING RE. RAMP, LANDING, TREADS + RISERS
5. 1 1/4" PIPE HANDRAILS AT STAIR
6. 1 1/4" PIPE HIGH + LOW PIPE HANDRAIL AT RAMP.
7. DEMO FRAMED WALL



TOILET ROOM
027B PLAN
1/8" = 1'-0"

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

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Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL
HIGH SCHOOL
BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS
GROUND FLOOR
PLAN - NORTH

SCALE: 1/8" = 1'-0"

A-206

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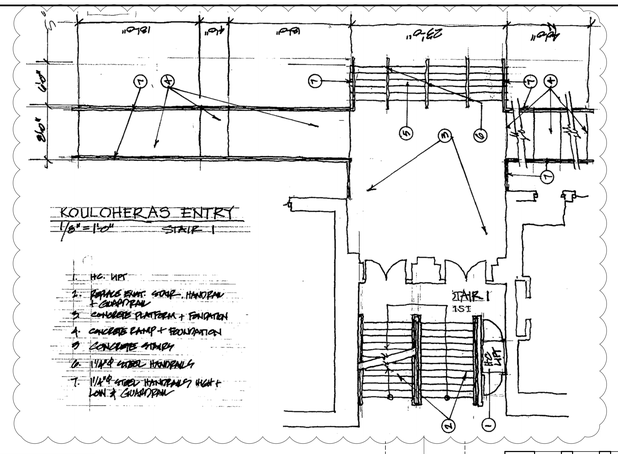

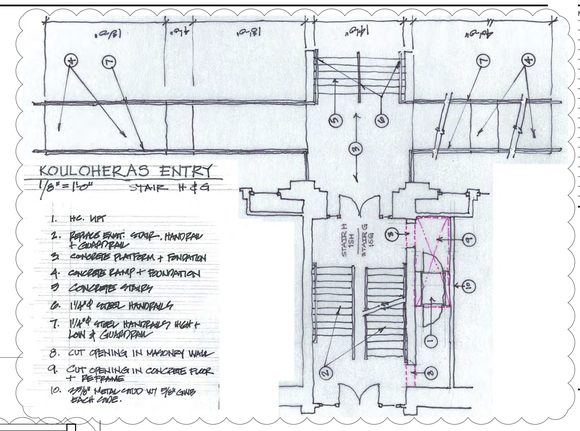

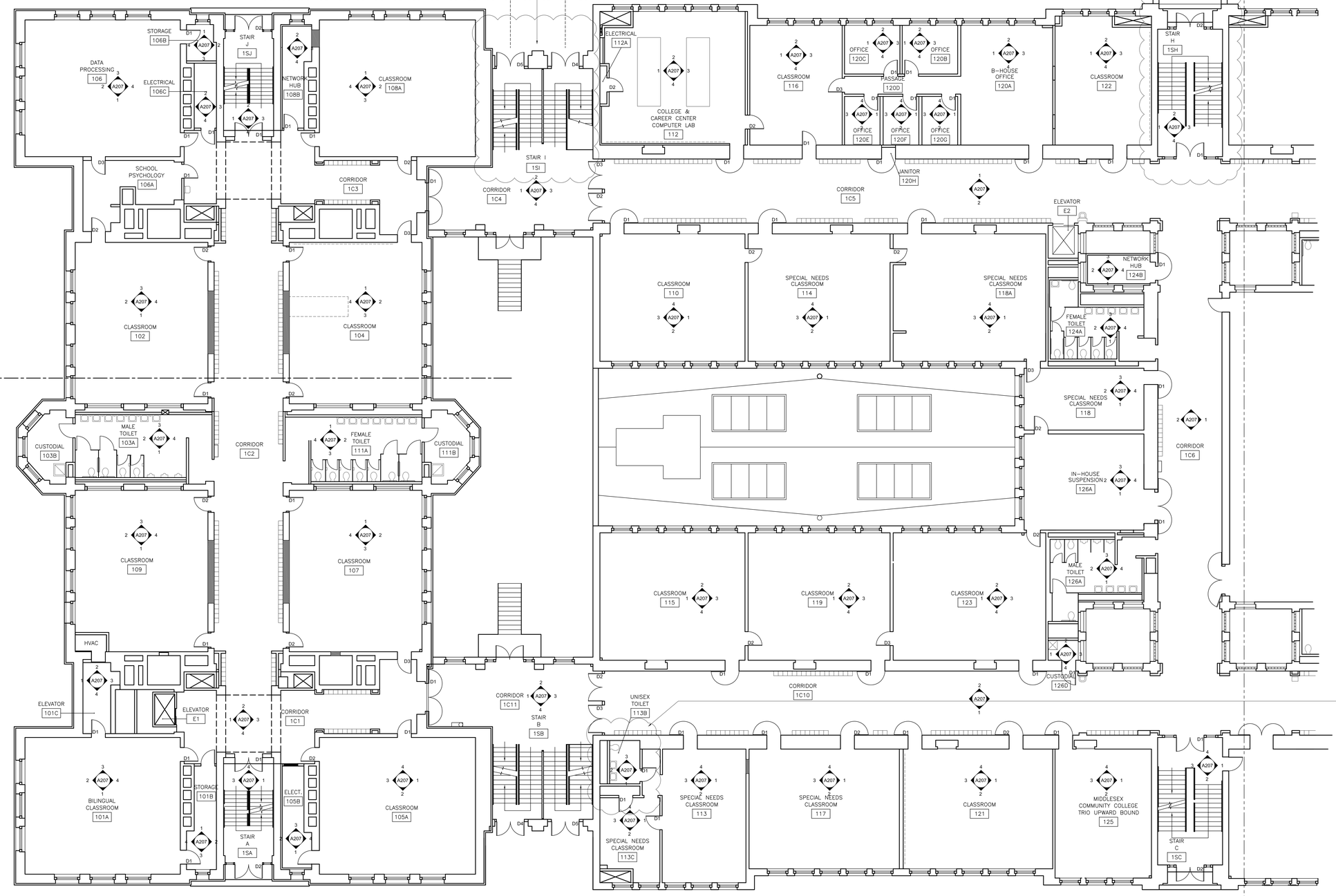

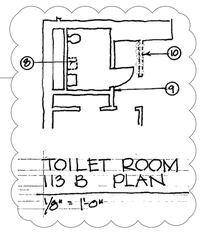

1 **KOULOHERAS FIRST FLOOR PLAN - SOUTH**
1/8" = 1'-0"

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

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Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS FIRST FLOOR PLAN - SOUTH

SCALE: 1/8" = 1'-0"

A-207

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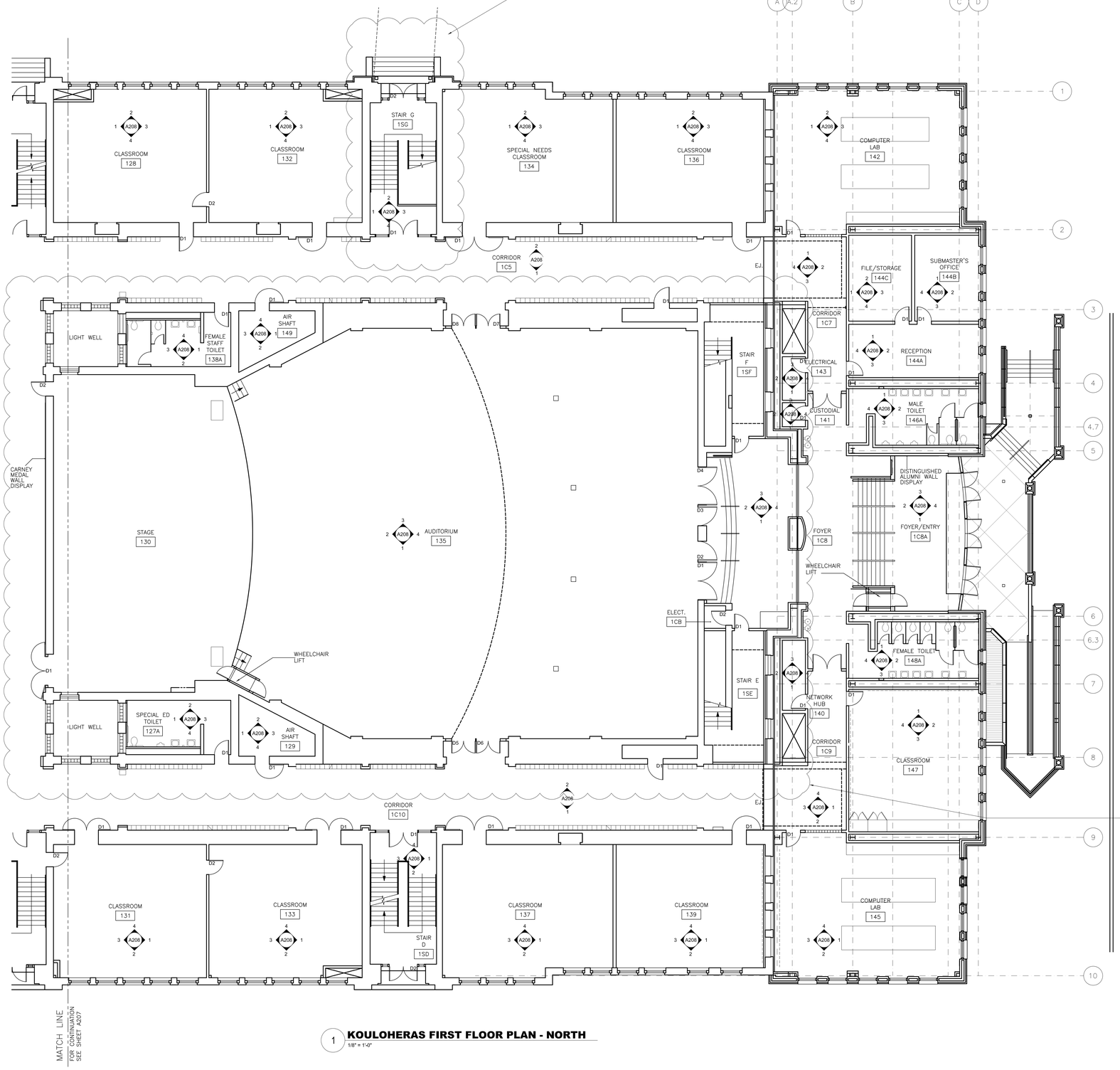

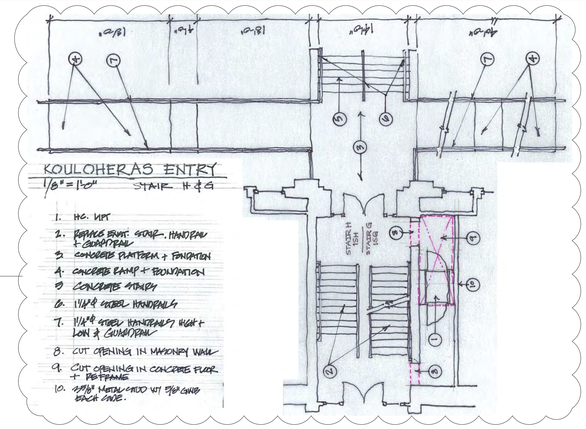

1 **KOULOHERAS FIRST FLOOR PLAN - NORTH**
1/8" = 1'-0"

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS FIRST FLOOR PLAN - NORTH

SCALE: 1/8" = 1'-0"

A-208

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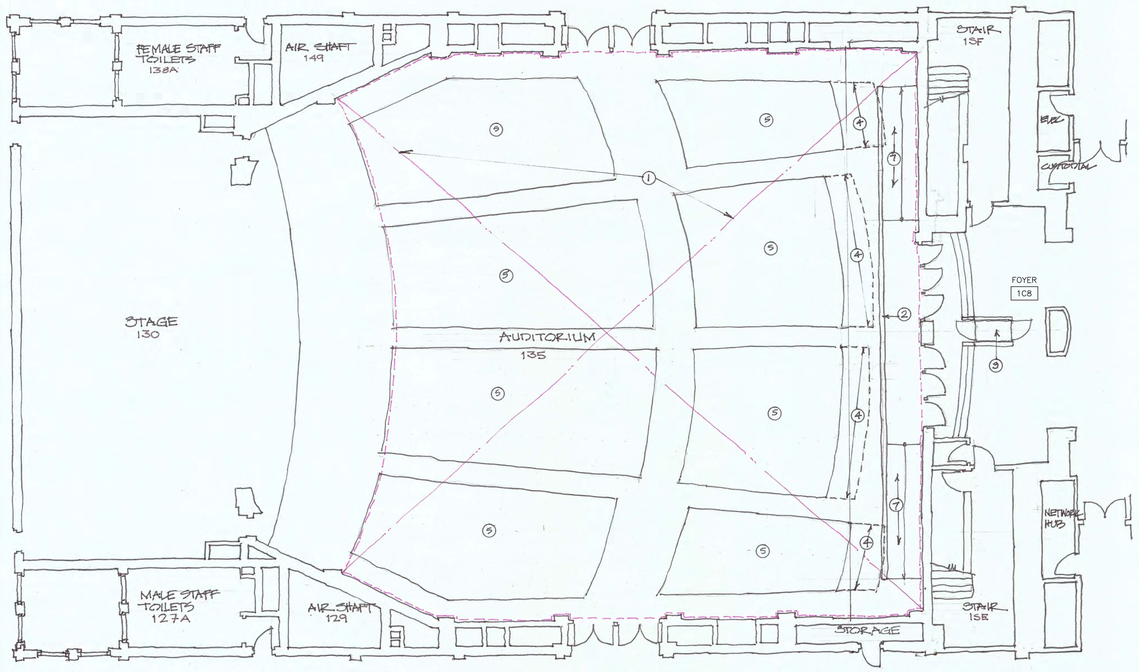
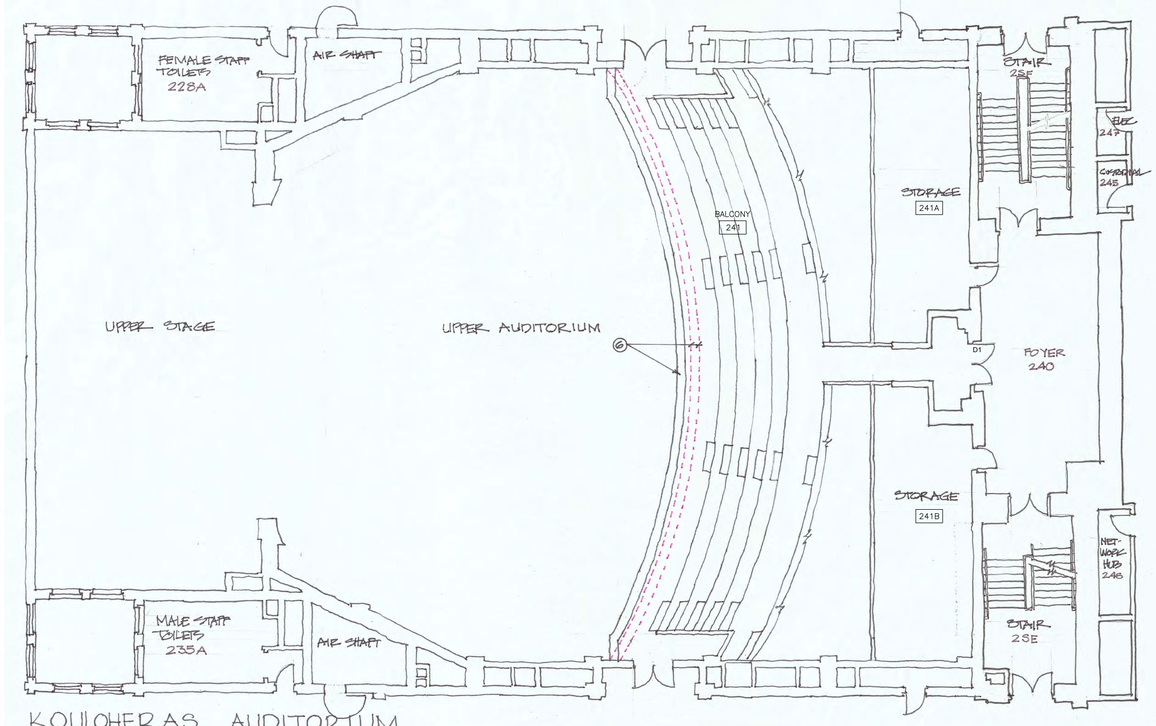
10/27/2016

AUDITORIUM NOTES

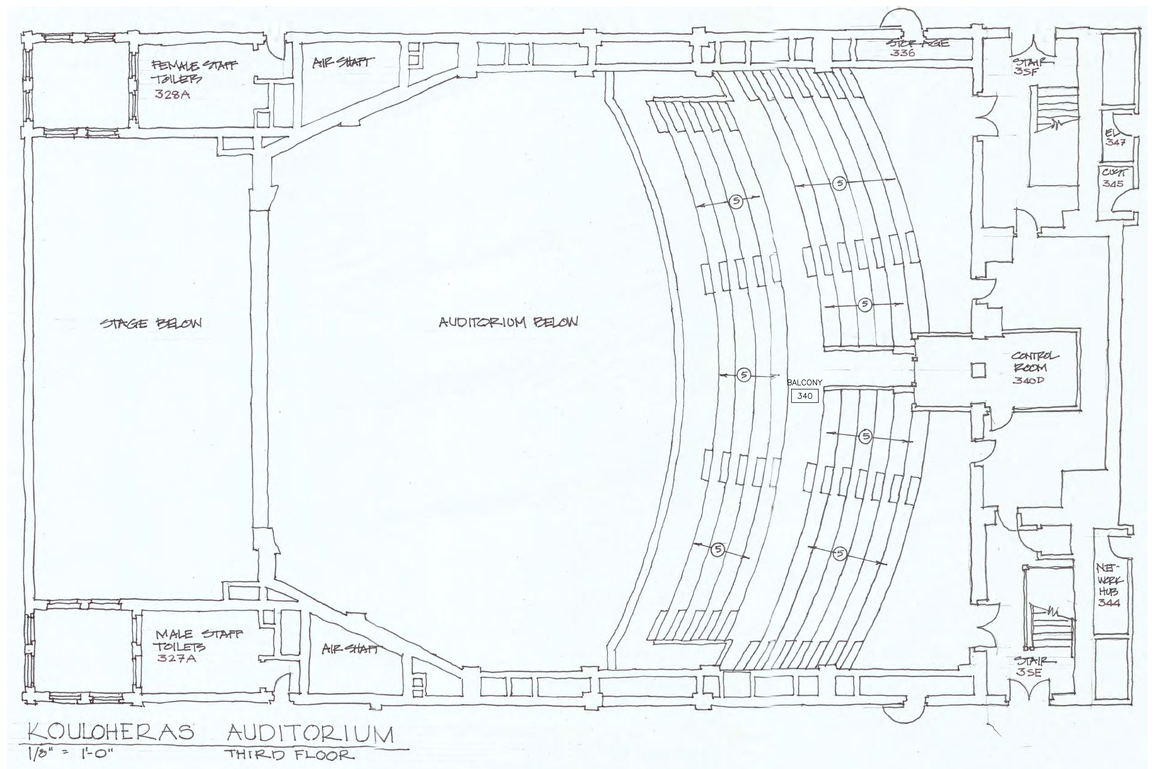
1. DEMO SLOPED WOOD FLOOR OVER STRUCTURE. PROVIDE NEW LIGHT GAGE METAL FRAMING SLOPED OVER STRUCTURE W/ 2 LAYERS 3/4" T+G FRT PLYWOOD SHEATHING W/ CONFET AT AISLES. PROVIDE 1 LAYER 3/4" T+G FRT PLYWOOD SHEATHING, ROSIN PAPER + 3/4 HARDWOOD FLOORING UNDER SEATING.
2. 3 5/8" METAL STUDS W/ 1 LAYER 5/8" GWB EACH SIDE.
3. PROVIDE HC LIFT.
4. REMOVE 2 ROWS OF SEATS (12 TOTAL) FOR ACCESSIBILITY ACCESS.
5. REMOVE SEATS (1412 TOTAL) RESTORE AND REINSTALL.
6. REMOVE EXISTING BALCONY RAIL, ENLARGE BALCONY CROSS AISLE FOR ACCESSIBILITY. PROVIDE NEW STRUCTURE AND RAIL TO MATCH EXISTING.
7. NEW RAMP
8. NOT USED
9. NEW WHEELCHAIR LIFT



KOULOHERAS AUDITORIUM
1/8" = 1'-0" FIRST FLOOR



KOULOHERAS AUDITORIUM
1/8" = 1'-0" SECOND FLOOR



KOULOHERAS AUDITORIUM
1/8" = 1'-0" THIRD FLOOR

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

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Skanska
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL
HIGH SCHOOL
BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS
AUDITORIUM
FLOOR 1, 2 ,3

SCALE: 1/8" = 1'-0"

A-208.1

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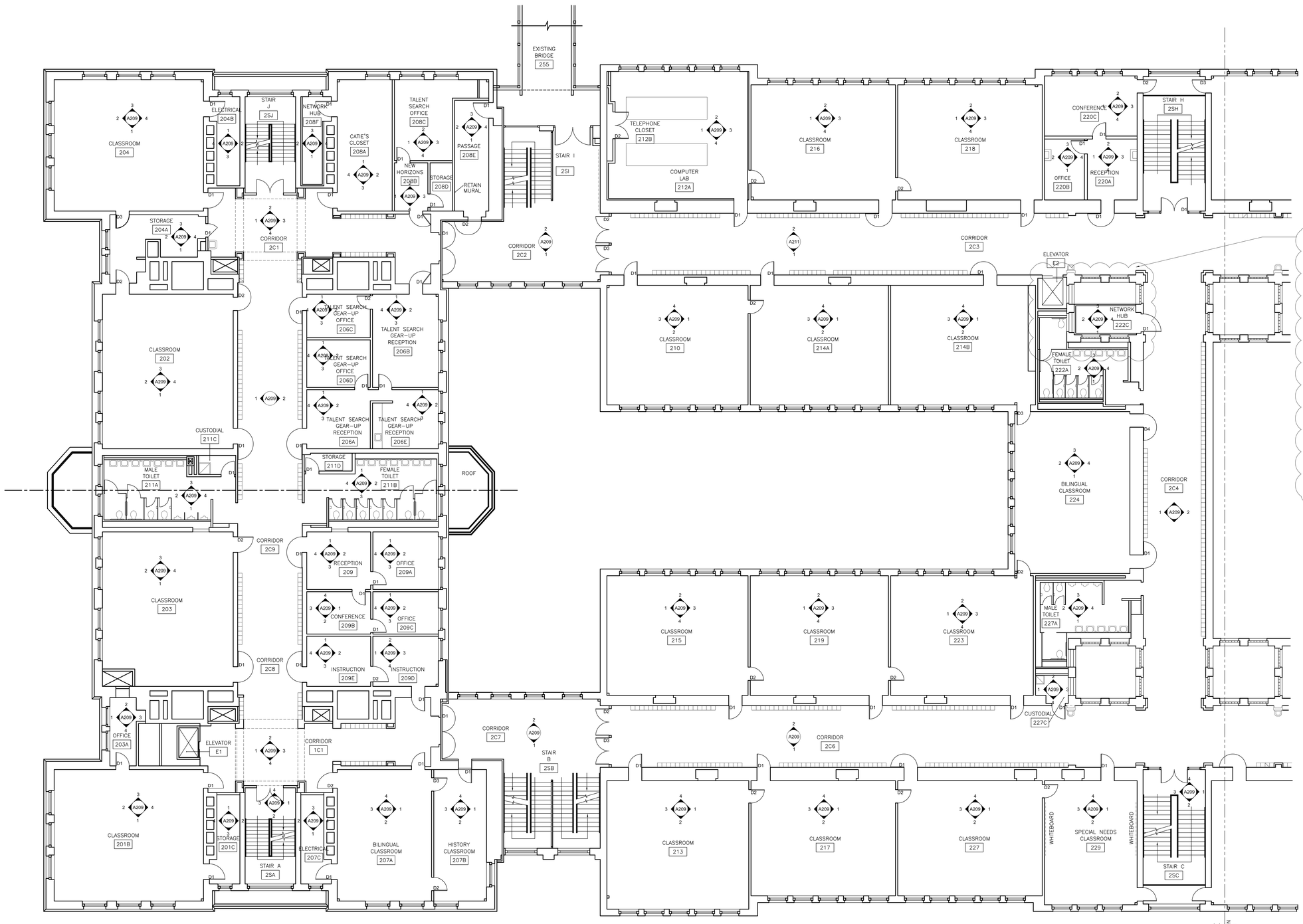
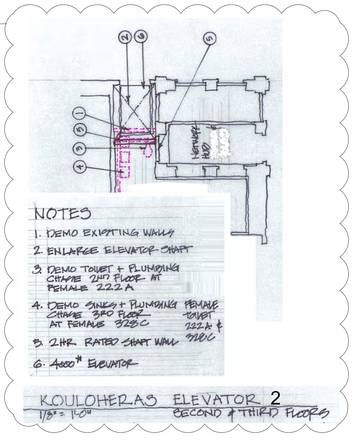
10/27/2016



1 **KOULOHERAS SECOND FLOOR PLAN - SOUTH**
1/8" = 1'-0"



NO. DATE REVISION

SEAL

KEY PLAN

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SUITE 203
BOSTON, MA 02110
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PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS SECOND FLOOR PLAN - SOUTH

SCALE: 1/8" = 1'-0"

A-209

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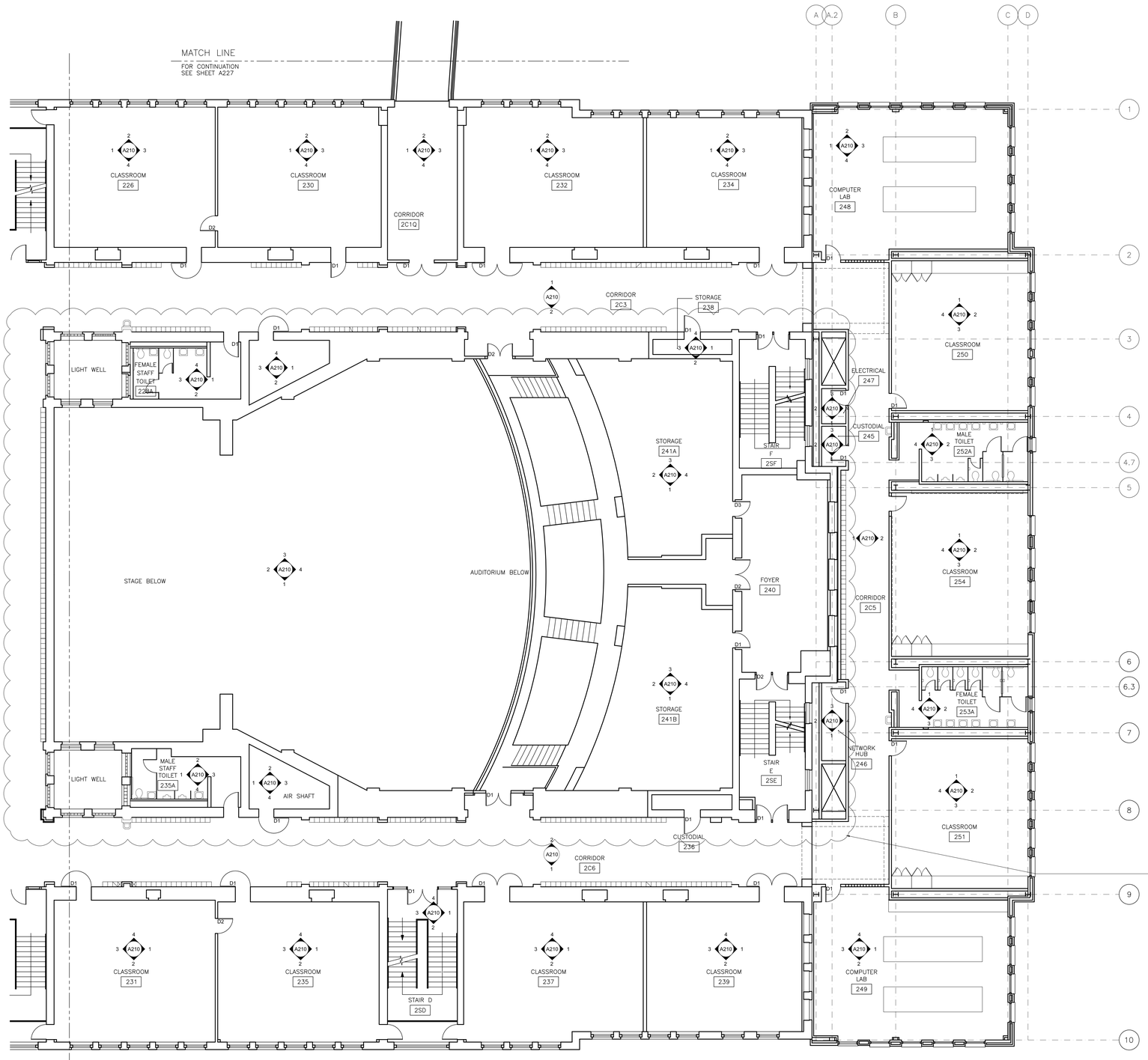
ISSUED FOR PRICING ONLY
10/27/2016



1 KOULOHERAS SECOND FLOOR PLAN - NORTH
1/8" = 1'-0"

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS SECOND FLOOR PLAN - NORTH

SCALE: 1/8" = 1'-0"

A-210

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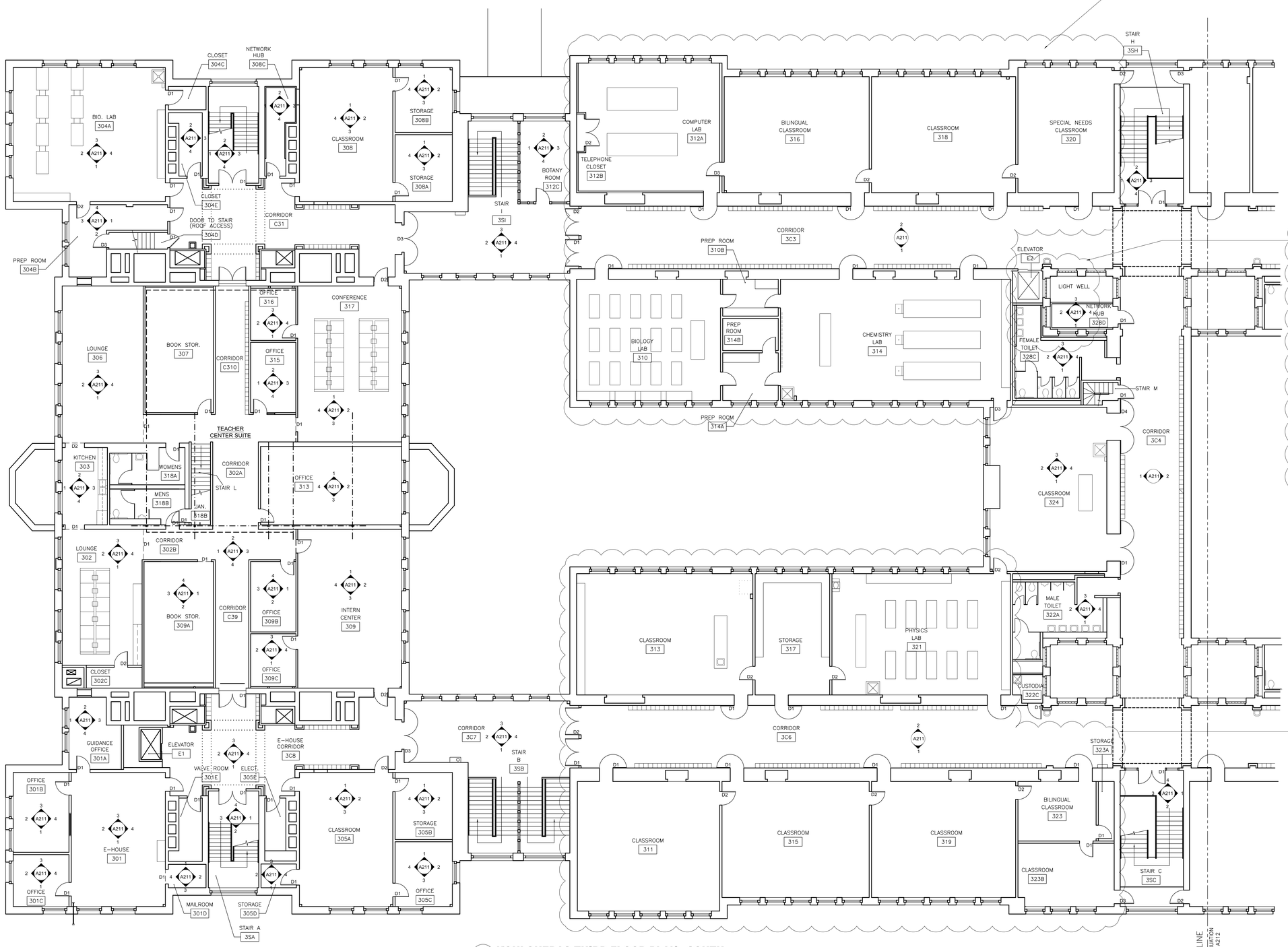
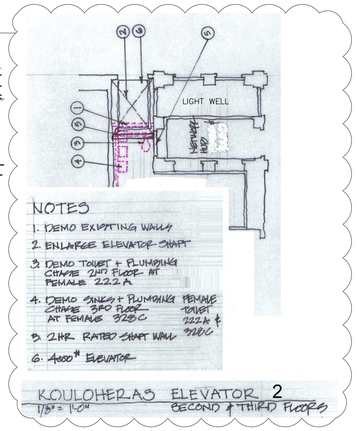
10/27/2016

SEE SKETCH ON A211.1
REMOVE ALL EXISTING PARTITIONS, WAINSCOT, FLOORING, CEILING & CASEWORK



1 **KOULOHERAS THIRD FLOOR PLAN - SOUTH**
1/8" = 1'-0"



SEE SKETCH ON A211.1
REMOVE ALL EXISTING PARTITIONS, WAINSCOT, FLOORING, CEILING & CASEWORK

NO.	DATE	REVISION

SEAL

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2150 Washington St., Newton, MA 02462

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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

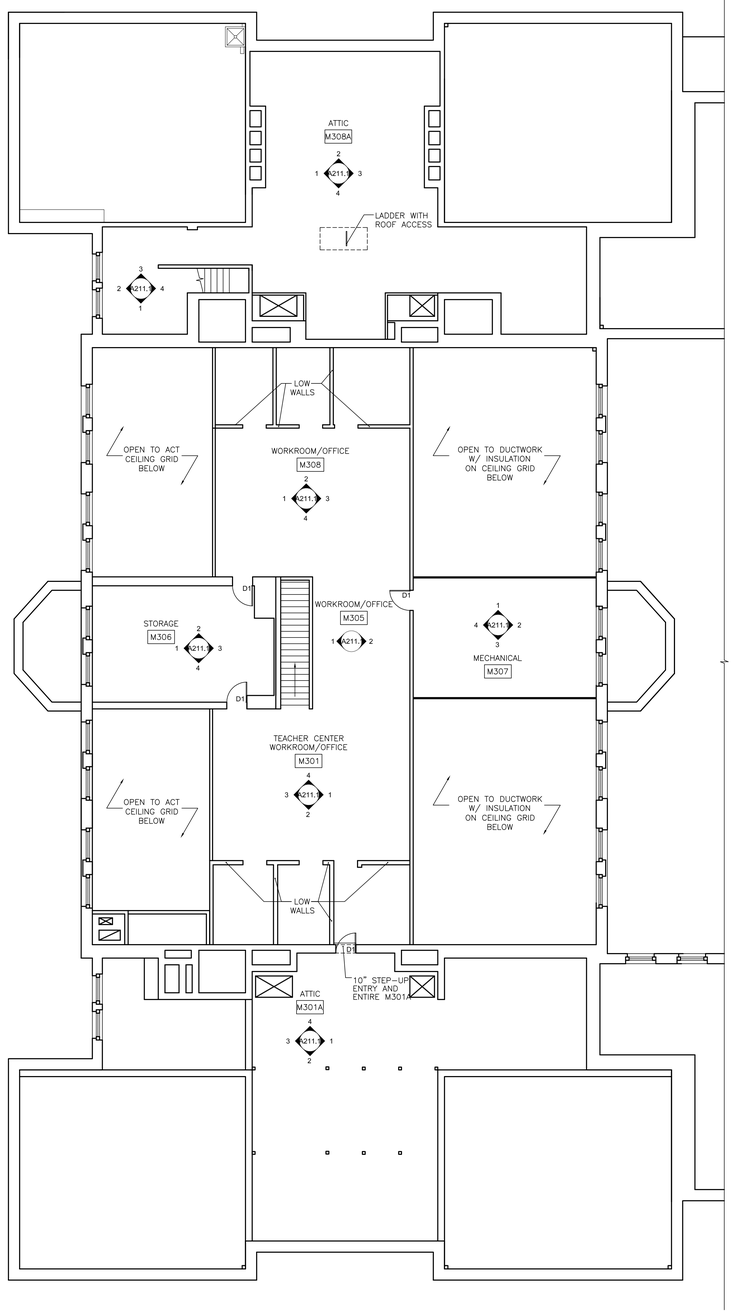
DRAWING TITLE:

KOULOHERAS THIRD FLOOR PLAN - SOUTH

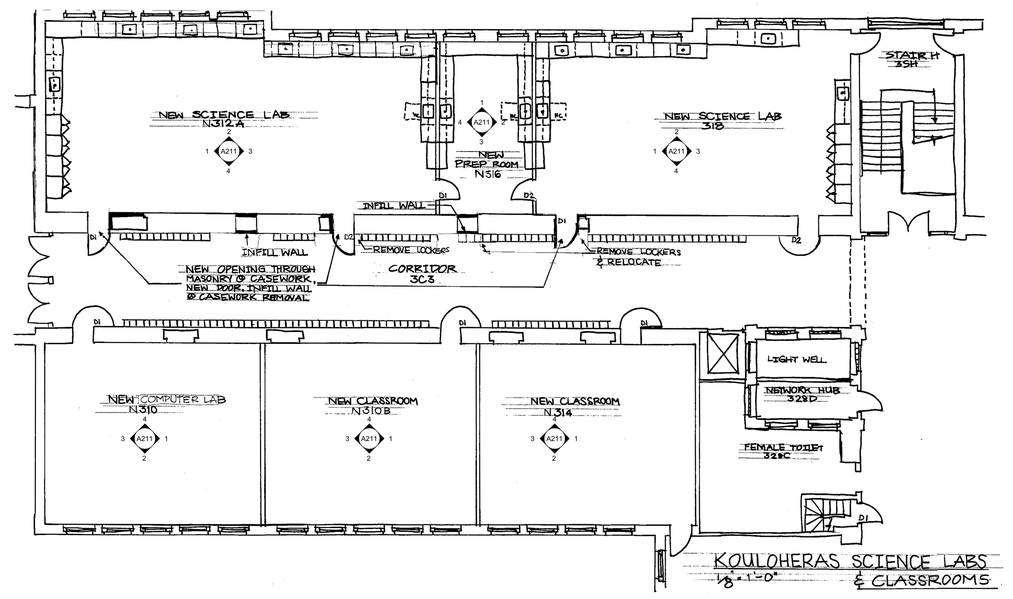
SCALE: 1/8" = 1'-0"

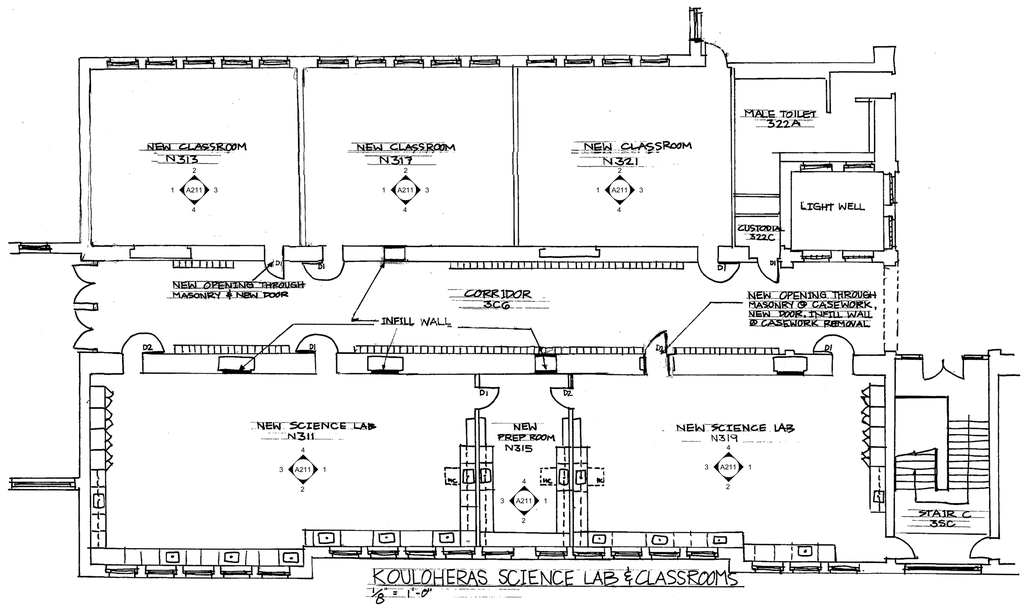
A-211

NOT FOR CONSTRUCTION
ISSUED FOR PRICING ONLY
10/27/2016



1 **KOULOHERAS THIRD FLOOR PLAN - TEACHER'S CENTER MEZZANINE**
1/8" = 1'-0"





NO. DATE REVISION

SEAL

KEY PLAN

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20 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

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375 Merrimack St., Lowell, MA 01852

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2 Center Plaza, Boston, MA 02108

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150 Chestnut St., Providence, RI 02903

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Mechanical & Plumbing Consultant Address

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Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL
HIGH SCHOOL
BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS
THIRD FLOOR
MEZZANINE

SCALE: 1/8" = 1'-0"

A-211.1

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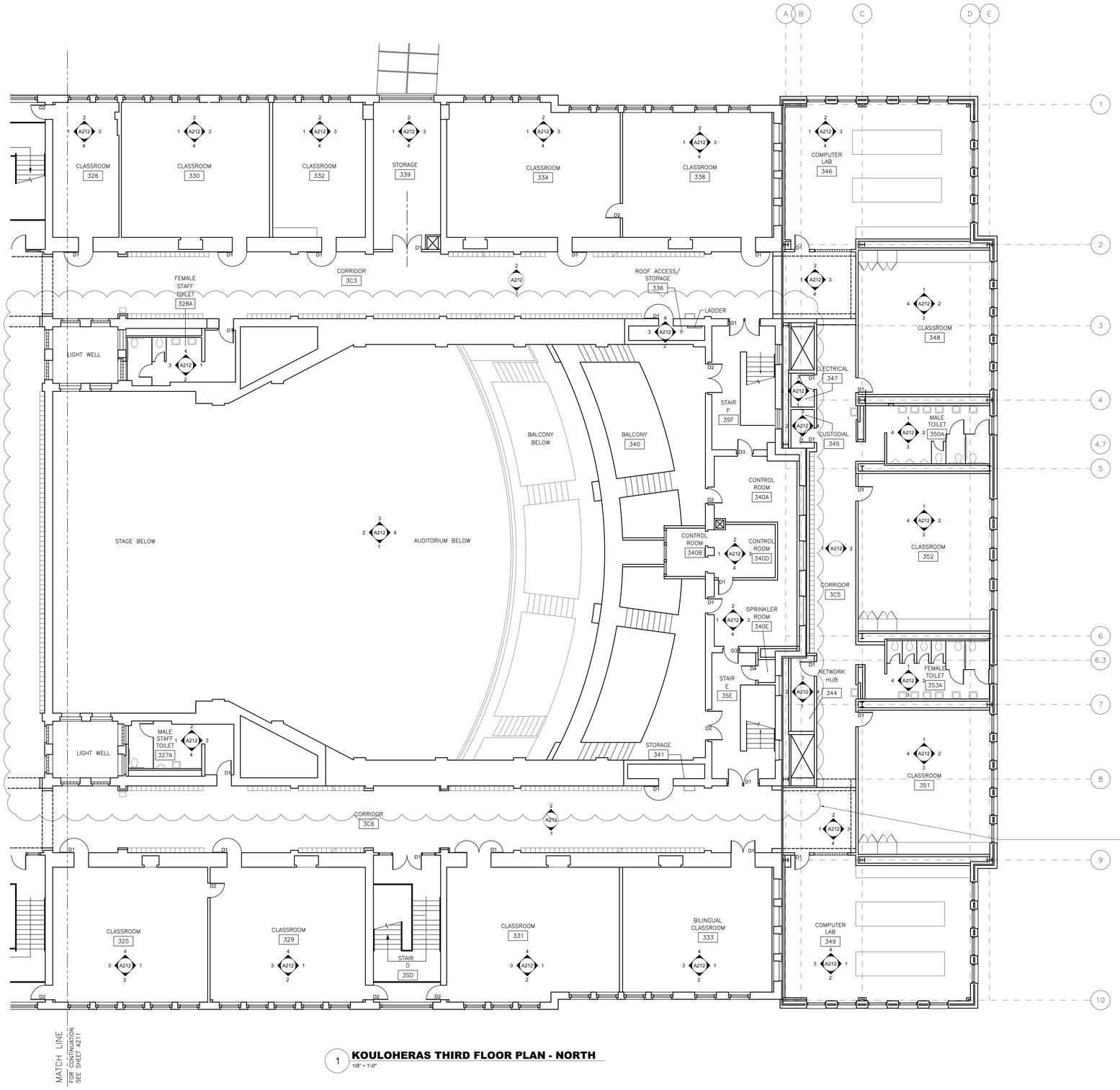
10/27/2016



1 KOULOHERAS THIRD FLOOR PLAN - NORTH
1/8" = 1'-0"

NO.	DATE	REVISION

SEAL

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F. 671.449.4049

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375 Merrimack St., Lowell, MA 01852

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101 Seaport Boulevard, Boston, MA 02210

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150 Chestnut St., Providence, RI 02903

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Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
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327 F Boston Post Road, Sudbury, MA 01176

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LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

KOULOHERAS THIRD FLOOR PLAN - NORTH

SCALE: 1/8" = 1'-0"

A-212

NOT FOR CONSTRUCTION
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10/27/2016

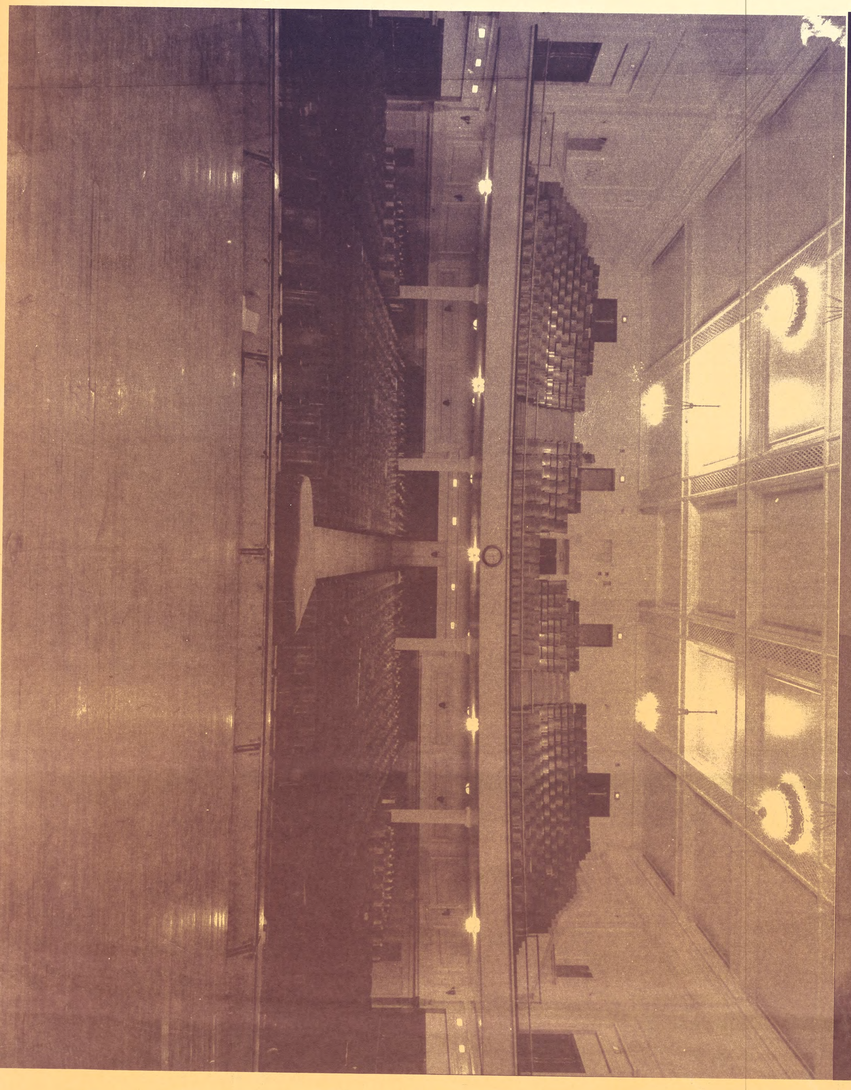
ELEVATION B



ELEVATION A



ELEVATION C



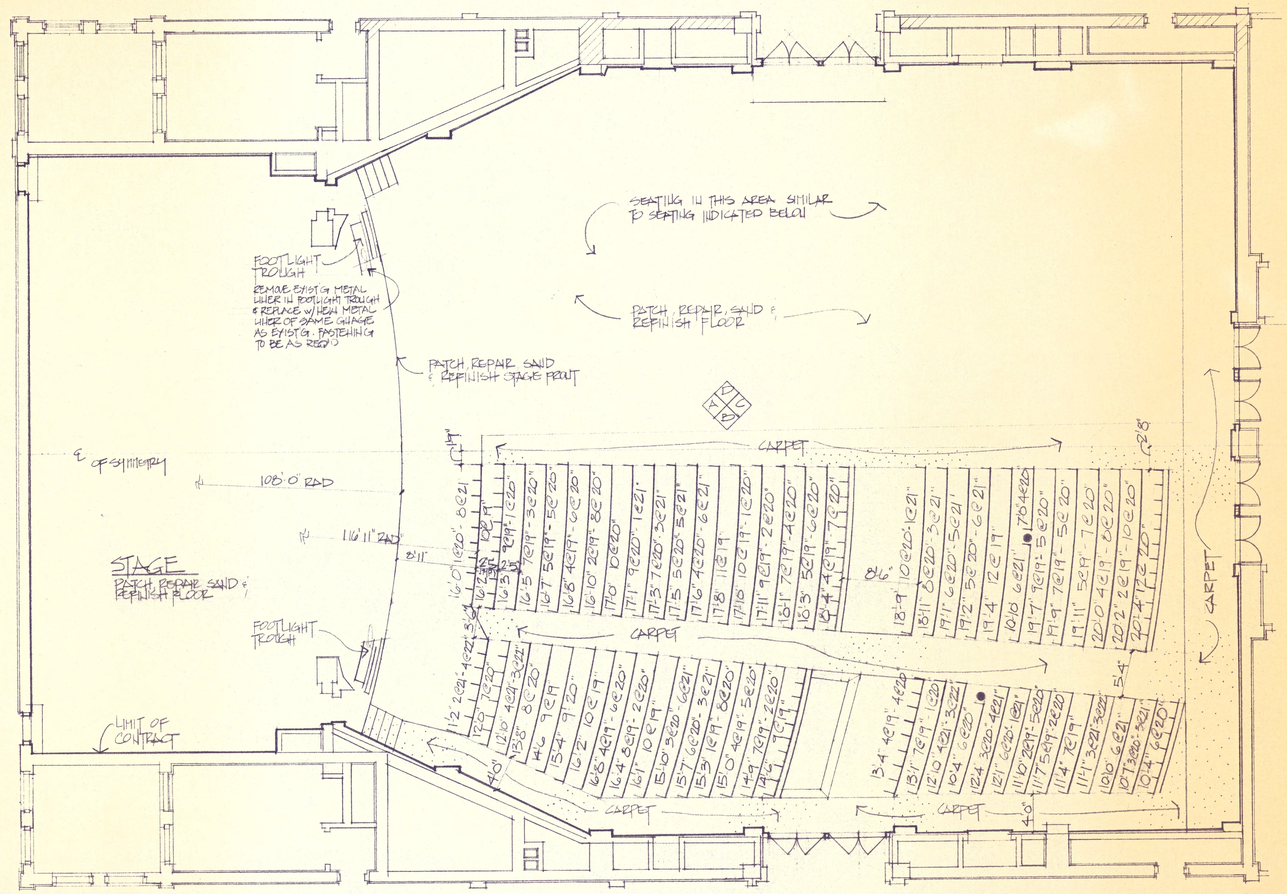
ELEVATION D



A1

IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

davies & gavin, architects, inc.
lowell, mass.



AUDITORIUM PLAN (STAGE FLOOR AREA)

SCALE 1/8"=1'-0"

SEATING-LAYOUT FOR ALTERNATE 1, 2 & 3 SHOWN

SEATING-ALTERNATE 4 SPACING TO BE SAME AS EXISTING

davies & gavin, architects, inc.
lowell, mass.

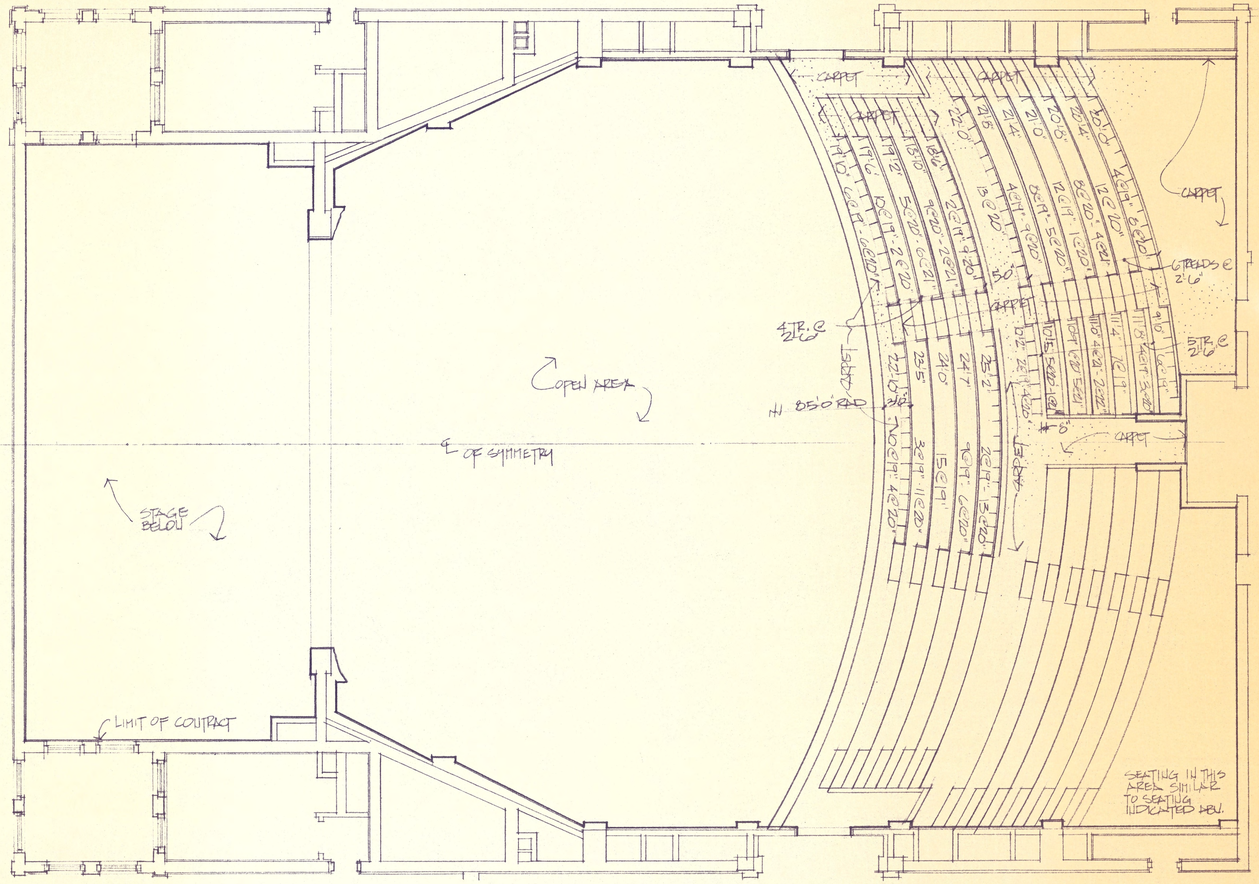
IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

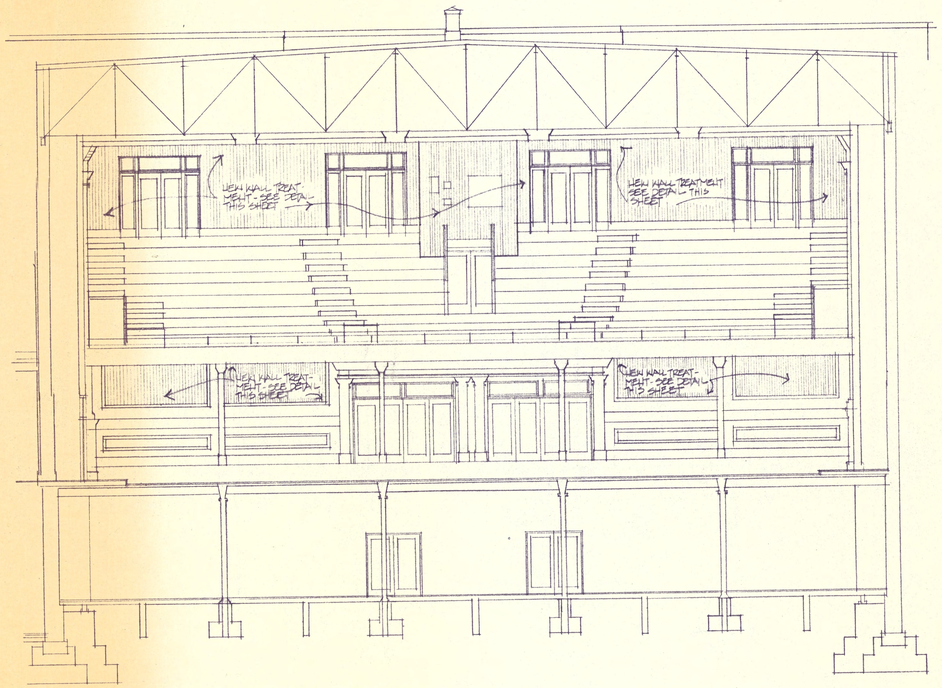
sheet title
AUDITORIUM PLAN (STAGE FLOOR AREA) BDPL #2

scale: as noted
drawn by: R.S.
date: JULY 22, 1983
checked by: R.D.

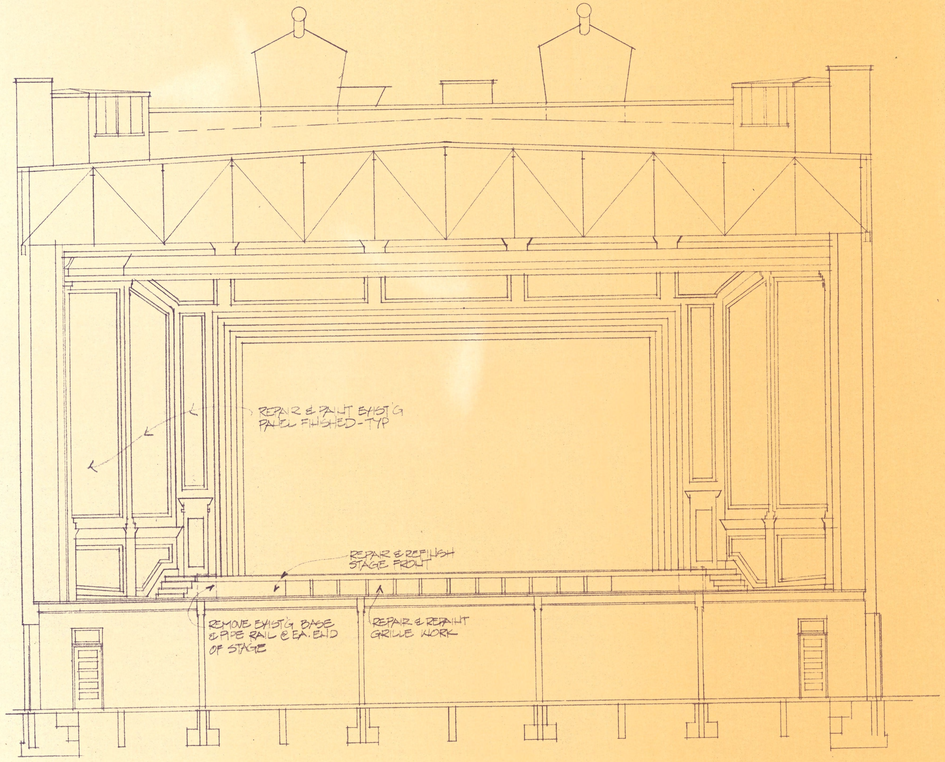
sheet no.

A2

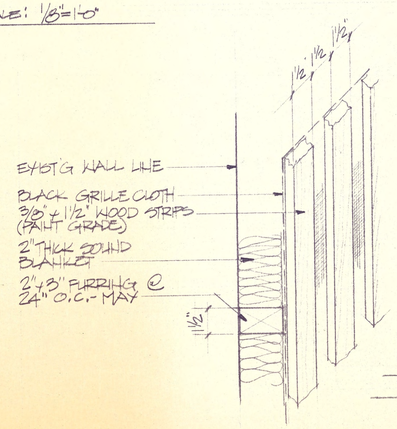

CARPET
CARPET
CARPET



ELEVATION C SCALE: 1/8"=1-0"



ELEVATION A SCALE: 1/8"=1-0"

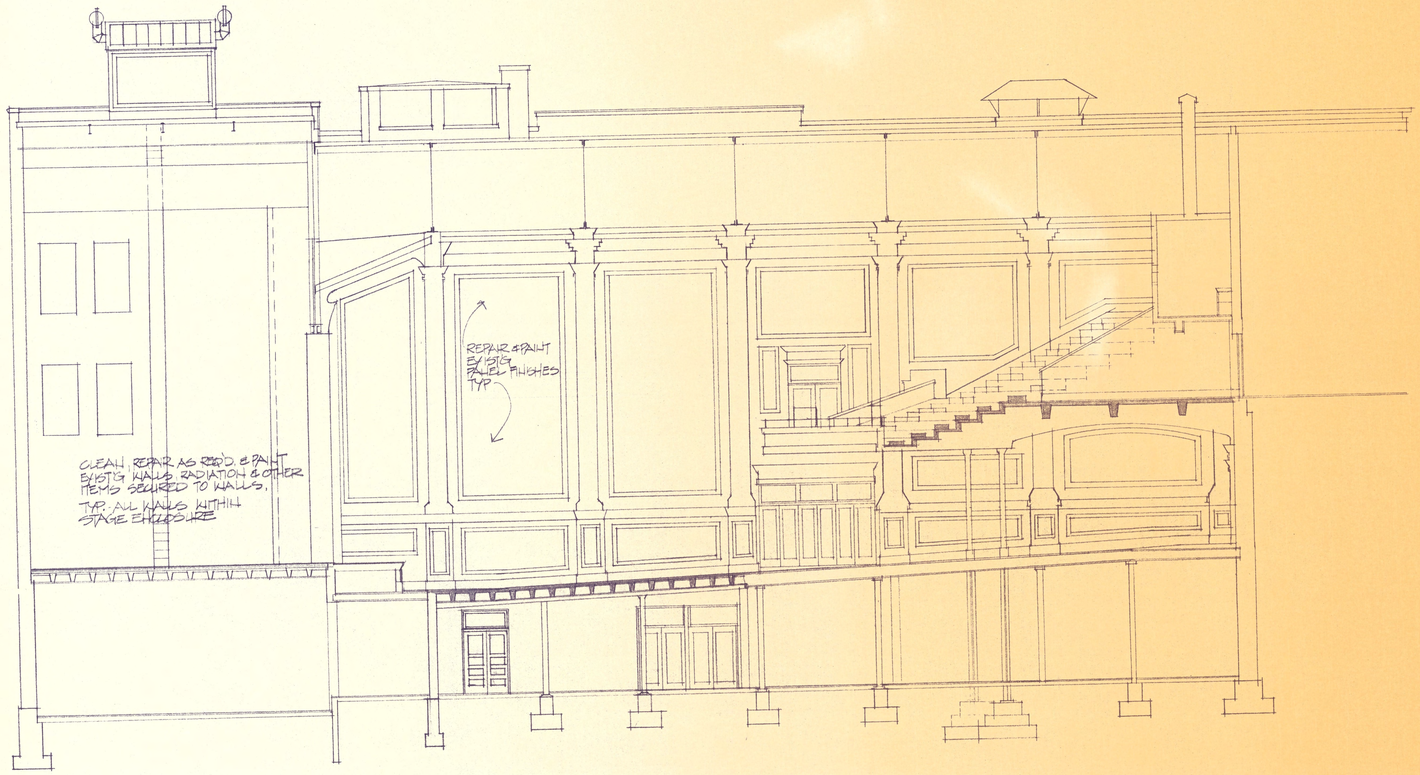


DETAIL of NEW WALL TREATMENT SCALE: 3"=1-0"

IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

SHEET TITLE
ELEVATIONS A & C - AUDITORIUM

SHEET NO.
A4



ELEVATION D SCALE: 1/8"=1'-0"
ELEVATION B SIMILAR

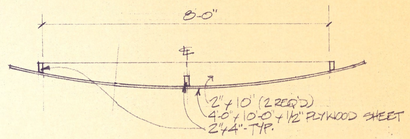
davies & gavin, architects, inc.
lowell, mass.

IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

sheet title
ELEVATION D - AUDITORIUM - 3D PAGE #2

scale as noted
date July 22, 1983
drawn by R.S.
checked by P.L.D.

sheet no.
A5

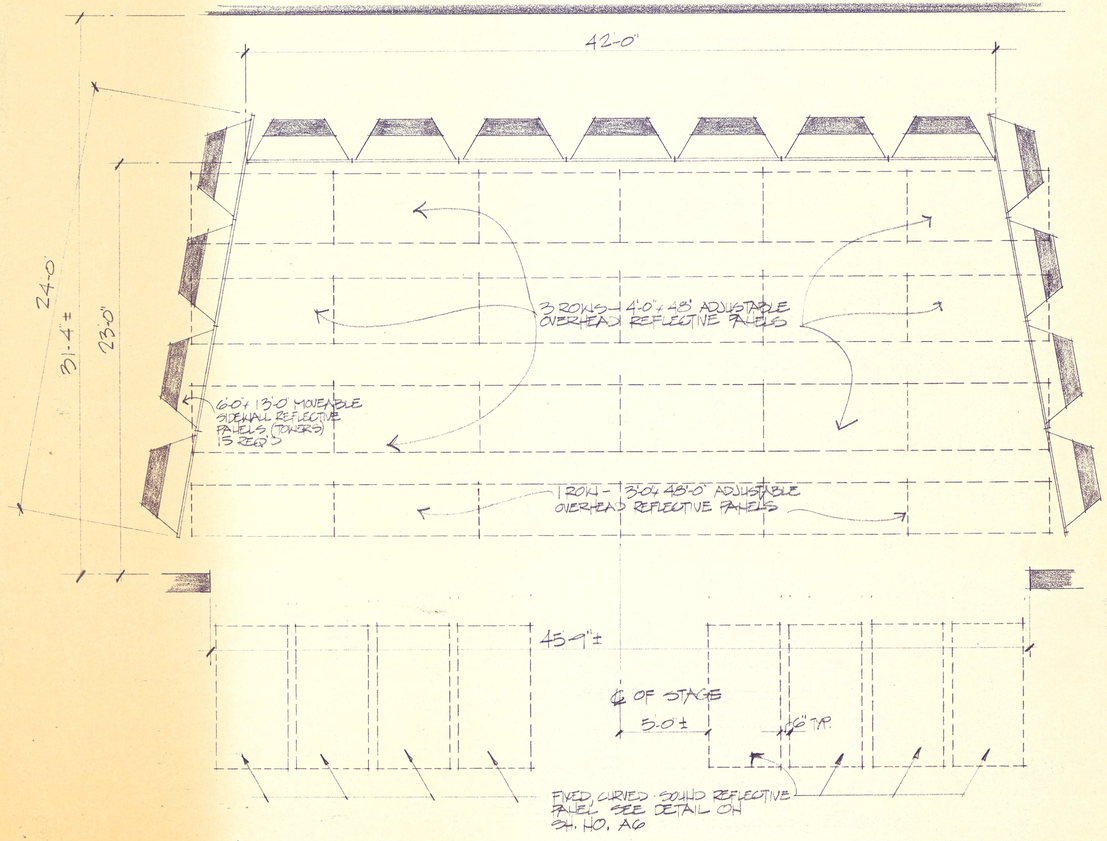


SIDE VIEW

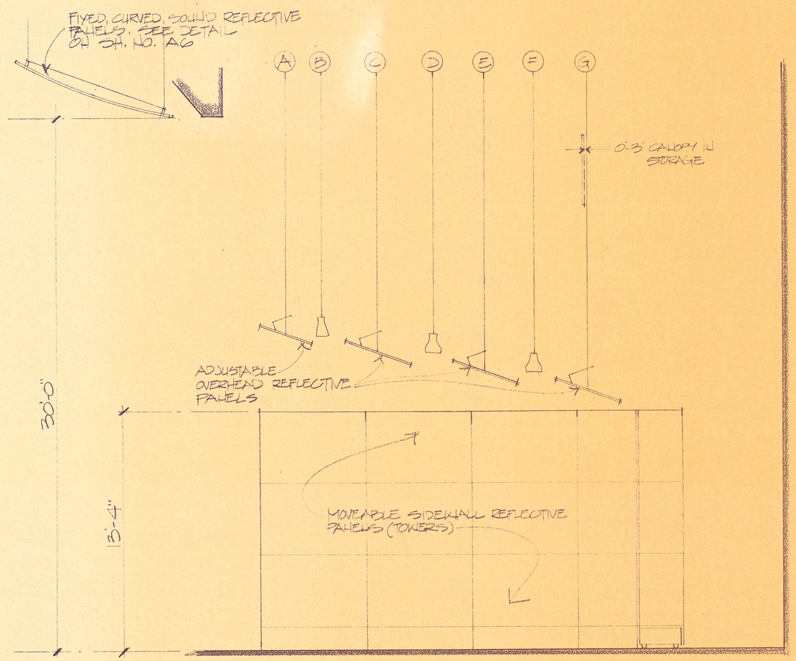


SECTION thru ℄

DETAIL of FIXED, CURVED - SOUND REFLECTIVE PANEL



PLAN SCALE: 1/4"=1'-0"



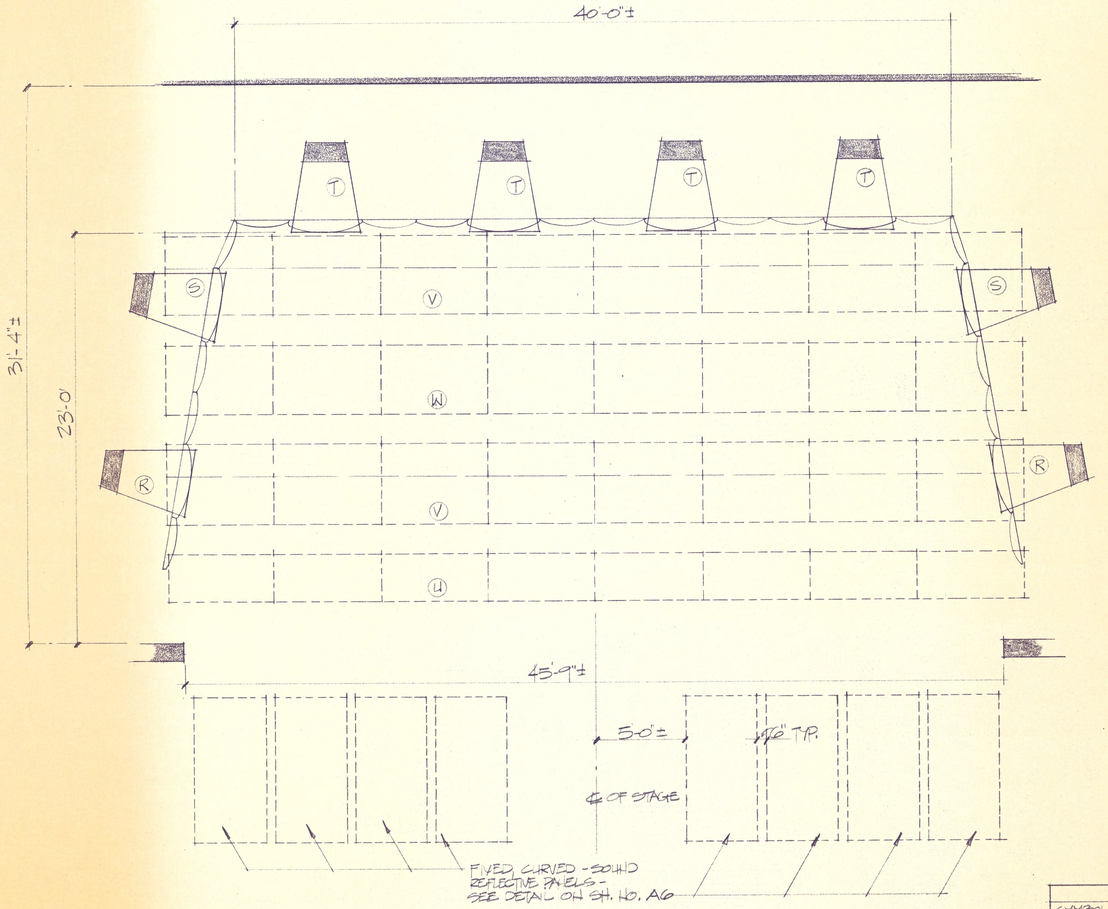
SECTION thru ℄ of STAGE SCALE: 1/4"=1'-0"

LEGEND			
SYMBOL	DISTANCE FROM PROSC.	DESCRIPTION	WEIGHT
A	3'-6	1st ROW CANOPY	405 lbs
B	5'-6	1st ROW LIGHTS	—
C	8'-7½"	2nd ROW CANOPY	540 lbs
D	11'-8"	2nd ROW LIGHT	—
E	14'-7"	3rd ROW CANOPY	540 lbs
F	17'-5"	3rd ROW LIGHTS	—
G	20'-5	4th ROW CANOPY	540 lbs

davies & gavin, architects, inc.
lowell, mass.

IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

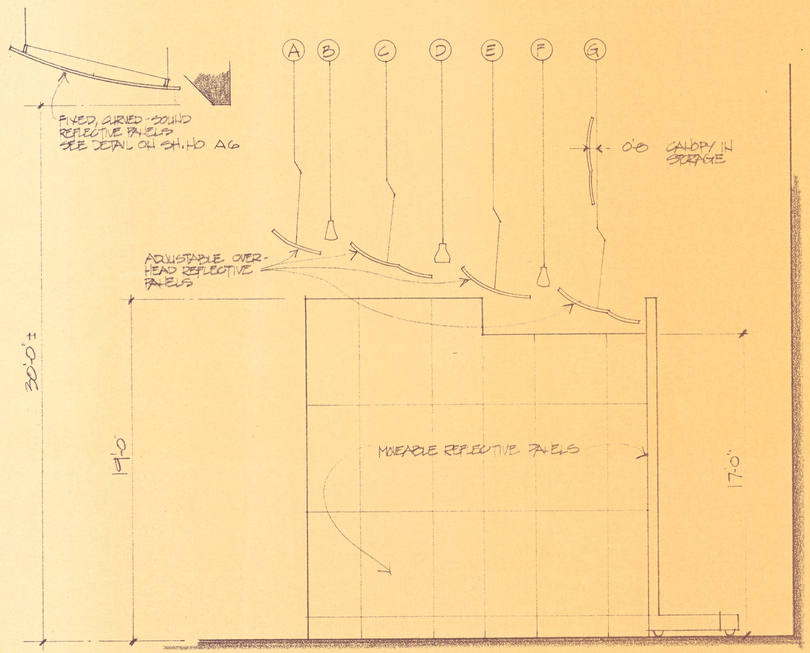
SUBMITTED
ADJUSTABLE STAGE SYSTEM, ALTERATE # 4
BID PACKAGE #2
JOHN P. D'ONOFRIO
JOHN P. D'ONOFRIO
JOHN P. D'ONOFRIO
SCALE: 1/4"=1'-0"
DATE: JULY 22, 1975
SHEET NO. A6



PLAN - SCALE: 1/4"=1'-0"

LEGEND

(R) 10'0" x 9'0 MOVEABLE SIDEWALL REFLECTIVE PANELS (TOWERS)
(S) 10'0" x 7'0 MOVEABLE SIDEWALL REFLECTIVE PANELS (TOWERS)
(T) 10'0" x 9'0 MOVEABLE REARWALL REFLECTIVE PANEL (TOWERS)
(U) 3'0" x 48'0" ADJUSTABLE OVERHEAD REFLECTIVE PANELS
(V) 5'0" x 48'0" " " " "
(W) 4'0" x 48'0 " " " "



SECTION thru ℄ of STAGE SCALE: 1/4"=1'-0"

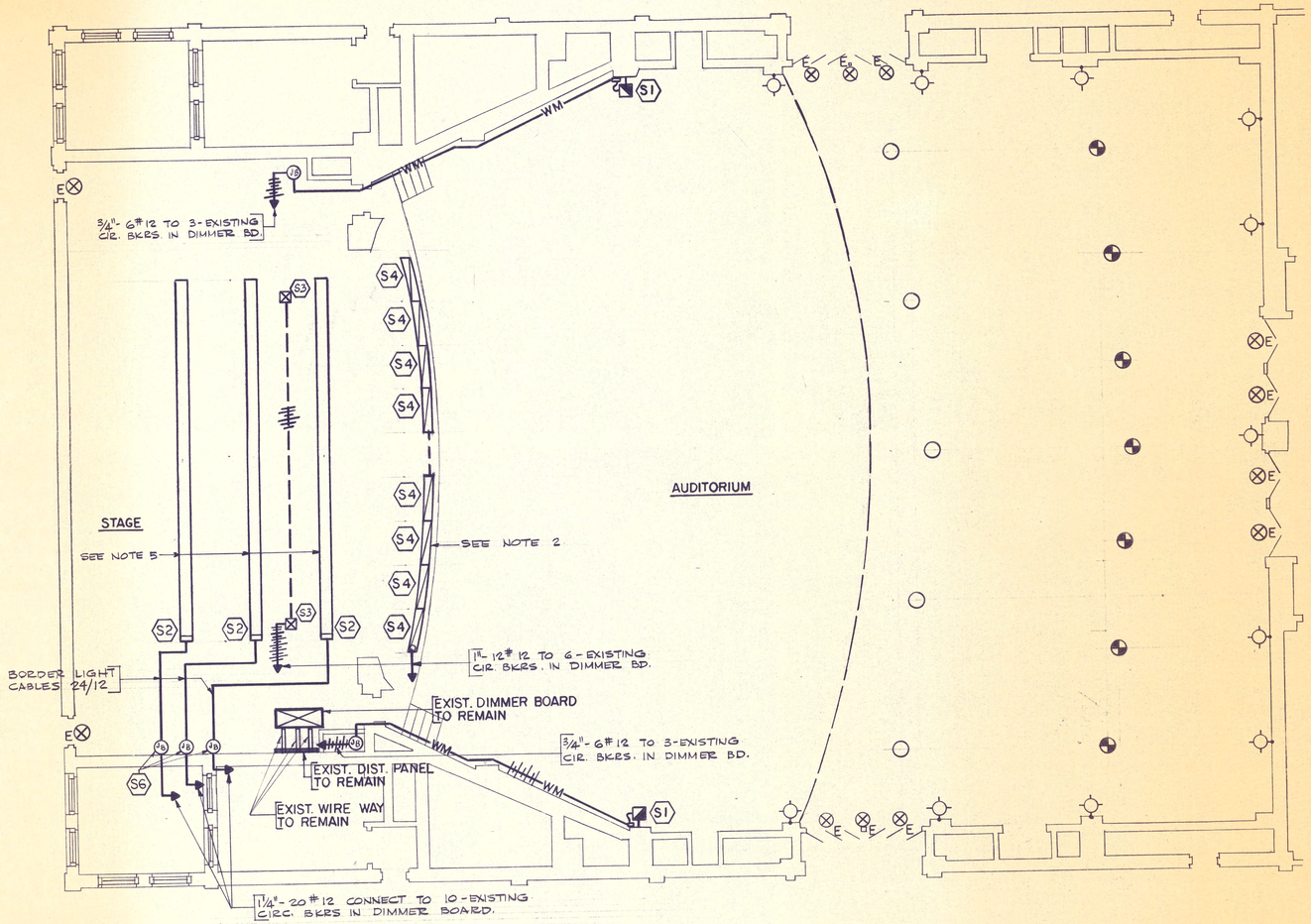
LEGEND			
SYMBOL	DISTANCE FROM PROSC.	DESCRIPTION	WEIGHT
A	3'-6"	1st ROW CANOPY	376 lbs
B	5'-6"	1st ROW LIGHTS	—
C	8'-7½"	2nd ROW CANOPY	688 lbs
D	11'-9"	2nd ROW LIGHTS	—
E	14'-7"	3rd ROW CANOPY	480 lbs
F	17'-5"	3rd ROW LIGHTS	—
G	20'-5"	4th ROW CANOPY	688 lbs

davies & gavin, architects, inc.
lowell, mass.

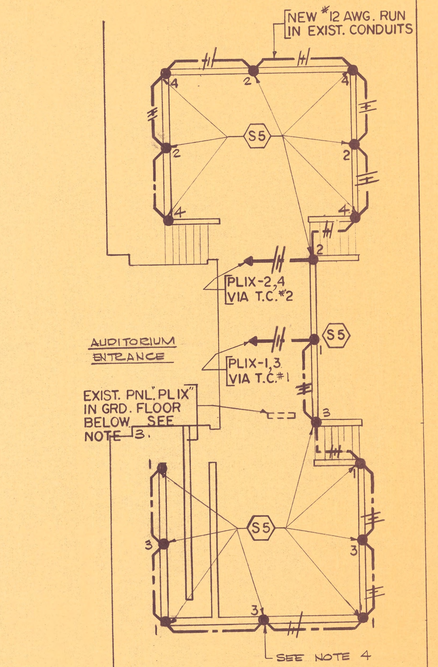
IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

ADDITION - SCHOOL BOARD
DATE: DEC. '70.

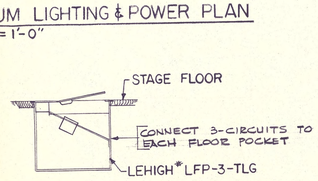
A7



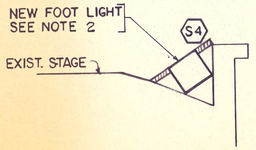
AUDITORIUM LIGHTING & POWER PLAN
SCALE: 1/8" = 1'-0"



LIGHTING PLAN AUDITORIUM ENTRANCE
SCALE: 1/16" = 1'-0"



S3 FLOOR POCKET DETAIL
TYPICAL FOR TWO
NO SCALE



SECTION "AA"
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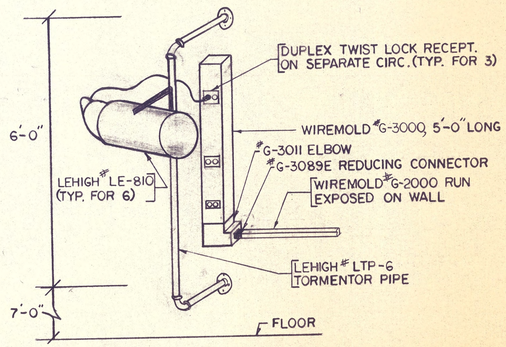
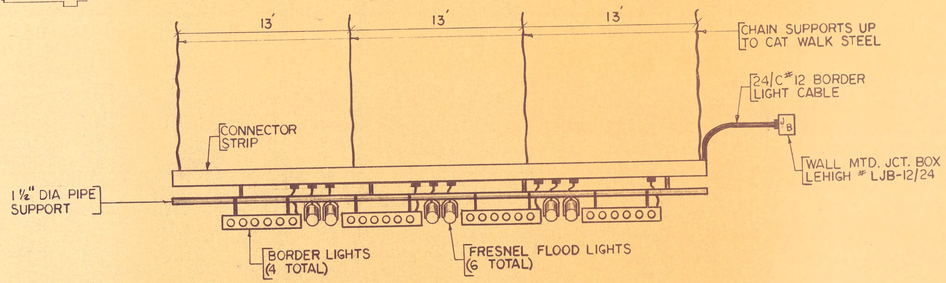


S1 DETAIL SIDE AUDITORIUM FLOOD LIGHTS
TYPICAL FOR TWO
NO SCALE



S2 BORDER LIGHT DETAIL
TYPICAL FOR THREE
NO SCALE

NOTES:

1. UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS ALL EXISTING ELECTRICAL FIXTURES, PANELS, WIRING, ETC. SHALL REMAIN INTACT - AS IS.
2. THE ELEC. CONTR. SHALL DISCONNECT & REMOVE EXISTING FOOT LIGHTS. INSTALL NEW FOOT LIGHTS TO CONFORM TO EXISTING STAGE POCKET. COORDINATE INSTALLATION WITH GEN. CONTR.
3. THE ELEC. CONTR. SHALL FUENISH & INSTALL, AT PANEL "PLIX", TWO (2) 40A, 3P. TIME CLOCKS TO CONTROL THE POST. LIGHT CIRCUITS
4. NEW POST LIGHTS SHALL BE MOUNTED ON EXISTING BASES & ANCHOR RODS. PROVIDE NEW WIRING SHOWN USING EXISTING CONDUITS AS RACEWAYS. CONNECT TO SPARE CIR. BKRS. IN PANEL "PLIX" VIA NEW TIME CLOCKS.
5. THE ELEC. CONTR. SHALL DISCONNECT & REMOVE EXISTING BORDER LIGHTS INSTALL & WIRE NEW BORDER LIGHTS AS SHOWN. COORDINATE INSTALLATION WITH ACOUSTICS CONTRACTOR
6. FOR SYMBOLS, LIGHTING EQUIPMENT SCHEDULE & ADDITIONAL NOTES, SEE DWG. E-2

LEONARD S. PHILLIPS, P.E.
70 MAGAZINE ST.
BOSTON, MASSACHUSETTS 02114
(617) 367-8575

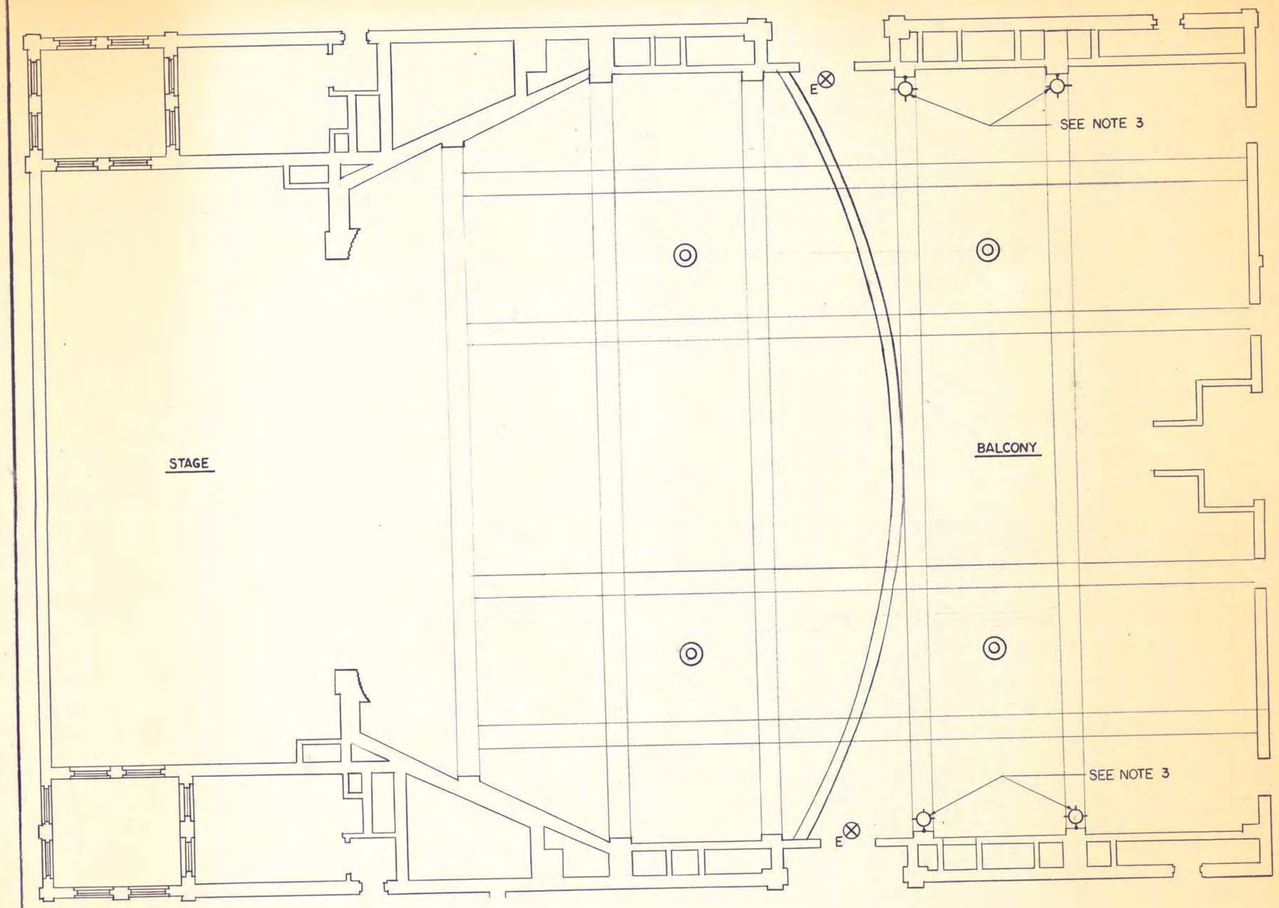
COMMONWEALTH OF MASSACHUSETTS LEONARD S. PHILLIPS No. 2417 REGISTERED PROFESSIONAL ENGINEER

IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL MASSACHUSETTS

AUDITORIUM, STAGE & ENTRANCE LIGHTING PLANS & DETAILS

DRAWN BY: M.L.P.
CHECKED BY: L.S.P.
SCALE
DATE

SHEET NO
E-1



BALCONY LIGHTING & POWER PLAN
SCALE: 1/8" = 1'-0"

SYMBOLS

- EXISTING CEILING MTD. FIXTURE, SEE NOTE 1
- EXISTING PENDANT MTD. FIXTURE SEE NOTE 1
- EXISTING WALL MTD. FIXTURE SEE NOTE 1
- EXISTING CHANDELIER SEE NOTE 1
- EXISTING EXIT LIGHT SEE NOTE 2
- JUNCTION BOX
- SIDE WALL TORMENTOR FLOOD LIGHTS
- NEW BORDER LIGHTS
- NEW FLOOR POCKET
- (S1) INDICATES STAGE LIGHTING EQUIPMENT. SEE SCHEDULE
- —WM— SURFACE WIREMOLD #G-2000 RACEWAY
- EXISTING CONDUIT WITH NEW WIRING
- NEW WIRING RUN BELOW STAGE
- NEW WIRING. ARROW INDICATES HOMERUN. CROSS LINES INDICATES NUMBER OF WIRES.
- NEW FOOT LIGHTS
- NEW POST LIGHTS

LIGHTING EQUIPMENT SCHEDULE

ITEM	MANUFACTURER	UNIT QTY.	CATALOG NO.	LAMPS	REMARKS
(S1)	LEHIGH	1	LTP-6 TORMENTOR PIPE	——	TOTAL 2 - (S1) REQ.
		6	LE810-C-TLGP-IRIS COLOR FRAME HOLDER	6-1000 EGJ	
(S2)	LEHIGH	1	LCS-1P-40-16-TLGP-10 CONNECTOR STRIP	——	TOTAL 3 - (S2) REQ.
		4	LBA-150-RBG-36 STAGE RIGHT TLGP-C-3 BORDER LIGHTS	36-150W A19	
		1	40'-0" BLACK IRON PIPE 1½" DIA.	——	
		6	LFS-675Q-C-TLGP-COLOR FRAME HOLDER	6-500 EHD	
(S3)	LEHIGH	1	LFP-3-TLG FLOOR POCKET	——	TOTAL 2 - (S3) REQ.
(S4)	LEHIGH	1	LDF-9150 FOOT LIGHT	9-150W A19	TOTAL 8 - (S4) REQ.
(S5)	WELLSBACH (LUMINAIRE)	1	976H3630-MOD TYPE S56 BALLAST	C150S56/DX4	TOTAL 17 - (S5) REQ. SEE SPECS
	SPRING CITY (POST)	1	LOWELL POST # LP-11720	——	
(S6)	LEHIGH	1	LJB-12/24 JUNCTION BOX	——	TOTAL 3 - (S6) REQ.

NOTES

1. UNLESS OTHERWISE NOTED ALL EXISTING AUDITORIUM LIGHTING FIXTURES & RELATED WIRING SHALL REMAIN INTACT. THE ELEC. CONTR. SHALL REPLACE ALL DEFECTIVE LAMPS, & SOCKETS, CLEAN & POLISH ALL FIXTURES AS DIRECTED BY THE ARCHITECT & AS OUTLINED IN THE SPECIFICATIONS.
2. THE ELEC CONTR. SHALL REMOVE THE FRONT GLASS & FRAME OF THE EXISTING EXIT LIGHTS. FRAMES SHALL BE CLEANED & POLISHED. FRONT GLASS SHALL BE REPAINTED WITH WHITE BACKGROUND & RED LETTERING TO CONFORM TO THE BUILDING CODE
3. THE ELEC. CONTR. SHALL CAP & TAPE EXISTING WIRING & SHALL PROVIDE BLANK JUNCTION BOX COVERS OVER EXISTING WALL MOUNTED BALCONY FIXTURES NO LONGER IN USE.
4. FOR STAGE LIGHTING & EXTERIOR LIGHTING PLAN, SEE DWG. E-1.

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IMPROVEMENTS TO
LOWELL HIGH SCHOOL
LOWELL MASSACHUSETTS

AUDITORIUM STAGE & ENTRANCE
LIGHTING PLANS & DETAILS

DRAWN BY VLP
CHECKED BY LSP
SCALE
DATE
SHEET NO.

E-2

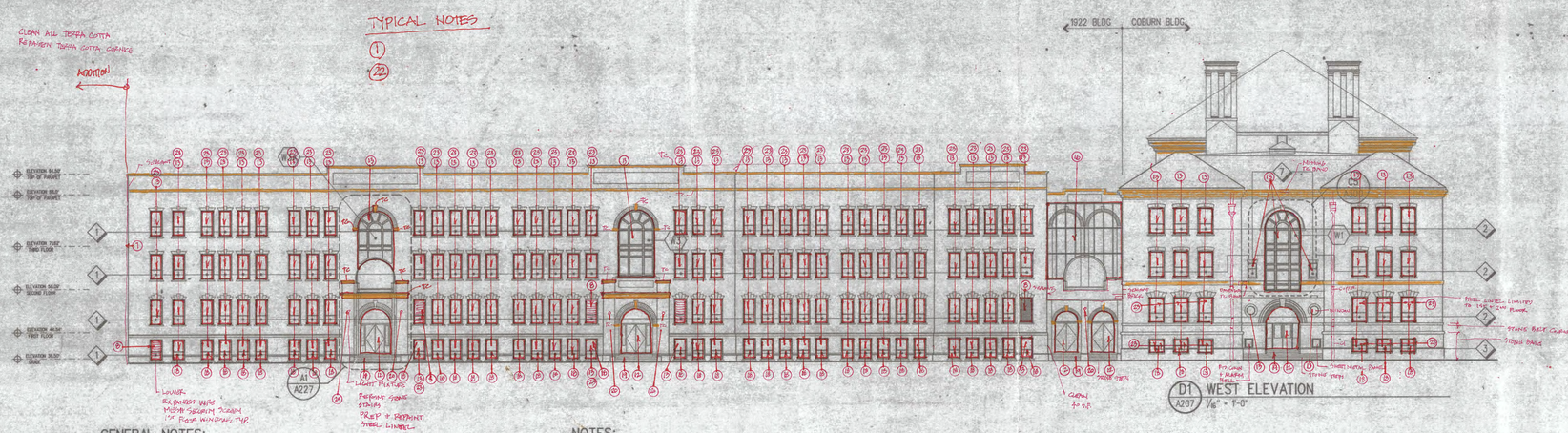
LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
GENERAL NOTES FOR ELEVATIONS - ALL BUILDINGS

2/16/17

PE # 67150.00

GENERAL NOTES:

1. **CLEAN BRICK MASONRY VENEER**
2. **REPLACE BRICK MASONRY VENEER**
3. **REPLACE BRICK HEADER**
4. **REPLACE BRICK MASONRY VENEER**
5. **REPLACE CEMENTATIOUS PANELS**
6. **REPLACE PLASTIC FACED PLYWOOD PANELS**
7. **REPLACE SEALANT**
8. **REPLACE LOUVERS**
9. **REPLACE ALUMINUM DOOR + FRAME**
10. **REPLACE ALUMINUM DOOR + FRAME + SIDELIGHT + TRANSOM**
11. **REPLACE SOFFIT W/ EXTERIOR CEMENT BOARD FINISH SYSTEM + CR METAL FRAMING**
12. **REPLACE ALUMINUM DOOR + FRAME + ENTRY**
13. **REPLACE ALUMINUM WINDOWS**
14. **REPLACE BROKEN BRICK**
15. **REPLACE BROKEN PRECAST CONCRETE CAPSTONE**
16. **REPLACE ALUMINUM STOREFRONT**
17. **REMOVE EFFLOURESCENCE**
18. **REPLACE STELL SECURITY SCREEN**
19. **REPOINT STONE STEPS**
20. **NEW LIGHT FIXTURE**
21. **REPLACE EXIT LIGHT**
22. **CLEAN TERRACOTTA MOLDINGS, CORNICES + TRIM**
23. **SCRAPE/ PREP/ PAINT STEEL LINTEL**
24. **REPLACE SHEETMETAL PANEL W/ TERRACOTTA**
25. **SCRAP/ PREP/ PAINT METAL CORNICE**
26. **REPOINT BRICK MASONARY**
27. **REPLACE OVERHEAD COILING DOOR**
28. **REPLACE WOOD DOOR + FRAME**
29. **REPLACE POLY-CARBONATE GLAZING**
30. **REPLACE BROKEN INSULATED GLASS UNIT**
31. **REPLACE BRIDGE SOFFIT W/ INSULATED ALUMINUM PANELS ON LIGHT GAGE METAL FRAMING**



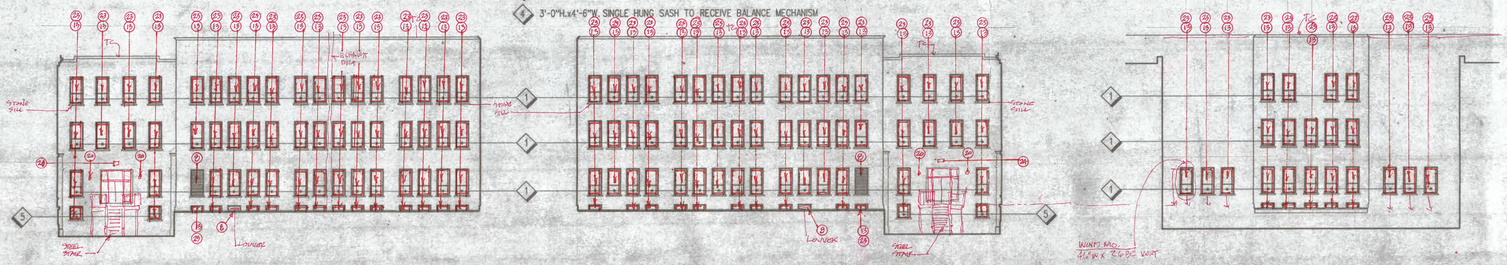
D1 WEST ELEVATION
A207 1/16" = 1'-0"

GENERAL NOTES:

A. EXISTING WINDOWS SHALL REMAIN, UNO.
B. REMOVE EXISTING GLASS BLOCK, ALUMINUM PANEL, ETC. AND PROVIDE NEW HISTORIC THERMAL FIXED WINDOW ASSEMBLY - WINDOW TYPE W1, W2, W2a, W3 & W3a.

NOTES:

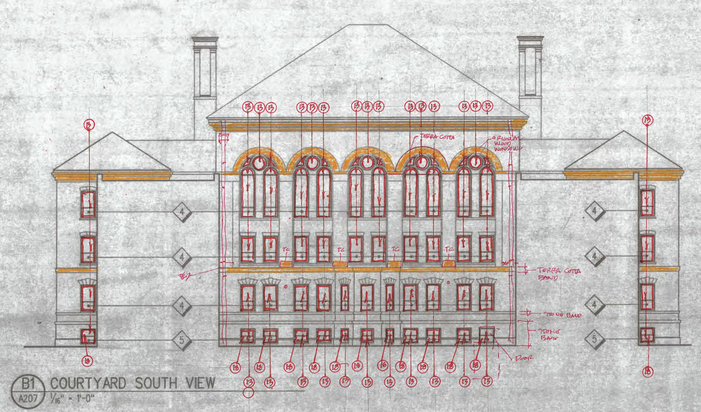
1. 3'-0"H.x4'-0"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
2. 3'-0"H.x5'-0"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
3. 2'-0"H.x5'-0"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
4. 3'-0"H.x4'-6"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
5. 2'-0"H.x9'-6"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
6. 2'-0"H.x4'-0"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM
7. 3'-0"H.x3'-0"W. SINGLE HUNG SASH TO RECEIVE BALANCE MECHANISM



C1 COURTYARD WEST VIEW
A207 1/16" = 1'-0"

C2 COURTYARD EAST VIEW
A207 1/16" = 1'-0"

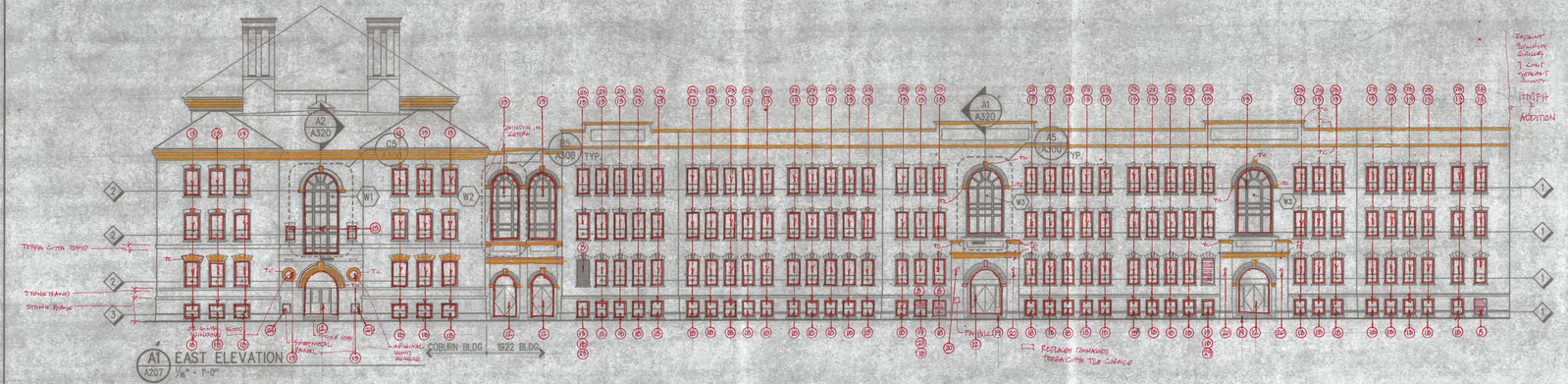
C4 COURTYARD NORTH VIEW
A207 1/16" = 1'-0"



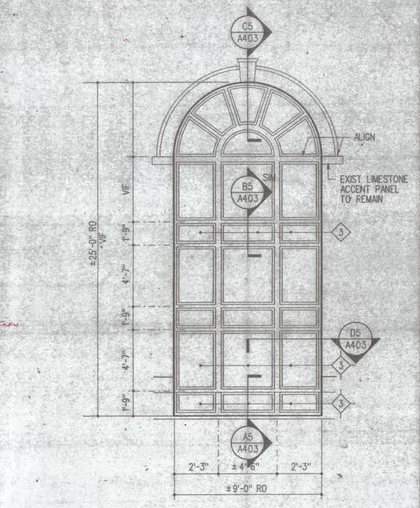
B1 COURTYARD SOUTH VIEW
A207 1/16" = 1'-0"



B3 SOUTH ELEVATION
A207 1/16" = 1'-0"

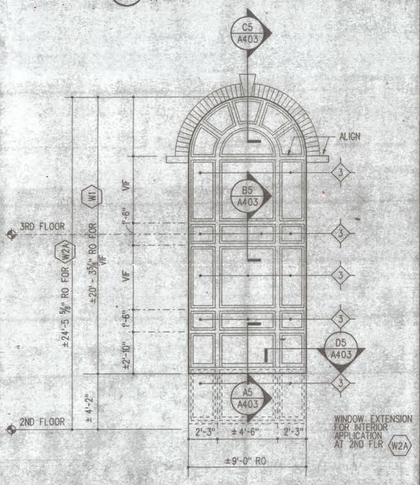


A1 EAST ELEVATION
A207 1/16" = 1'-0"



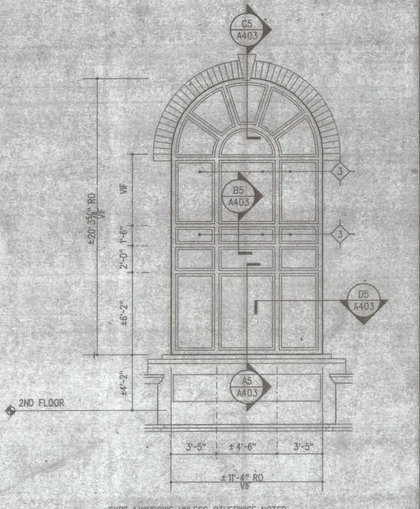
TYPE 1 WINDOWS UNLESS OTHERWISE NOTED.
CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND ROUGH OPENINGS FOR ALL WINDOWS PRIOR TO PREPARING SHOP DRAWINGS.

C5 WINDOW ELEVATION W1
A300 1/4" = 1'-0"



CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND ROUGH OPENINGS FOR ALL WINDOWS PRIOR TO PREPARING SHOP DRAWINGS.

B5 WINDOW ELEVATION W2 W2A
A300 1/4" = 1'-0"



TYPE 1 WINDOWS UNLESS OTHERWISE NOTED.
CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND ROUGH OPENINGS FOR ALL WINDOWS PRIOR TO PREPARING SHOP DRAWINGS.

A5 WINDOW ELEVATION W3
A300 1/4" = 1'-0"

Sverdrup
SVERDRUP FACILITIES, INC.
Two Center Plaza, Boston, Massachusetts 02108-1906

Revision:

LOWELL HIGH SCHOOL RENOVATIONS - TASK 2

LOWELL, MASSACHUSETTS

Key Plan:

Scales:
0' 5' 10' 20' 40'
1/16" = 1'-0"
0 2' 4' 8'
1/4" = 1'-0"

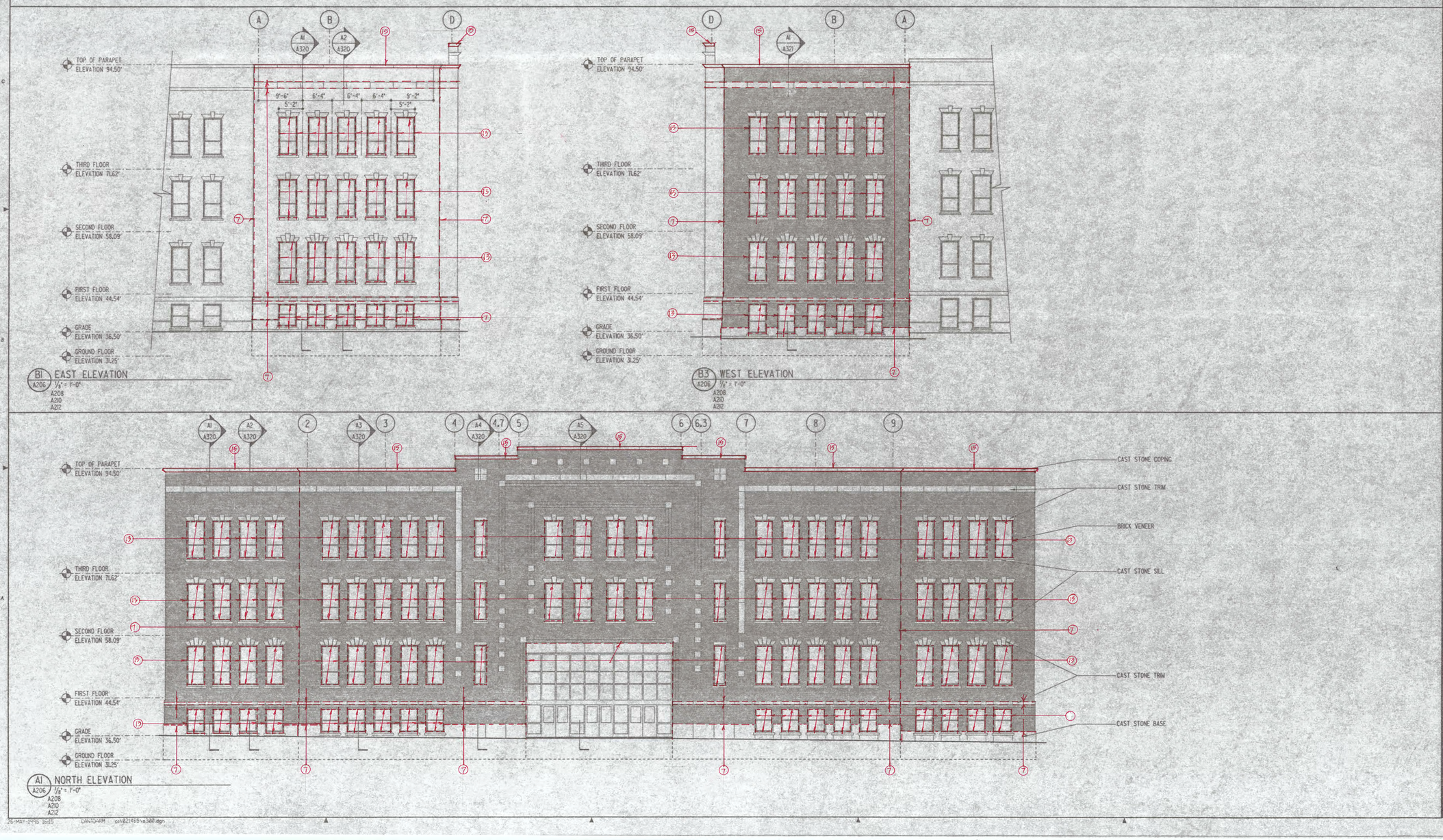
Sverdrup Project No.: 021465

Drawing Title:
ARCHITECTURAL
COBURN/1922 BUILDING
ELEVATIONS

Date: December 11, 1995
Designed By: S.A.M.
Drawn By: S.A.M.
Checked By: T.C.

TASK 2
Drawing Number:
A300

DATE: 12/05/95 TIME: 23:42:08 USER: PSHM FILE: w:\projects\lowell\cad\generals\a300.dgn



Sverdrup
SVERDRUP FACILITIES, INC.

801 North Eleventh Street, Saint Louis, Missouri 63101

HMFH
Architects

Revision:

	Date:	By:	Description:
A	5/31/95		SBAB

RENOVATIONS AND ADDITIONS
LOWELL HIGH SCHOOL

LOWELL, MASSACHUSETTS

Key Plan:

Scales:
0' 4' 8' 16'
1/8" = 1'-0"

Sverdrup Project No.: 021465

Drawing Title:
ARCHITECTURAL
COBURN/1922 BUILDING
EXTERIOR ELEVATIONS

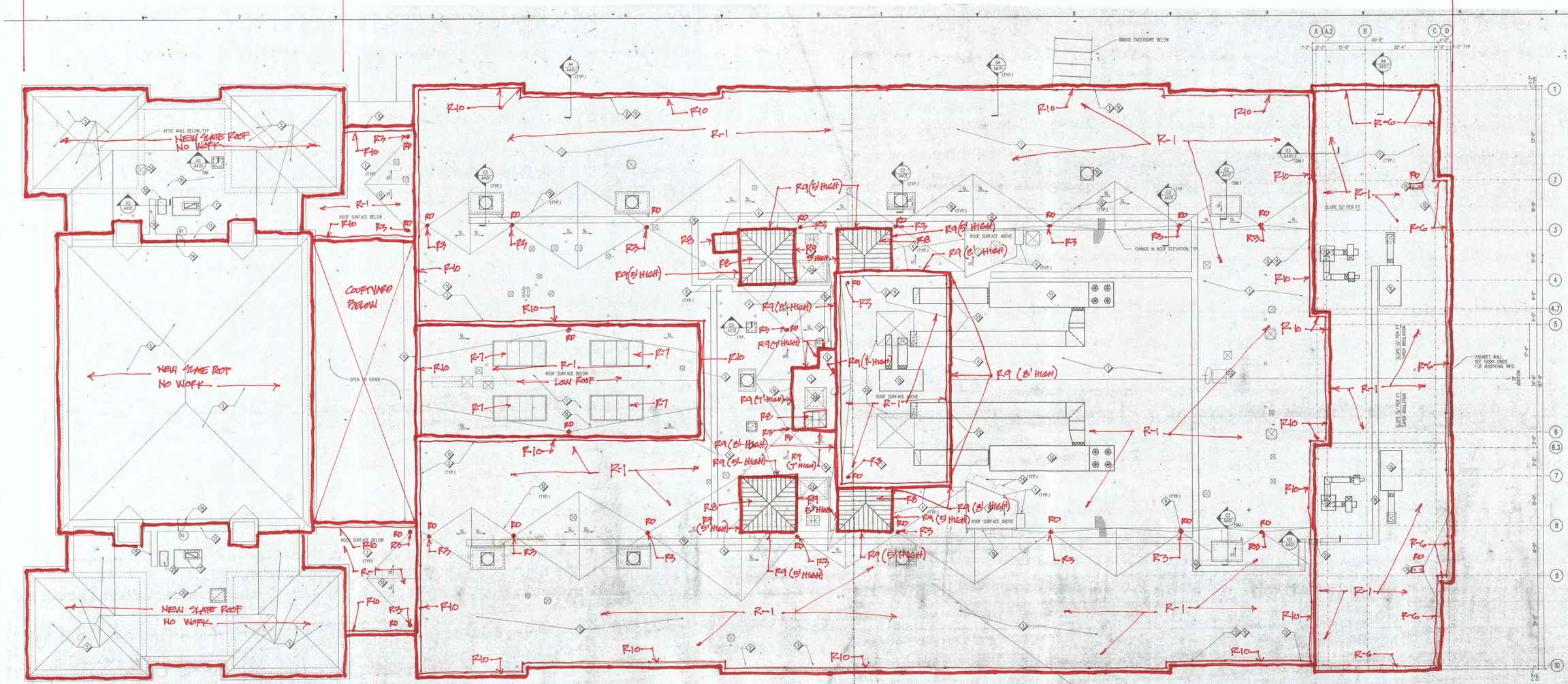
Date: 5-31-95

Designed By: RAM
Drawn By: SDK
Checked By: RLK

Drawing No.: A300

COBURN

KOULOHEARS



RAL NOTES (COBURN/1922 BUILDING)

VIDE AND INSTALL MODIFIED BITUMEN ROOF MEMBRANE AND RIGID INSULATION
ER ENTIRE ROOF AREA, UNO.

FY POINT ALL EXPOSED MASONRY WALLS ON ROOF AS REQUIRED
OR TO COVERING WITH CEMENT PARGE COAT.

ORDINATE NEW ROOF PENETRATIONS W/ PLUMBING & MECHANICAL DWGS., TYP.

E OUT CAULKING AND MORTAR FROM TERRA-COTTA COPING. INSTALL NEW JOINT
ISHING & SEALANT, SEE RESTORATION ELEVATIONS FOR ADDITIONAL INFORMATION.

AN AND PAINT ALL EXPOSED METAL SURFACES TO MATCH EXISTING PAINTED METAL.

ORDINATE ADDITIONAL WORK INFORMATION ON ROOF AREA W/ RESTORATION ELEVATIONS, TYP.

PARTIAL ROOF PLAN
1/16" = 1'-0"

NOTES (COBURN/1922 BUILDING)

1. ROOF MEMBRANE AND RIGID INSULATION OVER EXISTING SLOPED STRUCTURE
2. SAVE EXISTING PARAPET IN PLACE, SPOT POINT MORTAR JOINTS AS REQUIRED PRIOR TO COVERING WITH CEMENT PARGE COAT.
3. REBUILD MASONRY PARAPET USING ORIGINAL TERRA-COTTA COPING PIECES SALVAGED DURING DEMOLITION OPERATIONS, COORDINATE EXTENT OF PARAPET WORK WITH RESTORATION ELEVATION DWGS, TYP.
4. EXPOSED MASONRY WALLS.
5. EXISTING SLATE ROOF, RECOAT WITH LIQUID COATING
6. ROOF PENETRATION , TYP.
7. INSTALL MECHANICAL VENT IN LOCATION WHERE SKYLIGHT WAS REMOVED REFER TO SIM CURB DETAIL A3/A401 AT ROOF HATCH
8. PROVIDE ROOF DRAIN TO MATCH EXISTING. VIF EXISTING DRAIN SIZE & DRAIN LEADER PRIOR TO REMOVAL OF EXISTING.
9. NOT USED
10. RECOAT COPPER TERNE ROOF WITH LIQUID COATING.
11. PARAPET WALL W/ TERRA-COTTA COPING.
12. TAPERED INSULATION CRICKET, PROVIDE POSITIVE SLOPE TO DRAINS, TYP.
13. MECHANICAL EQUIPMENT ON RAISED STEEL SUPPORT REFER TO DETAIL D1/A401
14. DOOR AND FRAME, REFER TO DOOR SCHEDULE.
15. MECHANICAL EQUIPMENT ON PREFABRICATED ROOF CURB, REFER TO D5/A401
16. NEW PAINTED METAL GUTTER AND DOWNSPOUT, REFER TO SIM DETAIL C2/A401 TYP.
17. INSTALL 2'-0"± WALKWAY PROTECTION BOARDS @ DRIP LINE OF ROOF AS SHOWN ON DWGS.
18. INSTALL 2'-0" WALKWAY PROTECTION BOARD PATH AS INDICATED.
19. ROOF DRAIN REFER TO DETAIL D2/A401.
20. 30"x54" ROOF HATCH & LADDER IN EXISTING HATCH OPENING REFER TO A3/A401.
21. PARAPET LADDER REFER TO DETAIL B3/A401
22. EXISTING DISH ANTENNA ON ROOF PROTECTION BOARD
23. DUCT PENETRATION IN EXISTING MASONRY WALL, COORD. W/ MECHANICAL AND STRUCTURAL DWGS.
24. EXPOSED METAL SURFACE TO RECEIVE PAINT FINISH

LEGEND

- NEW ROOF DRAIN, REF. DETAIL D2/A401 - ◇ TYP.
- EXISTING CURB MOUNTED EXHAUST FAN, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED SMOKE VENT, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED DUCT HOOD, REF. DETAIL D5/A401
- EXISTING PIPE PENETRATION, REF. DETAIL D3/A401
- EXISTING POCKET PENETRATION, REF. DETAIL D4/A401
- EXISTING TIE-OFF SUPPORT, REF. SIMILAR DETAIL D1/A401

MATCH LINE SEE SHEET A2.1

GENERAL NOTES (COBURN/1922 BUILDING)

A. PROVIDE AND INSTALL MODIFIED BITUMEN ROOF MEMBRANE AND RIGID INSULATION OVER ENTIRE ROOF AREA, UNO.

B. SPOT POINT ALL EXPOSED MASONRY WALLS ON ROOF AS REQUIRED PRIOR TO COVERING WITH CEMENT PARGE COAT.

C. COORDINATE NEW ROOF PENETRATIONS W/ PLUMBING & MECHANICAL DWGS., TYP.

D. RAKE OUT CAULKING AND MORTAR FROM TERRA-COTTA COPING. INSTALL NEW JOINT FLASHING & SEALANT, SEE RESTORATION ELEVATIONS FOR ADDITIONAL INFORMATION.

E. CLEAN AND PAINT ALL EXPOSED METAL SURFACES TO MATCH EXISTING PAINTED METAL.

F. COORDINATE ADDITIONAL WORK INFORMATION ON ROOF AREA W/ RESTORATION ELEVATIONS, TYP.

AT PARTIAL ROOF PLAN
1/16" = 1'-0"

NOTES (COBURN/1922 BUILDING)

1. ROOF MEMBRANE AND RIGID INSULATION OVER EXISTING SLOPED STRUCTURE
2. SAVE EXISTING PARAPET IN PLACE, SPOT POINT MORTAR JOINTS AS REQUIRED PRIOR TO COVERING WITH CEMENT PARGE COAT.
3. REBUILD MASONRY PARAPET USING ORIGINAL TERRA-COTTA COPING PIECES SALVAGED DURING DEMOLITION OPERATIONS, COORDINATE EXTENT OF PARAPET WORK WITH RESTORATION ELEVATION DWGS, TYP.
4. EXPOSED MASONRY WALLS.
5. EXISTING SLATE ROOF, RECOAT WITH LIQUID COATING
6. ROOF PENETRATION , TYP.
7. INSTALL MECHANICAL VENT IN LOCATION WHERE SKYLIGHT WAS REMOVED REFER TO SIM CURB DETAIL A3/A401 AT ROOF HATCH
8. PROVIDE ROOF DRAIN TO MATCH EXISTING. VIF EXISTING DRAIN SIZE & DRAIN LEADER PRIOR TO REMOVAL OF EXISTING.
9. NOT USED
10. RECOAT COPPER TERNE ROOF WITH LIQUID COATING
11. PARAPET WALL W/ TERRA-COTTA COPING.
12. TAPERED INSULATION CRICKET, PROVIDE POSITIVE SLOPE TO DRAINS, TYP.
13. MECHANICAL EQUIPMENT ON RAISED STEEL SUPPORT REFER TO DETAIL D1/A401
14. DOOR AND FRAME, REFER TO DOOR SCHEDULE.
15. MECHANICAL EQUIPMENT ON PREFABRICATED ROOF CURB, REFER TO D5/A401
16. NEW PAINTED METAL GUTTER AND DOWNSPOUT, REFER TO SIM DETAIL C2/A401 TYP.
17. INSTALL 2'-0"± WALKWAY PROTECTION BOARDS @ DRIP LINE OF ROOF AS SHOWN ON DWGS.
18. INSTALL 2'-0" WALKWAY PROTECTION BOARD PATH AS INDICATED.
19. ROOF DRAIN REFER TO DETAIL D2/A401
20. 30"x54" ROOF HATCH & LADDER IN EXISTING HATCH OPENING REFER TO A3/A401
21. PARAPET LADDER REFER TO DETAIL B3/A401
22. EXISTING DISH ANTENNA ON ROOF PROTECTION BOARD
23. DUCT PENETRATION IN EXISTING MASONRY WALL, SEAL DUCT TO MASONRY W/ NEOPRENE BELLOWS AND CONTINUOUSLY SEALED SS TERMINATION BAR, COORD. W/ MECHANICAL AND STRUCTURAL DWGS.
24. EXPOSED METAL SURFACE TO RECEIVE PAINT FINISH

LEGEND

- NEW ROOF DRAIN, REF. DETAIL D2/A401 - ◇ TYP.
- EXISTING CURB MOUNTED EXHAUST FAN, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED SMOKE VENT, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED DUCT HOOD, REF. DETAIL D5/A401
- EXISTING PIPE PENETRATION, REF. DETAIL D3/A401
- EXISTING POCKET PENETRATION, REF. DETAIL D4/A401
- EXISTING TIE-OFF SUPPORT, REF. SIMILAR DETAIL D1/A401

LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
LORD AND FIELDHOUSE BUILDINGS

11/03/16

PE # 67150.00

GENERAL NOTES:

1. **GENERAL NOTES APPLY TO ALL CONDITIONS NOTED BELOW EVEN IF NOT NOTED ON BASE REPAIR SPREADSHEETS.**
2. **REFER TO EXISTING CONDITIONS / BASE REPAIR REPORTS FOR CONSULTANT SCOPE.**
3. **ALL WALLS ARE TO BE REPAINTED AT A MINIMUM.**
4. **REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS.**
5. **INSTALL NEW TOILET ROOM FIXTURES AND ACCESSORIES THROUGHOUT. REPLACE ALL TOILET PARTITIONS IN TOILET ROOMS THAT ARE TO BE RECONFIGURED AS INDICATED ON DRAWINGS.**
6. **REPLACE ALL CEILINGS. AT DEMOUNTABLE WALL LOCATIONS (W1501) PROVIDE LIGHT GAUGE FRAMING SUPPORT, 24" O.C., FROM TOP OF DEMOUNTABLE WALL TO UNDERSIDE OF FLOOR ABOVE IN ORDER TO BRACE WALLS.**
    a. **LORD BUILDING FLOOR TO FLOOR HEIGHTS FOR REFERENCE:**
        i. **L1 18'-0"**
        ii. **L2 13'-4"**
        iii. **L3 13'-4"**
7. **REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS.**
8. **REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE**
9. **REPLACE GYM FLOOR WITH SYNTHETIC GYM FLOOR SURFACE. ASSUME SAME MARKINGS AS SHOWN ON PLANS.**
10. **PROVIDE NEW WINDOW TREATMENTS (MECHO SHADE 5% OPENENSS) AT ALL EXTERNAL WINDOWS AND STOREFRONT GLAZING. SHADES ARE NOT NEEDED IF STOREFRONT IS CONTIGUOUS WITH PUBLIC CORRIDORS, STAIRS, AND CORRIDORS.**
11. **AT ALL EXTERNAL DOORS PROVIDE NEW HARDWARE AND ONE PAIR AT EACH ENTRY TO BE EQUIPED WITH CARD READER ACCESS AND PUSH PLATE ACTIVATION FOR AUTO ASSIST DOOR OPERATORS FOR ADA ACCESS.**
12. **AT GROUP SHOWERS, PROVIDE INDIVIDUAL PARTITIONS AND CURTAINS FOR SHOWER STALLS. AT OPEN SHOWER AREAS – RECONFIGURE FOR 5 INDIVIDUAL SHOWERS – 5' WIDE FOR HANDICAP ACCESS.**
13. **AT ALL CLASSROOMS, LABS, AND CONFERENCE ROOMS – PROVIDE VISUAL DISPLAY SURFACES 2 (TWO) – 8' LONG WHITE BOARDS AND 4 (FOUR) 4' LONG TACK BOARDS. ANY EXISTING CHALKBOARDS ARE TO BE ABATED PER HAZMAT REPORT.**
14. **ALL STAIRS –**
    a. **FIELD HOUSE:**
        i. **REPAINT ALL CONCRETE STAIR TREADS AND REPLACE ALL ABRASIVE NOSINGS**
        ii. **REPAINT ALL METAL STAIR STRINGERS**
        iii. **REPLACE EXISTING ALUMINUM HANDRAIL WITH COMPLIANT ALUMINUM HANDRAIL 34" AFF W/ LANDING EXTENTIONS**

iv. **REPLACE EXISTING ALUMINUM GUARDRAIL WITH COMPLIANT ALUMINUM GUARDRAIL 42" AFF W/ VERTICAL POSTS < 4" OC.**

b. **LORD BUILDING**

i. **REPLACE ALL RUBBER STAIR TREADS, RISERS, AND NOSINGS. REFINISH EXISTING VCT AT LANDINGS UNLESS OTHERWISE NOTED.**

ii. **REPAINT ALL METAL STAIR STRINGERS**

iii. **REUSE EXISTING ALUMINUM HANDRAIL.**

iv. **REPLACE EXISTING ALUMINUM GUARDRAIL WITH COMPLIANT ALUMINUM GUARDRAIL 42" AFF W/ VERITCAL POSTS <4" OC.**

15. **PROVIDE 1 BENCHTOP FUMEHOOD AT EACH SCIENCE LAB**

FLOOR:

VCT/VINYL SHEET

F100	REPLACE VCT/VINYL SHEET OR CARPET W/ BIOBASED TILE.
F101	REPLACE VAT
F102	PATCH REPAIR VCT
F103	CLEAN AND WAX VCT/SHEET VINYL
F104	REPLACE TRANSITION STRIP
F105	CLEAN SHEET VINYL FLOORING
F106	REPLACE RADIAL RUBBER
F107	REPLACE SHEET VINYL FLOORING TREADS AND RISERS
F108	REPLACE WOOD FLOOR W/ BIOBASED TILE. REMOVE WOOD FLOOR, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING AT THRESHOLD.
F109	REPLACE CARPET W/ BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.
F110	CLEAN SHEET VINYL
F111	REPLACE CARPET W/ BIOBASED TILE.
F112	REPLACE RESILIENT DANCE FLOOR
F113	REPLACE SHEET VINYL FLOORING W/ LINOLEUM.
F114	INSTALL BIOBASED TILE
F115	REPLACE CERAMIC TILE AND INSTALL BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.

CARPET

F201	REPLACE CARPET
F202	CLEAN AND SHAMPOO CPT

WOOD

F301	REPLACE WOOD FLOOR
F302	PATCH AND REPAIR WOOD FLOOR
F303	REFINISH WOOD FLOOR
F304	POWER SAND AND REFINISH WOOD FLOOR
F307	REPAIR STRIP WD. FLOORING AND REFINISH

CONCRETE

F401	REPLACE CONC. FLOOR
F402	PATCH AND REPAIR CONC. FLOOR
F403	LEVEL CONC. FLOOR
F404	REPLACE CONC. FLOOR
F405	REPAIR CONCRETE FLOOR
F406	CLEAN AND RESEAL CONCRETE FLOOR
F407	REPAINT CONC. FLOOR
F408	PATCH HOLES IN CONC. FLOOR FROM REMOVAL OF MEP PIPES

CERAMIC TILE

F501	REPLACE CERAMIC TILE
F502	PATCH AND REPAIR CERAMIC TILE
F503	CLEAN CERAMIC TILE
F504	REGROUT FLOOR TO BASE CERAMIC TILE
F505	REPLACE CARPET W/ CERAMIC TILE

TERRAZZO :

F601	REPLACE TERRAZZO
F602	REPLACE METAL TRIM IN TERRAZZO
F603	PATCH AND REPAIR CRACKS IN TERRAZZO
F604	CLEAN AND WAX TERRAZZO
F605	CLEAN QUARRY TILE/STONE
F606	REPAIR TERRAZZO BASE
F607	CLEAN/POLISH TERRAZZO FLOOR

EPOXY

F701	REPLACE EPOXY FLOORING
F702	REPAIR EPOXY FLOORING AND BASE
F703	CLEAN EPOXY FLOORING
F704	INSTALL EPOXY FLOORING

ENTRY MAT

F801	REPLACE ENTRY MAT
F802	REPLACE RECESSED ENTRY MAT
F803	REPLACE RECESSED ENTRY MAT FRAME

MARBLE

F1001	CLEAN MARBLE FLOOR

BASE:

VINYL

B101	REPLACE OR INSTALL VINYL BASE
B102	REFASTEN HEAVY DUTY VINYL BASE BOARD
B103	CLEAN QUARRY TILE BASE

B105 CLEAN TILE BASE
B106 REPLACE ATHLETIC BASE
B107 CLEAN VINYL BASE
B108 REPLACE VCT W/ LINOLEUM

WOOD

B201 REPLACE OR INSTALL WOOD BASE
B202 REFINISH WOOD BASE
B203 REPAINT WOOD BASE

TILE

B301 REPLACE TILE BASE
B302 PATCH AND REPAIR TILE BASE
B303 REPAINT CMU WALL

TERRAZZO

B401 REPLACE TERRAZZO
B402 PATCH AND REAPAIR TERRAZO
B403 CLEAN/POLISH TERRAZZO

GLAZED CMU

B501 CLEAN GLAZED CMU BASE
B502 PATCH GLAZED CMU

CONCRETE

B601 REPAINT CONCRETE BASE

MARBLE

B701 CLEAN MARBLE BASE

STEEL

B801 PAINT STEEL BASE

WALLS:

WALL PLASTER

W001 REMOVE WOOD PANELED WALLS W/ HOMOSOTE ABOVE ON METAL STUDS & REPLACE PLASTER W/GWB IN METAL STUDS
W101 REPLACE PLASTER WALL
W102 PATCH &REPAIR PLASTER WALL
W103 REPAINT PLASTER WALL
W104 REPLACE VINYL WALLCOVERING ON PLASTER WALL
W105 INSTALL NEW PLASTER WALL
W106 REMOVE WOOD PANELING
W107 CLEAN & REPAIR C.T. ON PLASTER

GWB

W201 REPLACE GWB WALL
W202 PATCH AND REPAIR GWB WALL
W203 REPAINT GWB WALL
W204 REPAIR CRACK IN GWB WALL
W205 PAINT AND PATCH COLUMN
W206 RECAULK AT GYPSUM BOARD AND TILE CONNECTION
W207 INSTALL 2'-0" W. X 4'-0" L. 2-HR. RATED SHAFTWALL CHASE; MODIFY FRAMING AS REQUIRED. PROVIDED RATED SHAFTBOTTOM AT 1ST FLR. FRAMING NOTE: CHASE GRAPHIC NOT SHOWN ON PLAN.
W208 REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS. INSTALL NEW WALL TO MATCH EXISTING NOTE: THIS CONDITION OCCURS AT ALL PLUMBING FIXTURES AND PIPING EVEN IF NOT NOTED ON SPREADSHEET.
W209 REMOVE WALL PAPER. PATCH OR SKIM COAT AND PAINT GWB

CMU

W301 REPLACE CMU WALL
W302 PATCH AND REPAIR CMU WALL
W303 REPAINT CMU WALL
W304 REPOINT CMU WALL
W305 EXTEND CMU WALL TO UNDERSIDE OF STRUCTURE
W306 FIRESTOP AT TOP OF CMU WALL
W307 PAINT UNFINISHED CMU
W308 INFILL WINDOW OPEING AT CMU
W309 INSTALL CMU
W310 EXPOSED CMU

BRICK

W401 REPLACE BRICK WALL
W402 PATCH AND REPAIR BRICK WALL
W403 REPAINT BRICK WALL
W404 REPOINT BRICK WALL
W405 CLEAN BRICK
W406 CLEAN GLASS BLOCK

GLAZED CMU

W501 REPLACE GLAZED CMU
W502 PATCH AND REPAIR GLAZED CMU
W503 REPOINT GLAZED CMU
W504 CLEAN GLAZED CMU
W505 CLEAN 2 X 2 WALL TILE

WOOD PANEL

W601 REPLACE WOOD PANEL
W602 PATCH AND REPAIR WOOD PANEL
W603 REPAINT WOOD PANEL
W604 REFINISH WOOD PANEL

W605	PAINT PLYWOOD SHEATHING
W606	REPAIR VERTICAL
W607	PAINT WOOD VALANCE
W608	REPAINT TACK SURFACE
W609	REPLACE PEG BOARD
W610	REMOVE WOOD PANEL AND PLASTER WALL
W611	REMOVE WOOD PANEL
W612	REMOVE HOMOSOTE
W613	PROVIDE NEW WOOD PANELING

WOOD WINDOW WALL

W701	REPLACE FIN WOOD WINDOW WALL
W702	REPAIR FIN WOOD WINDOW WALL
W703	REFINISH FIN WOOD WINDOW WALL
W704	REPAINT FIN WOOD WINDOW WALL
W705	REPAINT METAL WINDOW WALL

WOOD CHAIRRAIL AND WAINSCOT

W801	REPLACE WD WAINSCOT
W802	REPAIR WD WAINSCOT
W803	REFINISH WD PNL WAINSCOT
W804	REPAINT WD WAINSCOT
W805	REPAINT ED CHAIRRAIL
W806	REFINISH WD CHAIRAIL
W807	REWORK WD CHAIRRAIL

WAINSCOT

W901	REPLACE CERAMIC TILE WAINSCOT
W902	REPAIR CERAMIC TILE WAINSCOT
W903	REFINISH CERAMIC TILE WAINSCOT
W904	REPAINT CERAMIC TILE WAINSCOT
W905	CLEAN CERAMIC TILE WAINSCOT/WALL
W906	REPLACE PLAS. LAM. CHAIRAIL

CERAMIC TILE

W1001	PATCH CT WALL
W1002	CLEAN CT WALL

CONCRETE

W1101	REPAINT CONC. WALL
W1102	PAINT UNFINISHED CONC. WALL
W1103	REPAIR CRACK CONC. FOUND

CLAY TILE

W1202	REPAINT CLAY TILE

METAL WALL PANEL

W1301	CLEAN METAL WALL PANEL SYSTEM
W1302	REPAINT STEEL COLUMN
W1401	REPAIR CONC. FOUNDATION
W1501	REFINISH DEMOUNTABLE PARTITION AND BRACE FROM TOP OF PARTITIION @ CEILING TO DECK W/ LIGHT GUAGE FRAMING.

WINDOWS:

METAL WINDOWS

WD001	REMOVE MANUAL OPERATION SYSTEM
WD101	REPLACE MTL WINDOW
WD102	REGLAZE MTL WINDOW
WD103	RESEAL MTL WINDOW AT OPERABLE SASH
WD104	REPLACE WINDOW TRIM
WD105	REFINISH WOOD TRIM
WD106	REPLACE WINDOW HARDWARE
WD107	WINDOW NOT THERMALLY BROKEN
WD108	REFINISH METAL WINDOW
WD109	REPAINT MTL BORROWED LIGHT
WD110	REPLACE INSUL. PANEL
WD111	REMOVE & REPLACE WINDOW STOOL
WD113	REFINISH WOOD WINDOW SILL
WD114	REPLACE WINDOWS FRAMES AND SASHES AS INDICATED ON ELEVATIONS W/ ALUMINUM THERAMLLY BROKEN WINDOWS W/ LOW-GLAZING, INSECT SCREENS AND OPERABLE BOTTOM SASH (AWNING). WINDOW SHALL HAVE HISTORIC PATTERN (INTERNAL MUNTINS AND PROFILE SIMILAR TO 1922 BUILDING. REPLACE WINDOW TREATMENTS W/ MECHOSHADES (5% OPENNESS). REPLACE WINDOW STOOLS AND APRONS W/ SOLID SURFACE DARK COLOR STOOL & APRON. REPAIR & PAINT EXISTING WOOD TRIM AT 1892 & 1922 BUILDING.

WOOD WINDOWS

WD201	REPLACE WD WINDOW
WD202	REGLAZED WD WINDOW
WD203	RESEAL WD WINDOW
WD204	REPAINT WD WINDOW
WD205	REFINISH WD WINDOW
WD206	REPLACE WINDOW TRIM
WD207	REFINISH WINDOW TRIM
WD208	REPLACE WINDOW HARDWARE
WD209	REPLACE PARTING BEADS
WD210	REPLACE SCREEN
WD211	EX WINDOW WILL NOT CLOSE
WD212	HARDWARE MISSING
WD213	REPAINT WD WINDOW TRIM
WD214	REPLACE WD WINDOW SILL

WD215 REPLACE WD WINDOW WALL SYSTEM

GLASS BLOCK

WD401 REPLACE WINDOW & GLASS BLOCK SYSTEM

DOORS:

METAL DOOR AND FRAME

D101 REPLACE MTL DOOR AND FRAME
D102 REPAINT MTL DOOR AND FRAME
D103 REPLACE DOOR LIGHT AND STOPS
D104 REPAINT MTL DOOR
D108 REPLACE HM FRAME
D109 INSUFFICIENT HCP CLEAR W1401
D110 EGRESS DOORS ARE NOT REQUIRED 3'-0" WIDTH
D111 HM DOOR NEEDS LABEL RATING
D112 REPLACE DOOR LITE W/ WIRE GLASS
D113 REPLACE TRANSOM W/WIRE GLASS
D114 REWORK HM DOORS OR OPENINGS TO PROVIDE HCP ACCESSIBILITY
D115 REPLACE HM DOOR ONLY & REPAINT FRAME
D116 REPLACE ALUM. ENTRY W/ HM
D117 THRESHOLD NOT ACCESSIBLE
D118 PAINT HM WINDOW WALL
D119 PAINT HM FRAME

WOOD DOORS

D201 REPLACE WD DOOR AND FRAME
D202 REPLACE WD DOOR AND FRAME W/HM DOOR AND FRAME
D203 REPLACE WD DOOR ONLY W/ EXTERIOR HM DOOR
D204 REFINISH WD DOOR AND FRAME
D205 REPLACE DOOR LIGHTS
D206 UNEQUAL LEAFS ARE REQUIRED
D207 REPAINT WOOD DOOR
D208 REPAINT HM FRAME
D209 INSUFFICIENT HCP CLEARANCE
D210 REFINISH WD DOOR AND PAINT MTL FRAME AND REPLACE HARDWARE
D211 PAINT DUTCH BOTTOM
D212 REPLACE WD DOOR AND FRAME W/RATED WD DOOR AND FRAME
D213 REPLACE DOOR LIGHT W/1/4" WIRE GLASS
D214 REFINISH WD TRANSOM AND PAINT METAL FRAME
D215 REPLACE WOOD DOOR ONLY
D215A REPLACE WD REVERSE SWING & REWORK WOOD FRAME (DUTCHMAN)
D216 REMOVE WOOD DOOR AND FRAME
D217 REPLACE DUTCH DOOR
D219 REPLACE WOOD DOOR
D219A INCREASE HM DOOR FRAME OPENINGS FOR HC COMPLIANCE
D220 REPLACE WD & INSTALL HM RATED FRAME W/ WD TRIM TO MATCH

D221 REPLACE WD AND PAINT EXIST. HM FRAME
D222 REPLACE WOOD DOOR AND REFINISH WOOD FRAME
D223 REWORK WOOD DOORS/FRAMES OR OPENING TO PROVIDE HCP ACCESS
D224 BONDO, SAND & PAINT FRAME
D225 REPLACE WD DOOR W/ LABEL DOOR, PAINT HM FRAME/ PROVIDE HC HARDWARE
D226 REFINISH WOOD FRAME & SIDE LIGHTS
D227 REFINISH/REPAIR WOOD FRAME

STEEL DOORS

D301 REPLACE STEEL DOOR & FRAME W/ HM DOOR & FRAME
D401 REFINISH WD TRANSOM & PAINT MTL FRAME

OVERHEAD DOORS

D401 REPLACE SECTIONAL OVERHEAD DOOR

CEILINGS:

ACT

C001 CEILING TILES DO NOT MATCH REPLACE - MATCH TILE AT ELEV. VEST
C101 REPLACE ACT CLG 2 X 4
C102 REPLACE 12 X 12 CLG TILES
C103 REPLACE 12 X 12 ACT W/ 2 X 4 ACT
C104 REPLACE 12 X 12 ACT W/ 2 X 4 ACT
C105 REPLACE ACT 2 X 2
C106 REPAINT SCT CLG
C107 INSTALL ACT CLG 2 X 2 & LIGHTING
C108 NEW ACT 2 X 4 GOOD CONDITION
C109 PROVIDE 2 X 4 LIGHTING
C110 PROVIDE 2 X 4 ACT
C111 12 X 12 GOOD CONDITION
C112 REPLACE ACT (CLASSROOMS/OFFICES/CONFERENCE) ULTIMA TEGULAR 2'X4'
C113 REPLACE ACT (MUSIC ROOM) ULTIMA TEGULAR W/ 50% WEDGE SHAPED TILES CONWED DESIGNSCAPE BY OWNS CORNING.
C114 REPLACE ACT (CORRIDORS/STORAGE/STAIRS) ULTIMA LAY-IN 2'X4'
C115 REPLACE ACT (KITCHEN) HEALTH ZONE OPTIMA 2X2

PLASTER

C201 REPLACE PLASTER CLG
C202 PATCH & REPAIR PLASTER CLG
C203 REPAINT PLASTER CLG
C204 PATCH AND REPAIR PLASTER AT SKYLIGHT WELL
C205 EXIST. PLASTER CLG CONTAIN ASBESTOS SPRAYED STIPPLE FINISH
C206 INSTALL PLASTER SOFFFIT & FASCIA @ DROPPED CLG
C207 REMOVE SKYLIGHT PATCH OPENING
C208 REMOVE PLASTER CLG & MTL LATH SYSTEM @ STRUCTURE
C209 INFILL AT CLG STORAGE AREA MEZZANINES W/ 1 HR ENCLOSURES
C210 PROVIDE PLASTER CEILING

GWB

C301	REPLACE GWB CLG.
C302	PATCH AND REPAIR GWB CLG.
C303	REPAINT GWB CLG.
C304	PROVIDE GWB CEILING
C305	REPAIR CRACK AT GWB CLG.
C306	REPAINT SKYLIGHT WELL

CEILING PANELS

C401	REPLACE CEILING PANELS
C402	PATCH & REPAIR CLG. PNLS
C403	REPAINT CEILING PNLS

EXPOSED STRUCTURE

C501	PAINT EXPOSED STL STRUCT. & DECK
C502	PAINT EXPOSED ED BEAMS
C503	REFINISH EXPOSED WD PLANKS, GLULAM BEAMS, COLUMN, AND BASE
C504	REFINISH GLULAM BEAMS
C506	EXIST. CEMENT FIBER DECK EXPOSED UNPAINTED W/ BULBTEES
C507	PAINT EXPOSED HVAC/MECH/ELEC. PIPING CONDUIT
C508	PAINT CONC. CLG.

CONCRETE

C601	PAINT EXPOSED CONC. STRUCT.

METAL PANEL

C701	REPLACE 12 X 12 METAL PANEL CLG.

METAL PANEL

C702	REPLACE 12 X 12 METAL PANEL CEILING ELEVATOR
E1	CAB SIDE NON-COMPLAINT
E2	CONTROLS ARE TOO HIGH
E3	FLOOR LEVEL NEEDS ELEVATOR

ATTACHMENTS

ACOUSTICAL TREATMENTS
REPLACE 4 X 8 TECTUM PANELS ON WALLS

WOOD TRIM

A101	REPLACE WOOD TRIM
A102	REPAIR WOOD TRIM
A103	REFINISH WOOD TRIM
A104	REPAINT WOOD TRIM
A105	REFINISH WOOD SEAT
A106	REFINISH WD GUARD RAIL 2 X 8

A107 PAINT HVAC GRILLE

VISUAL DISPLAY SURFACES: CHALK/TACK/AND FRAME

A201 REPLACE CHALK AND FRAME
A202 REPAIR CHALK AND TACK AND METAL FRAME
A203 REPAIR CHALK AND TACK AND WOOD FRAME
A204 PAINT TACK BOARDS AND FRAME
A205 REPLACE TACK AND FRAME
A206 REPLACE TACK, REMOVE & REINSTALL WD TRIM
A207 REPLACE TACK W/MTL FRAME
A208 REPLACE CHALK & MTL FRAME
A209 REPLACE CHALK, REMOVE & REINSTALL
A210 PAINT TACK BD. TRM
A211 PAINT WOOD TACK STRIP
A212 REPAINT TACK BD
A213 STRIP PAINT FROM ALUM CH & TACK BDS.
VD214 REPLACE/PROVIDE EXISTING CHALK/WHITE/TACK BDS & PROVIDE TWO – 8'LONG WHITE BOARDS & FOUR-4' LONG TACK BOARDS. CHALKBOARDS ARE REMOVED PER HAZMAT REPORT; PATCH PLASTER AT WHERE CHALKBOARDS ARE REMOVED IN 1892 AND 1922 BUILDING CLASSROOMS.
VD215 REPLACE/PROVIDE EXISTING WHITE/TACK BDS & PROVIDE ONE – 4'LONG WHITE BOARD & ONE – 4' LONG TACK BD
VD216 REPLACE/PROVIDE ALL EXISTING TACK BDS & DISPLAY CASES & PROVIDE TWO'8' LONG TACKBOARDS
& 1 DISPLAY CASE

SPEAKER/CLOCK

A301 REPLACE SPEAKER/CLOCK
A302 PROVIDE SPEAKER/CLOCK
A303 NO SPEAKER
A304 REPLACE CLOCK

FIRE EXTINGUISHER & EXIT SIGNAGE (NOTE: LOWELL HIGH SCHOOL REPLACE ALL EXTINGUISHERS & CABINETS TYP EVEN IF NOTES NOT INCLUDED ON SPREADSHEET).

A401 REPLACE FIRE EXTINGUISHER ONLY
A402 REPLACE FIRE EXTINGUISHER AND CABINETS
A403 ADD FIRE EXTINGUISHER
A404 EXIT SIGNS NOT ILLUMINATED
A405 NO EXIT SIGNS PRESENT
A406 REPLACE EXIT SIGN
A407 PAINT FIRE EXT. CABINET
A408 REPLACE WIRE GLASS IN FIRE EXT. CABINET

MOVABLE PARTITIONS

A501 REPLACE OPERABLE PARTITION
A502 REPLACE DIVIDER SCREEN
A503 ADJUST AS REQUIRED

A504	REPAIR AND REFINISH

GYM EQUIPMENT

A601	REPLACE BLEACHERS
A602	ADJUST BLEACHERS
A603	REPAIR SEATING
A604	REFINISH SEATING

CASEWORK AND EQUIPMENT

CASEWORK

CW001	REPLACE UNIT VENTILATOR AND INTEGRAL STORAGE UNIT
CW101	REPLACE CASEWORK (PLASTIC LAMINATE)
CW102	REPAIR CASEWORK
CW103	REPLACE COUNTER TOP ONLY (FINISH)
CW104	REFINISH CASEWORK
CW105	REPAINT CASEWORK
CW106	REPLACE HARDWARE
CW107	PROVIDE SHELVES
CW108	RECONFIGURE FOR HCP AT SINK
CW109	REPAINT SHELVING
CW110	CLEAN BASE & WALL CABINET ADJUSTINGS
CW111	CASEWORK NT HCP ACCESSIBLE - REWORK
CW112	ADD LOCKS TO CASEWORK
CW113	REPLACE CASEWORK AND COUNTERTOP/SINK
CW114	REPLACE CASEWORK AND COUNTERTOP AND WALL CABINET
CW115	KITCHEN AREA- COUNTER/SINK/ STOVE/ DW/ REF NOT ACCESSIBLE
CW116	REWORK SHELVING FOR ACCESSIBILITY
CW117	REPLACE WOOD CASEWORK W/ WOOD (DARK STAIN CASEWORK IN CONFIGURATION TO MATCH EXISTING EXCEPT NO GLASS @ DOORS, ALL SOLID FRONTS.
CW118	REPLACE LAB CASEWORK

WARDROBES

CW201	REPLACE WARDROBES
CW202	REPAIR WARDROBES
CW203	REFINISH WARDROBES AND REPLACE HARDWARE WITH HCP
CW204	REPAINT WARDROBES
CW206	REPLACE WARDROBES
CW207	REPLACE WARDROBES DOOR MECHANISMS
CW208	ADJUST WARDROBES DOOR MECHANISMS
CW209	MAKE CLOSET HCP ACCESSIBLE

STORAGE UNITS

CW301	REFINISH STORAGE UNITS - WD (MAT)
CW302	PAINT STORAGE UNITS - MTL
CW302A	PAINT STORAGE UNITS - WD
CW303	REPAINT WALL STATION CABINET WITH CUBBY

CW304 REPLACE STORAGE UNITS (MAT)
CW305 REPLACE STORAGE UNITS HARDWARE

DISPLAY CASES

CW401 REPLACE DISPLAY CASE
CW402 REPAIR DISPLAY CASE
CW403 REFINISH DISPLAY CASE
CW404 REPLACE HARDWARE
CW405 PAINT DISPLAY CASE
CW406 REPLACE GLASS DOORS AT TEMP. GLAZED DOORS

LOCKERS:

L101 REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS
NOTE: KEY NOTE NOT ON SPREADSHEET, REFER TO PLANS FOR LOCKERS

SIGNAGE:

REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE
REPLACE ALL EXTERIOR SIGNAGE

LAB EQUIPMENT

CW501 REPLACE LAB TABLES
CW502 PROVDE SCIENCE LAB HCP WORK STATIONS
CW503 REPLACE SCIENCE CASEWORK
CW504 REPLACE SCIENCE DEMONSTRATION STATION
CW505 SCIENCE DEMONSTRATION STATION NOT ACCESSIBLE

BATHROOMS/FIXTURES

FIXTURES - HCP COMP.

BF101 REPLACE SINK (HCP)
BF102 REPLACE TOILETS (HCP)
BF103 REPLACE URINAL (HCP)
BF104 REPLACE DF
BF105 GANG WASH STATION NOT HP ACCESSIBLE
BF106 REMOVE URINAL
BF107 REMOVE SINK

FIXTURES

BF201 REPLACE SINK (BROKEN)
BF202 REPLACE TOILETS (HCP)
BF203 REPLACE URINAL (BROKEN)
BF204 REPLACE DF

FLOOR DRAINS

BF301 REPLACE FLOOR DRAIN

PARTITONS

BF401	REPLACE TOILET PARTITON (HCP)
BF402	REPLACE TOILET PARTITON (BROKEN)
BF403	REWORK TOILET PARTITIONS FOR HP COMPLIANCE
BF404	REPAIR TOILET PARTITONS
BF405	PAINT TOILET PARTITON

MISC.

BF501	PROVIDE NEW HC COMPLIANT TOILET ROOM ACCESSORIES
BF502	GRAB BARS NOT PROVIDED
BF503	DOOR SWINGS INTO FREE AREA
BF504	TOILET ROOM UNACCEPTABLE
BF505	CLEAR DIMENSION BETWEEN FIXTURES INADEQUATE
BF506	REWORK BATHROOM FOR HP COMPLIANCE
BF507	SHOWER NO HCP ACCESSIBLE
BF508	PROVIDE HCP HOME KITCHEN

TOILET ACCESSORIES (TYPICAL ALL BATHROOMS LOWELL HIGH SCHOOL)

BTA106	REPLACE ALL TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: MIRRORS, GRAB BARS, PAPER TOWEL DISPENSERS, SOAP DISPENSERS, SANITARY NAPKIN DISPENSERS, TRASH DISPENSERS.

STAIRS:

TREADS AND RISERS

S101	TREADS INSUFFICIENT
S102	RISER INSUFFICENT
S103	INFILL REQUIRED
S104	PROIVDE NON-SLIP SURFACE
S105	PAINT UNDERSIDE OF STAIR
S106	REPLACE RUBBER TREADS AND RISERS
S107	REPLACE HANDRAIL
S108	REFINISH WOOD TREADS AND RISERS
S109	REPAIR BROKEN TERRAZZO NOSING
S110	RISE/RUN ILLEGAL

STAIR REPLACEMENT

S111	REPLACE ENTIRE STAIR W/ CONCRETE FILLED METAL PAN STAIRS AND INTERMEDIATE LANDINGS IN SIMILAR CONFIGURATION TO EXIST. PROVIDE METAL PAINTING HANDRAILS @ EACH SIDE AT 2'-10" AFF. PROVIDE METAL PAINTING RAILINGS/GUARDRAILS @ 3'-6" AFF W/ VERTICAL PICKETS @ 4" O.C. MAX. PROVIDE RUBBER DISK FLOORING AT ALL TREADS, RISERS AND LANDINGS. EXISTING FLOOR STRUCTURE TO REMAIN; INSTALL NEW RUBBER DISK FLOORING.

OTHER

S201	HANDRAILS OR GUARDRAILS NON-COMPLIANT
S202	REPAINT HANDRAILS OR GUARDRAILS

S203 LANDING INSUFFICIENT
S204 REPAIR LANDING
S205 INSUFFICIENT RAIL EXTENTION
S206 PROVIDE WALL MOUNTED HANDRAIL
S207 WALL MOUNTED HANDRAIL NON-COMPLIANT
S208 RE-PAINT STEEL LADDER AND CASE
S209 NO HANDRAILS PRESENT
S210 REWORK NEWEL MTL POST DOOR ADDED HEIGHT OF HANDRAIL
S211 REPAIR/REPLACE SKYLIGHTS
S212 REMOVE OFFICE CUBICLE (NOT ACCESSIBLE)
S213 NON HC COMPLIANT UNIT KITCHEN
S214 REPLACE OFFICE FURNITURE METAL FLOOR MTD PARTITIONS
S215 REPLACE S.S. CORNER GUARD
S216 FIRE PULL STATION NOT ACCESSIBLE
S217 REPLACE GUARDRAIL AT AREAWAY
S218 REPLACE CONC. STAIR

RAMP

R101 SLOPE NON-COMPLIANT
R102 HANDRAILS, NON-COMPLIANT
R103 REPAINT HANDRAILS
R104 LANDING NON-COMPLIANT
R105 PROVIDE NON-SLIP SURFACE
R106 NO HANDRAILS
R107 ADD NEW RAMP TO MAKE SPACE HC ACCESSIBLE

HARDWARE:

H101 REPLACE HARDWARE (HCP COMPLIANCE)
H102 ADD PANIC DEVICESER
H103 ADD DOOR CLOSURE
H104 UPDATE BOILER ROOM DOOR HARDWARE
H105 TACTILE WARNING HARDWARE REQUIRED
H106 REPLACE COMPLETE HARDWARE SET INCLUDING BUT NOT LIMITED TO; HINGES, LOCKSET (LEVER HANDLES), LATCHES, CLOSERS, KICKPLATES, WALL/FLOOR STOPS, PANIC DEVICES, THRESHOLDS, TRANSITION STRIPS.
H107 POWER OPERATORWITH SURFACE MOUNTED CONDUIT

THERMAL & MOISTURE PROTECTION

TM101 SEALANT AT WINDOW
TM102 CAULKING AT WINDOW
TM103 SEALANT AT DOOR
TM104 CAULKING AT DOOR
TM105 RECAULK AT HC
TM 106 ADD C.J.'S

ASBESTOS

AS101	EXPOSED PIPE INSUL-POSSIBLE ASBESTOS
AS102	REPLACE VAT IN FLOOR
AS103	REMOVE POSSIBLE ASBESTOS FIBREBOARD

MECHANICAL:

M101	REPLACE CEILING FAN
M102	PROVIDE SEPARATE CONTROLS FOR GANG SHOWER
M103	REMOVE AND REPLACE KILN AND PROVIDE SEPARATE ROOM W/ EXHAUST
M104	REPLACE UV
M105	REPLACE UV MECHANICAL LOUVER
M106	REPLACE KITCHEN HOOD
M107	PAINT EXHAUST LOUVER
M108	REPLACE EXHSAUT LOUVER
M109	REPLACE ELECTRICAL HEAT COLL.
M110	REPLACE FIN TUBE RADIATION COVER
M111	REPLACE METAL WALL VENT
M112	REPLACE CUH

ELECTRICAL

E100	REPLACE 2 X 4 LIGHT LENS
E101	REPLACE 1 X 4 LIGHT LENS

STRUCTURAL

ST101	STEEL BEAM RUSTED BELOW WINDOW
ST102	PAINT STEEL BEAM

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

FIRST FLOOR

PE #: 67150

REV. 11/04/16

															DOORS/ FRAMES																			
Room #	Room Name	Wall 1		Wall 2		Wall 3		Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling		Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
410A/C	MAINTENACE DEPT.																																	
	MAIN AREA (410A)	W303		W303		W303		W303		F404	B107	* NEED TRANSITION STRIP BETWEEN 410A/C	* REPLACE TB	C104		12'-0"			D102	PAIR 3', 4X12	H106	D102	FRP, 6X32	H104									
	PASSAGE (410C)	W303		W303		W303		W303		F103	B107			C104		9'-4"			D102														
410B	ELECT. SWITCHGEAR (LOCKED)																		D102		H106												
412B	RECEPTION	W303		W203		W1501		W303	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-4"			D102		H106												
412C	ELECTRICAL	W309		W309		W309		W309		F404	N/A			EXP		17'-9" TO DECK			D102		H106												
410D	CONFERENCE	W303		W303		W203		W203		F201	B101			C201		12'-1"			D202		H106												
412F	OFFICE - BRIAN MARTIN HEAD OF SCHOOL	W203		W303		W303		W203		F201	B101			C201		12'-1"			D202		H106	D102											
412G	WORK ROOM	W203		W303		W309		W1501	REPLACE VINYL WALL COVERING AT W1501	F100	B101			C201		9'-4"																CW101		
412H	TOILET	W303		W303		W303		W303		F100	B101	TOTAL GUT RENOVATION		C201		8'-11"			D102		H106												
412J	TOILET	W303		W303		W303		W303		F100	B101	TOTAL GUT RENOVATION		C201		8'-11"			D102		H106												
412K	STORAGE	W303		W303		W303		W303		F100	B101			C201		9'-4"			D102		H106												
414	LOBBY	W504				W504			KEEP EXISTING WALL DISPLAYS	F201	B107			C104		9'-4"																		
415A	ADIMINISTRATIVE CONF RM	W303	W405	W303		W303		W303	KEEP EXISTING MARKERMOARDS	F201	B107			C104		12'			D102	4"x24" LITE	H106										CW108,CW104, CW103	
415B	DARE RECEPTIONIST	W303		W303		W303		W303	KEEP TACK BOARD	F201	B107			C104		12'-1"		STOREFRONT/ RPLACE SHADES	D101	4"x48" LITE	H106												
415C	SERGEANT'S OFFICE	W303		W303		W303		W303	KEEP TACK BOARD	F201	B107			C104		12'-1"		STOREFRONT/ RPLACE SHADES	D101	4"x48" LITE	H106												
416	TEACHERS DINING	W303		W501		W303		W303		F100/ F20	B107			C104		12'		STOREFRONT/ REPLACE SHADES	D102		H106										CW101		
417	STUDENT GOVERNMENT	W303		W501		W203	W1501	W303	WALL 3 HAS MERCHANDSE DISPLAY	F201	B107			C104		12'		STOREFRONT/ REPLACE SHADES	D102	4"x24" LITE	H106	D2 - D210;D3 - D102;H104	PAIR 3' DOORS (ELEC CLOSET)										
418	STUDENT PUBLICATION	W203	1501	W501		W303		W303	KEEP MARKER/ TACK BOARD	F103	B107			C104		12'		STOREFRONT/ REPLACE SHADES												CW101		
420A	OFFICE	W303		W303		W303		W303		F103	B107			C104		12'-0"			D102	4"x24" LITE	H106												
420B	PASSAGE (CORRIDOR IN MAINT)	W303		W303		W303				F103	B107					9'-4"																
420C	MECHANICAL	W303		W303		W303		W303		F103	B101			C104		9'-4"			D102	4"x24" LITE	H106												
420D	MEN'S LOCKER	W303		W303		W303		W303		F501	B301			C104		9-'3"			D102		H106												
420E	MENS' LOCKER'S TOILET	W303		W303		W303		W303	SHOWER HEAD IS ON W2	F501	B105	TOTAL GUT RENOVATION		C201		9'-0"																
421	MALE TOILET	W905		W905		W905		W905	REPLACE TOILET PARTITIONS	F503	B105			C303		9' -4"			D102		H106												
423B	CUSTODIAL	W304		W304		W304		W04		F100	B101			C501		EXP.		--	D102		H106												
423C	UNISEX TOILET	W303		W303		W303		W303		F100	B101			C104		9'-4"			--														
423E	EXAM	W303		W1501		W1501		W1501		F100	B101			C104		9'-4"		EXAM ROOMS- CURTAINS	D102		H106	D102		H106	D102	H106					CW101		
423F	STORAGE								ELECTRICAL CLOSET																								
424B	ELECTRICAL ROOM	W303		W303		W303		W303		F404	B107			C501		EXP.			D102		H106												
430A	WOMEN'S EMPLOYEE LOCKER	W303		W303		W303		W303		F501	B301			C104		9'-4"		NEW ACT (SANITARY)	D102		H106												
430B	WOMEN'S TOILETS	W303		W303		W303		W303		F501	B301	TOTAL GUT RENOVATION		C104		9'-3"		NEW ACT (SANITARY)	D102		H106												
430C	MEN'S TOILETS	W303		W303		W303		W303		F501	B301	TOTAL GUT RENOVATION		C104		9'-3"		NEW ACT (SANITARY)	D102		H106												
430D	STORAGE	W303		W303		W303		W303		F1001	B701			C104		9'-4"		NEW ACT (SANITARY)	D102	4"x24" LITE	H106									* D2 W/ PANIC HARDWARE			
430E	SHIPPING (OFFICE)	W303		W303		W303		W303		F1001	B701			C104		9'-4"		NEW ACT (SANITARY)	D102	4"x24" LITE	H106	D102	4X36	H106						* D2 W/ PANIC HARDWARE			
430F	TRASH/JANITOR	W303		W303		W303		W303		F1001	B701			C104		9'-3"		NEW ACT (SANITARY)	D102		H106	D102	4X32	H106						* D2 W/ PANIC HARDWARE			
430G	PASSAGE	W303		W303		W303		W303		F1001	B701			C104		9'-3"		NEW ACT (SANITARY)															
432		W304		W1501		W1501		W304		F201	B101		TB/ MB	C104		9' -4"			D102	4"x24" LITE	H106	D102	--	H106	D102	H106							
432A	STUDENTS SUPPORT	W303	W1501	W1501		W1501		W303	REPLACE VINYL WALL COVERING AT W1501	F100	B101			C201		9'-4"			D102		H106	D102		H106							* NEW TRANSITION STRIP @ D1		
432B	WORK ROOM	W303		W303		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F100	B101			C201		9'-4"			D102		H106										CW101		
432C	CONFERENCE	W1501		W303		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-4"			D102		H106												
432D	PASSAGE (CORRIDOR)	W1501		W1501		W1501			REPLACE VINYL WALL COVERING AT W1501	F100	B101			C201		9'-3"																
432E	PAT NOONAN	W1501		W1501		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D102	4"x24" LITE	H106												
432F		W1501		W1501		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D102	4"x24" LITE	H106												
432G		W1501		W1501		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D102	4"x24" LITE	H106												
432H		W1501		W1501		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D102	4"x24" LITE	H106												
432I	(ID PHOTO MAKING)	W1501		W1501		W1501		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D101	4"x24" LITE	H106												
432J	PASSAGE (CORRIDOR)	W1501		W1501		W1501	W303			F100	B101			C201		9'-3"																
432K	TOILET	W303		W303		W303		W303		F100	B101	TOTAL GUT RENOVATION		C201					D101		H106												
432L	STEPHEN GARVAIS	W303		W303		W303		W1501	REPLACE VINYL WALL COVERING AT W1501	F201	B101			C201		9'-3"			D101	4"x24" LITE	H106												
432N	STORAGE	W1501		W303		W303		W1501	REPLACE VINYL WALL COVERING AT W1501	F100	B101			C201		9'-3"			D101		H106												
433	NURSES RECEPTION	W1501		W1501		W1501		W304		F100	B101		TB/ MB	C104		9'-4"			D102	4"x24" LITE	H106	D102	4"x24" lite	H106								
433B	NURSES STATION	W1501		W1501		W1501		W1501		F100	B101			C104		9' -4"			D102	4"x24" LITE	H106	D102	4"x24" lite	H106						CW101	REVISE CASEWORK LAYOUT IN ORDER FOR COMPLIANT ACCESS TO DOORS	
433C	EXAM	W1501		W1501		W1501		W1501		F100	B101			C104		9' -4"			D102		H106										CW101		
433D	EXAM	W1501		W1501		W1501		W1501		F100	B101			C104		9' -4"			D102		H106										CW101		

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

FIRST FLOOR

PE #: 67150

REV. 11/04/16

																DOORS/ FRAMES													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
435	SERVERY	W303	W303	W303	W303		F103	B107		KEEP EXISTING TACK BOARDS	C104	12'		--	SEE PLANS													ALL KITCHEN EQUIPMENT AND COUNTERS COULD BE REUSED * (NEED TO VERIFY)
436	CAFFETERIA	W303 W405	W303 W405	W501 (STOREFR	W303	W203/W804 AT ALL COLUMNS	F103	B107			C104	12'			SEE PLANS													
441	FEMALE TOILET	W905	W905	W905	W905	REPLACE TOILET PARTITIONS	F503	B105			C303	9' -4"			D102		H106											
443A	CONFERENCE	W1501	W303	W303	W303	KEEP EXISTING MARKER BOARD	F201	B101			C104	9' -4"			D102	4"x24" LITE	H106	D102		H106	D102		H106					
443C	WORK ROOM	W1501	W1501	W1501	W1501		F100	B101			C104	9' -4"			D102		H106	D102		H106								CW101	
443D	STORAGE	W303	W1501	W1501	W1501		F100	B101			C104	9'-4"																	
443E	UNISEX TOILET	W303	W303	W303	W303		F100	B101			C303	9' -4"			D102		H106												
443F	CUSTODIAL	W303	W303	W303	W303		F100	B101			C501	EXP.			D102		H106												
444A	MENS FACULTY TOILET	W303	W303	W303	W303	REPLACE TOILET PARTITION	F405	B101	TOTAL GUT RENOVATION		C303	8' -11 1/2"			D102		H106												
444B	SPECIAL NEEDS TOILET	W303	W303	W303	W303	HAS LIFT FOR PERSON IN WHEELCHAIR	F405	B101	REVISE ENTRY DOOR TO BE COMPLIANT		C303	8' -11 1/2"			D102		H106												
450A	KITCHEN (DIRECTLY TO D1)	W303 FREEZER PANELS	W303	W303	W303		F501	B107		* REPLACE TB	C104	11'-10"		NEW ACT (SANITARY)	D102	PAIR 3', 4"x12" LITE	H106	D102	FRP, 6X32	H104									
450B	CISCO FREEZER RM	W303 FREEZER PANELS	W303	W303	W303		* REMOVE	* REMOVE VINYL BASE, INSTALL EPOXY BASE			C104	12'-0"		NEW ACT (SANITARY)	D102	4"x24" LITE	H106												
450E	DRY STORAGE	W303	W303	W303	W303		F101	B101			C104	11'-6"		NEW ACT (SANITARY)	D102	18"x22" LOUVER	H106												
450F	COMPRESSOR RM	W303	W303	W303	W303		F404	N/A			C104	17'-8"			D102		H106												
450G	KITCH. MANGR OFFICE	W303	W303	W303	W303		F1001	CLEAN			C104	11'-10"		NEW ACT (SANITARY)	D102		H106												
452A	ATHLETIC RECEPTION	VINYL	VINYL	W303	W303		F201	B107			C104	9'-4"			D202	PAIR 3'	H106												
452B	BURSAR'S OFFICE	W303	W203	W203	W303		F201	B107			C104	9'-4"			D102	4"x48"LITE	H106												
452C	ATHLETIC DIRECTOR	W203	W309	W309	W203		F201	B107			C104	12'-0"																	
452D	CONFERENCE	VINYL	VINYL	W309	W203		F201	B107			C104	12'-0"			D202		H106										* D1 (6'8")		
452E	ELECTRICAL	W309	W309	W309	W309		F404	N/A			EXP.	13'-2" TO DECK																	
453	POLICE DEPARTMENT	W303	W203	W203	W303	* W3 @ PLUMB CHASE	F103	B107		* REPLACE WB	C104	12'-0"			D102	4"x12" LITE	H106												
453A	(POLICE) SECURITY RM	W303	W203	W203	W203	* WOOD CHAIR RAIL @ W4	F103	B107			C104	12'-0"			D202		H106												
453B	WM STAFF TOILET	W905	W905	W905	W905		F503	B105	REPLACE THRESHOLD/ REGROUT		C201	9'-3"			D102		H106												
453C	(POLICE) SECURITY RM	W303	W203	W203	W303	* 6'-8"H OPENING @ W2	F103	B107			C104	12'-0"			D202	PAIR 3'	H106												
454	LOBBY																												
4C1	CORRIDOR						F103	B107																					
4C2	CORRIDOR	W303	W303	W201 W404		PORTION OF W3 IS A MURAL WALL	F103	B107			C104	9' -4"			D101	PAIR 3'	H106												
4C3	CORRIDOR	W303	W303	W303		KEEP EXISITING CLASS PHOTOS AND FRAMES	F103	B107			C104	12'			D101	PAIR 3'	H106											--	
4C4	CORRIDOR						F103	B107																				--	
4C5	CORRIDOR	W303 W404	W303	W303			F103	B107			C104	9' -4"			D101	PAIR 3'	H106											--	
	STUDENT ACTIVITY (IN CAFETERIA)	W209 W303	W209 W303	W209 W303	W209 W604		F201	B107			C104	11' 9"			D202		H106	D102		H106								CW101	FLOOR TO CEILING WALL WOOD STORAGE SHELVING
		W405	W405	W405					REPAINT STAIR STRINGERS/ REPLACE ALL ABRASIVE NOSINGS																				
4S3	STAIR #3				W405		F501				C104	VARIES																	
4S4	STAIR #4	W405	W303	W303	W303		F501		REPAINT STAIR STRINGERS/ REPLACE ALL ABRASIVE NOSINGS		C104	VARIES			D101	4' DOOR, 4"x42" LITE	H106	D101	3'-8"	H106									
4S5	STAIR #5					SEE GENERAL NOTES					C104	9'-4"			D101	4"x12" LITE	106												
4S6	STAIR #6					SEE GENERAL NOTES					C104	12'-0"			D101	PAIR 3',1/2 LITE DOOR	H106	D101	EXTERIOR	H106									
4S7	STAIR #7					SEE GENERAL NOTES					C104	12'-0"			D101	PAIR 3',1/2 LITE DOOR	H106	D101	EXTERIOR	H106									

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

SECOND FLOOR

PE #: 67150

REV. 11/04/16

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LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

SECOND FLOOR

PE #: 67150

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LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

THIRD FLOOR

PE #: 67150

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Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	VISUAL DISPLAY WB/TB	Ceiling	Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	DOORS/ FRAMES D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102	4X36	H104											
610A	DIGITAL MEDIA STUDIO	W203/W804	W203/W804	W303 VINYL ON	W203/W804		F103	B107			C104	9'-4"		WINDOW SHADES													CW101	REPLACEMENT OF CASEWORK DETERMINED BY ROOM PLANNING (ROOM GENERALLY IS HCA)
														WINDOW SHADE ARE TRANSLUCENT. GLASS	D	4X36	H104											
610B	COLEEN CREEGAN MEDIA STUDIO	W203/W804	W303	W303 W203/W8	W203/W8 WB		F201	B107			C104	9'-3"		WALL PARTITION @ SLOPE													CW101	REPLACEMENT OF CASEWORK DETERMINED BY ROOM PLANNING (ROOM GENERALLY IS HCA)
												9'-4, 12'-4"@SLOPE		WINDOW SASH NEEDS REPLACEMENT. 4"														
610C	STORAGE	W203	W303	W405	W203		F201	B107			C104	PEAK		VINYL BASE	D102		H104											
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104	D104, D20	4X12	H101	D104, D2C	PAIR 3'		D104, D208		H104			
612	CLASSROOM -	W303	W303 W203	W1501	W1501 W303		F103	B107		SEE GENERAL NOTES	C104	9'-4 1/2"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104	D104, D208		H101								
613	CLASSROOM - MS. VERZONE	W1501	W303 W201	W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'-4"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104	D104, D208		H101								
614	CLASSROOM	W1501	W303 W203	W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'-4 1/2"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104	D104, D208		H101								
615	CLASSROOM - MR DESCHENEAUX	W1501	W303 W201	W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'-3 1/2"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104											
616	CLASSROOM - MS COSTELLLO	W1501	W303 W201	W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 4"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102		H104	D104, D208		H101								
617	CLASSROOM - MR SELVAGGIO	W1501	W303 W203	W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 4"		WINDOW SHADES													CW101	
														PROVIDE SCREENS AT OPPERABLE; REPLACE	D102	4X12	H104	D104, D2C	PAIR 3'	H104								
618	CLASSROOM - MR MELLONAKAS	W1501	W303 W203	W303	W303 W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 3 1/2"		WINDOW SHADES													CW101	
620	CLASSROOM	W303	W203/W804	W203	W203/W804		F103	B107		SEE GENERAL NOTES	C104	9'-0"			D102	4X42	H104										CW101	
622C	CLASSROOM - MS WHALLEN	W1501	W203 W804	W303	W303 W1501		F103	B107		SEE GENERAL NOTES	C104	9'-1"			D102	4X12	H104	D104, D20	4X12	H101								
623	CLASSROOM	W203 W804	W203 W804	W203 W804	W203 W804		F103	B107		SEE GENERAL NOTES	C104	9'-2"			D102		H104	D104, D20	4X48	H104								
624	CLASSROOM - MR PLOURDE	W203 W804	W203 W804	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9'-1"			D102		H104	D104, D208		H101	D104, D20	4X48					---	
625	CLASSROOM - CHEMISTRY	W203 W804	W203/W8 W303	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9'-0"			D102		H104	D104, D20	4X36								CW101	
626	CLASSROOM	W1501 W303	W303 W203/W8	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9' - 0"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X24	H101	D104, D20	4X48	H104				CW101	
626B	ANATOMY SHARED LAB	W203 W303	W203	W203	W203		F103	B107		SEE GENERAL NOTES	C104	8' - 11"															CW101*	REPLACE BENCHTOP FUMEHOOD/ REPLACEMENT OF CASEWORK DETERMINED BY ROOM PLANNING
																	H106											SOME BASE @ D1 NEEDS TO BE REATTACHED
628	CLASSROOM	W203 W804	W203 W804	W303	W303		F103	B107		SEE GENERAL NOTES	C104	9' - 4 1/2"		WAINSCOTT 36 1/2"	D101		H107										CW101	
																	H106											LOW WALL AT COMPUTER TABLES FOR UTILITIY SERVICE
629	CLASSROOM	W303	W303	W203 W804	W203 W804		F103	B107		SEE GENERAL NOTES	C104	9' - 4 1/2"		WAINSCOTT 36 1/2"	D101		H107	D102			D102						CW101	
630	CLASSROOM	W203/W804	W303 W203	W203/W804	W203/W804		F103	B107		SEE GENERAL NOTES	C104	9'-0"			D102	4X42	H104										CW101	
640	D-HOUSE (RECEPTION)	W203	W203	W303	W203		F103	B107			C104	8'-11"			D102	4X42	H104											
640A	OFF. LGBT SAFE SPACE	W203	W203	W203	W203		F103	B107			C104	9'-0"			D102	4X42	H104											
640B	MS.QUINTON'S OFFICE	W203	W203	W303	W203		F103	B107			C104	9'-0"			D102		H104											
640C	(SOCIAL WORKER) HOSMER'S OFFICE	W203	W203	W203	W203		F103	B107			C104	9'-0"			D102		H104											
640D	(HOUSE MASTER) O'KEEFE'S OFFICE	W203	W203	W303	W203		F103	B107			C104	9'-0"			D202		H101											
441	FEMALE TOILET	W905	W905	W905	W905		F503	B105			C303	9' -4"			D102		H106											
642	CLASSROOM	W303	W203 W804	W203 W804	W303 W1501		F103	B107		SEE GENERAL NOTES	C104	9' - 0"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X12	H101							---	
643	CLASSROOM - MS GONZALEZ	W203 W804	W203 W804	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 1 1/2"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X42	H104	D104, D208		H104				CW101	
644	CLASSROOM - MRS STEINBERG	W203 W804	W203 W804	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 1 1/2"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X42	H104	D104, D208		H104				---	
645	CLASSROOM - MS EDDY	W203 W804	W203/W8 W303	W203 W804	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 1 1/2"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X42	H104							---	
646A	CLASSROOM - SPENCER	W203 W804	W203/W8 W303	W303 W1501	W1501		F103	B107		SEE GENERAL NOTES	C104	9'- 1 1/2"		WAINSCOTT 36 1/2"	D102		H104	D104, D20	4X42	H104	D104, D20	4X24	H104				---	
646B	ELECTRICAL ROOM	W303	W203	W303	W303		F100	--			C501	EXPOSED																
																	H106											SOME BASE @ D1 NEEDS TO BE REATTACHED
648	CLASSROOM - MR TAYLOR	W303	W303	W203 W804	W203 W804		F103	B107		SEE GENERAL NOTES	C104	9' - 4 1/2"		WAINSCOTT 36 1/2"	D101		H107	D102			D102						CW101	
																	H106											SOME BASE @ D1 NEEDS TO BE REATTACHED
649	CLASSROOM - COMP LAB	W203 W804	W203 W804	W303	W303		F103	B107		SEE GENERAL NOTES	C104	9' - 4 1/2"		WAINSCOTT 36 1/2"	D101		H107										CW101	
650	PLANT ROOM	W405	W506	W405	W506		F103	B107			C104	9'-4"			D102		H104	D104, D208		H101								HARDWARE MISSING
														WIREGLASS @ ENTRY DOOR, PANIC HARDWARE IS														
651	CCMC TV STUDIO RECEPT	W108	W108	W108	W108		F202	B107			C104	8'-11"		FUNCTIONAL	D208	PAIR 3'												
651B	MEDIA PRODUCER'S OFF.	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											
														THERMOSTAT IS														
651C	COORDINATOR'S OFF.	W203	W203	W203	W203		F202	B107			C104	9'-0"		MISSING	D102	TYP. FULL LITE	H104											
651D	PRODUCER/SCHEDULER'S OFF.	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											
651E	PASSAGE (CORRIDOR)	W108	W108	W108	W108		F202	B107			C104	9'-0"																CW IN CORRIDOR TO REMAIN
														METAL PART. STRG. EQUIP. CAGE. SUSPENDED EQUIP.	D102	PAIR 3'	H104	D104, D20	PAIR 3'	H104							
651F	STUDIO	W203	W203	W203	W203	SHEET VINYL FLR W/ EGGCRATE	F103	B107			EXP	19'-11" TO DECK		GRID														ACOUST. CEILING BAFFLE AT THE DECK HORIZ & VERTICAL
651G	WEB RADIO ROOM	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102		H104											
651H	CONTROL ROOM	W203	W303 W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104	D104, D208		H104								ACOUST. FRM & HARDWARE
651I	TOILET	W905	W108	W108	W108		F504	B105			C201	9'-2"			D102		H104										CW101	CW IS RETROFITTED, CAN BE REMOVED
651J	MUSEUM	W108	W108	W108	W108		F202	B107			C104	9'-0"																
651K	EQUIPMENT SIGN-OUT	W303 W203/W1	W203	W203	W203		F202	B107			C104	9'-1"			D102	PAIR 3'	H104											
651L	PASSAGE (CORRIDOR)	W203/W108	W203/W108				F202	B107			C104	9'-0"																
651M	COPPOLA EDIT ROOM	W203	W203	W203	W203		F201	B101			C104	9'-0"			D102	4X42	H104											
651N	SPIELBERG EDIT ROOM	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											
651O	ENGINEERING ROOM	W203	W303 W203/W1	W203	W203		F201	B101			C104	9'-3"			D102	4X42	H104											
651P	CONF. & SCREEN ROOM	W303	W303 W203/W1	W203	W203		F202	B107		SEE GENERAL NOTES	C104	9'-0"			D102	PAIR 3'	H104											
651Q	WELLES EDIT ROOM	W203	W303	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											
651R	ELECTRICAL ROOM	W303	W203	W203	W203		F103	B107			EXP	13'-10" TO DECK			D102		H104											
651S	HITCHCOCK EDIT ROOM	W203	W203	W203	W203		F202	B101			C104	9'-0"			D102	4X42	H104											
651T	LEE EDIT ROOM	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											
651U	BIGELOW EDIT ROOM	W203	W203	W203	W203		F202	B107		SEE GENERAL NOTES	C104	9'-0"			D102	4X42	H104											
														ADD CORNER GUARD TO OUTSIDE CORNER														
651V	PASSAGE (CORRIDOR)	W203/W108	W203/W108				F202	B107			C104	9'-0"																
651W	JAMES WAN EDIT ROOM	W203	W203	W203	W203		F202	B107			C104	9'-0"			D102	4X42	H104											

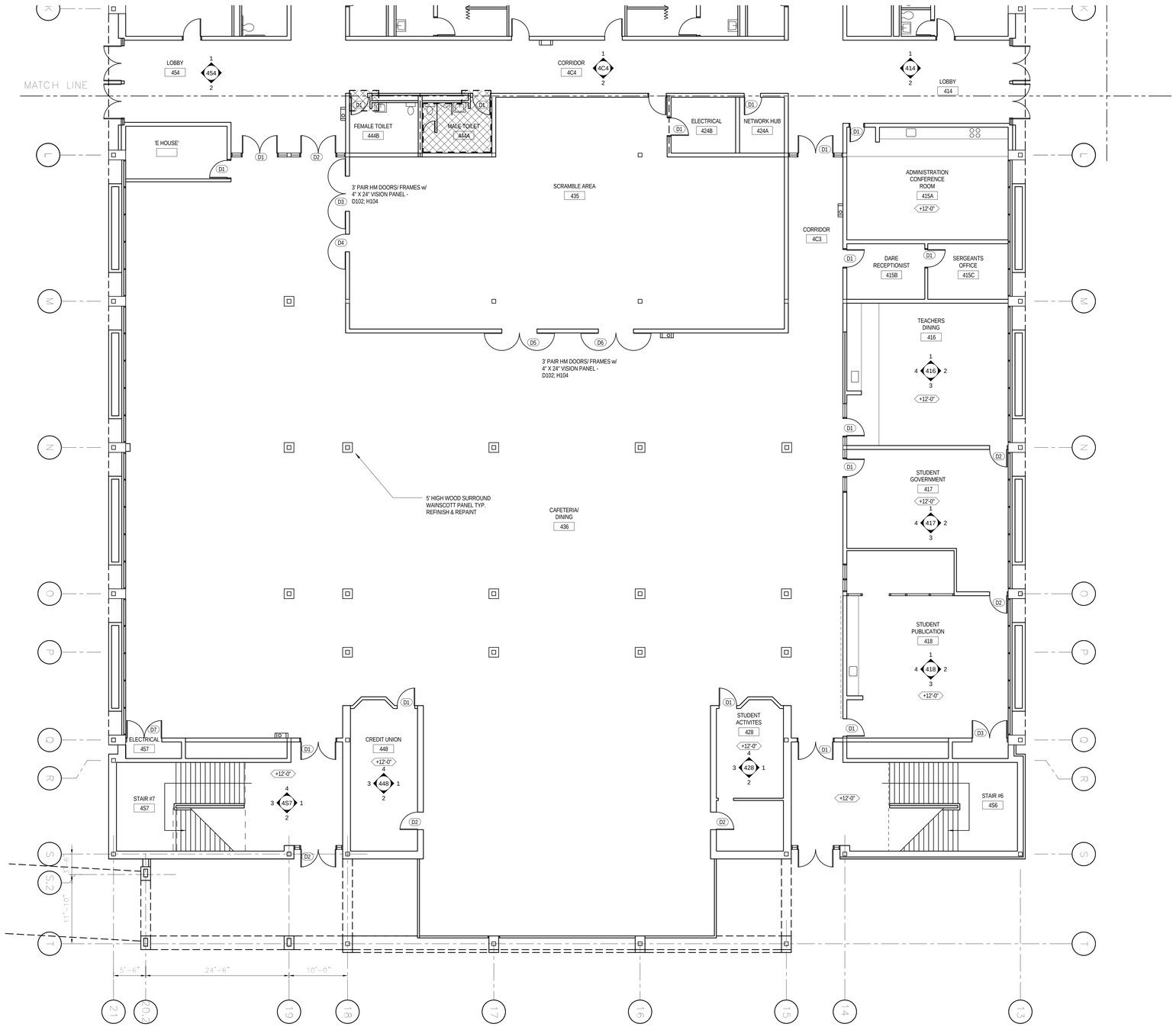
LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- LORD

THIRD FLOOR

PE #: 67150

REV. 11/04/16

| | | | | | | | | | | | | | | | DOORS/ FRAMES | | | | | | | | | | | | | | |



1 FIRST FLOOR PLAN - LORD NORTH

1/8" = 1'-0"

C:\REVIT LOCAL\LHS - Fieldhouse_p.jones.rvt
11/7/2016 11:59:02 AM

NO.	DATE

SEAL

KEY PLAN

Perkins Eastman

50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Deisgn Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

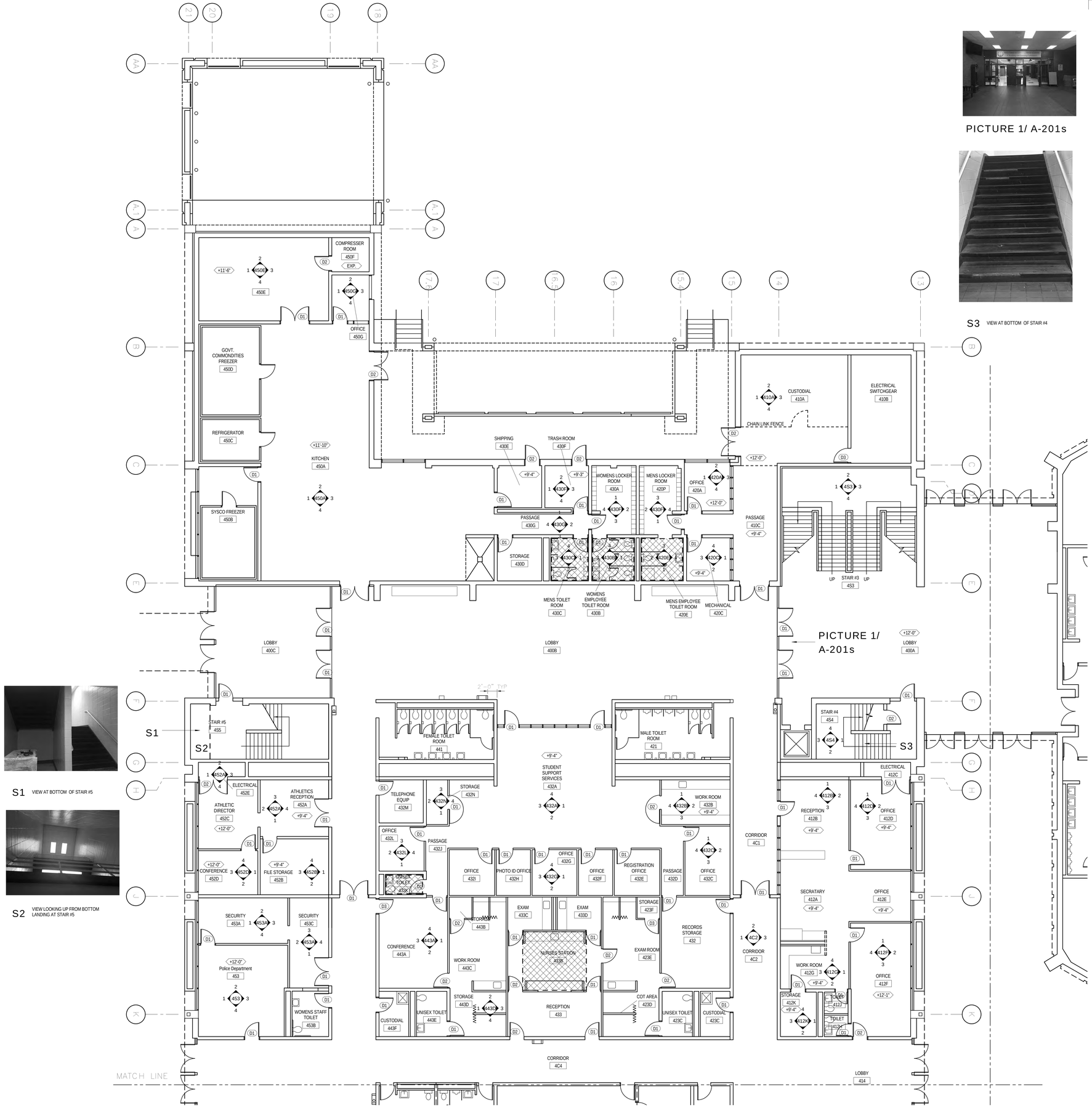
LHS - FIRST FLOOR LORD NORTH

SCALE: 1/8" = 1'-0"

A-201n

Project Status

Project Issue Date



1 FIRST FLOOR PLAN - LORD SOUTH

1/8" = 1'-0"

PICTURE 1/ A-201s

S3 VIEW AT BOTTOM OF STAIR #4

S1 VIEW AT BOTTOM OF STAIR #5

S2 VIEW LOOKING UP FROM BOTTOM LANDING AT STAIR #5

PICTURE 1/ A-201s

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11/7/2016 11:59:09 AM

NO. DATE

SEAL

KEY PLAN

Perkins Eastman

50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
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F. 617.449.4049

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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

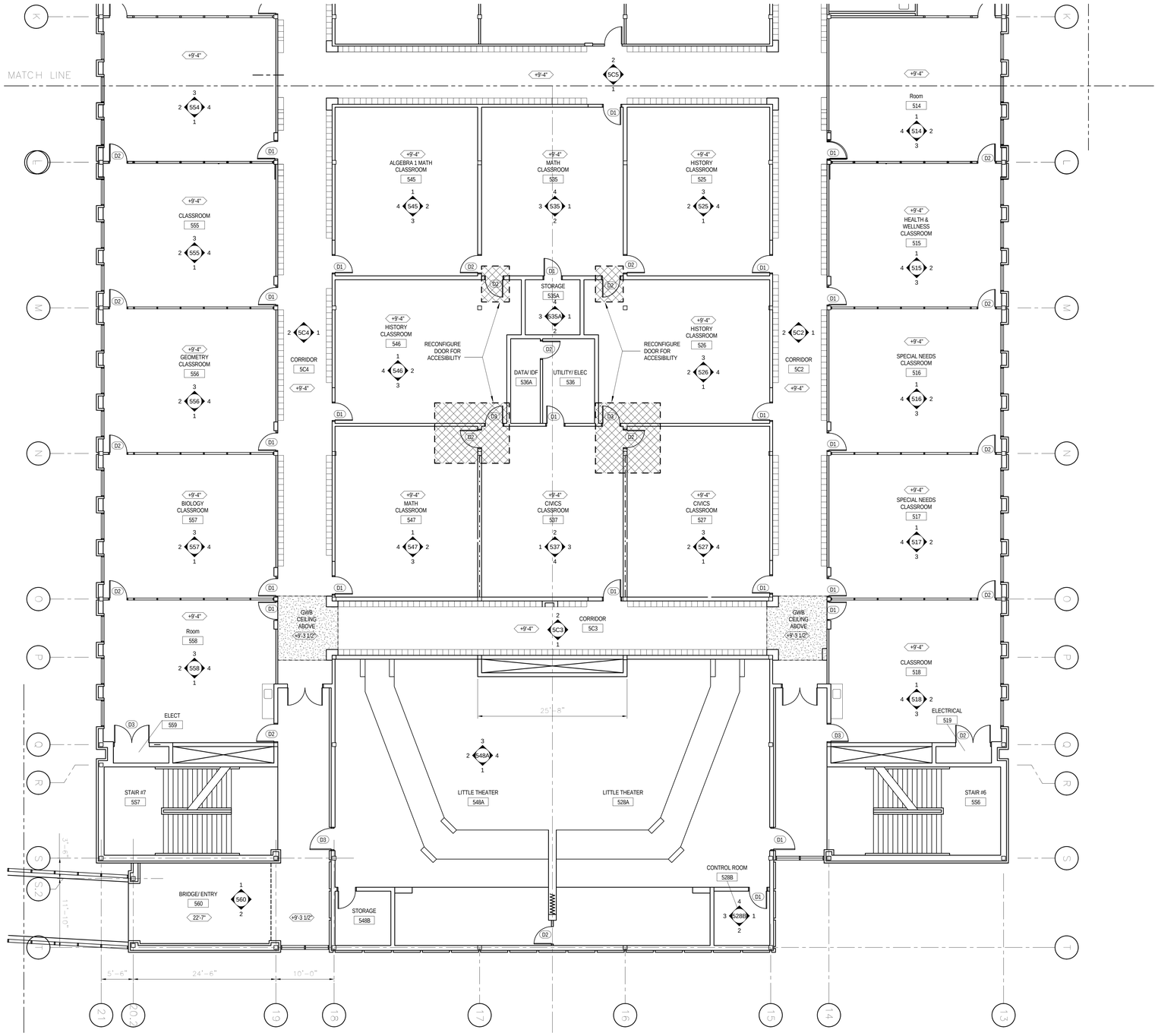
LHS - FIRST FLOOR LORD SOUTH

SCALE: 1/8" = 1'-0"

A-201s

Project Status

Project Issue Date



1 SECOND FLOOR PLAN - LORD NORTH

1/8" = 1'-0"

C:\REVIT LOCAL\LHS - Fieldhouse_p.jones.rvt
11/7/2016 11:59:14 AM

NO.	DATE

0' 4' 8' 16' 24'

SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman

50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
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Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

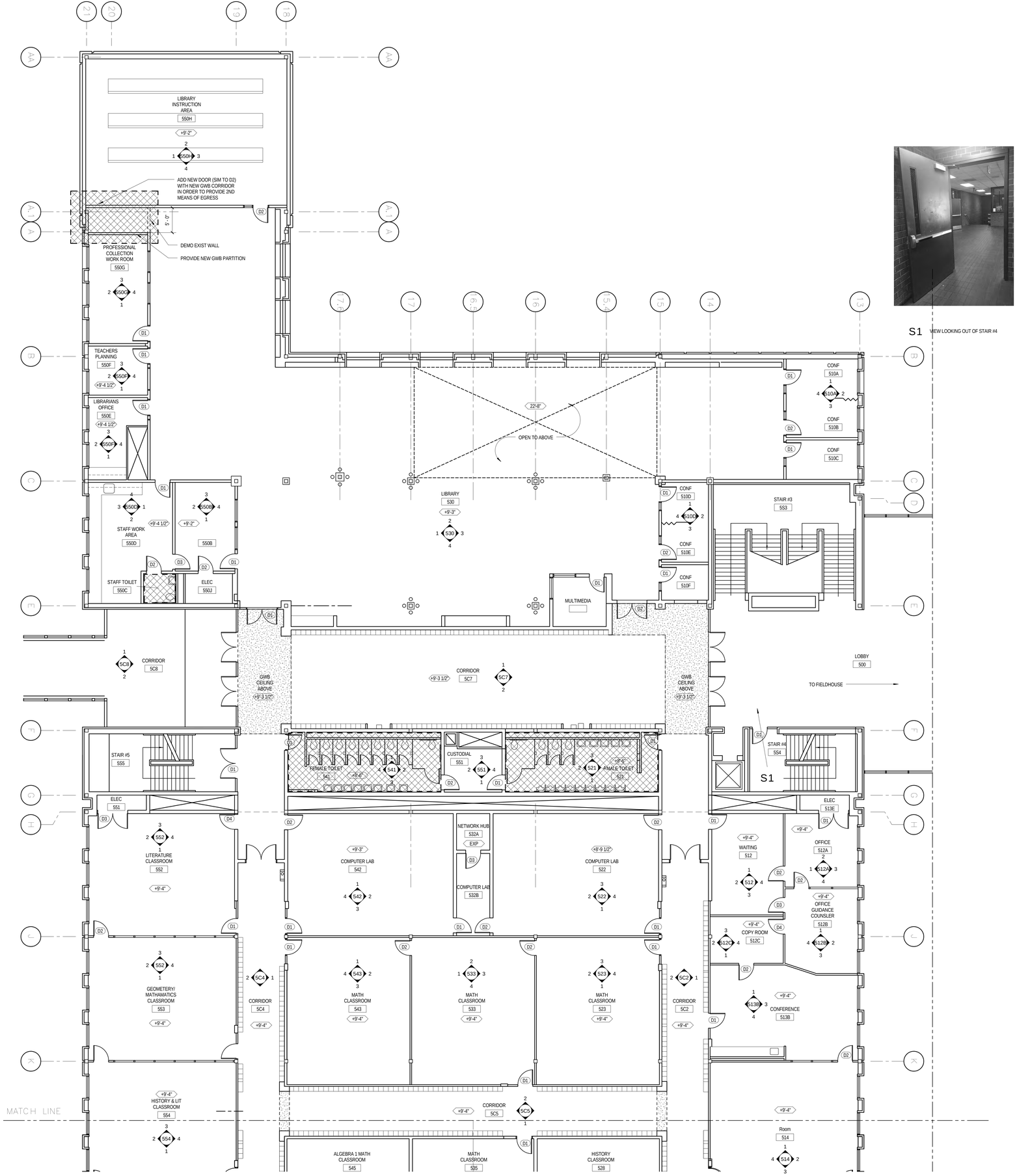
LHS - SECOND FLOOR LORD NORTH

SCALE: 1/8" = 1'-0"

A-202n

Project Status

Project Issue Date



S1 VIEW LOOKING OUT OF STAIR #4

1 SECOND FLOOR PLAN - LORD SOUTH

C:\REVIT LOCAL\LHS - Fieldhouse_pjones.rvt
11/7/2016 11:59:21 AM

NO.	DATE

0' 4' 8' 16' 24'

SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Deisgn Group
150 Chestnut St., Providence, RI 02903

Structural:
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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
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370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
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161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

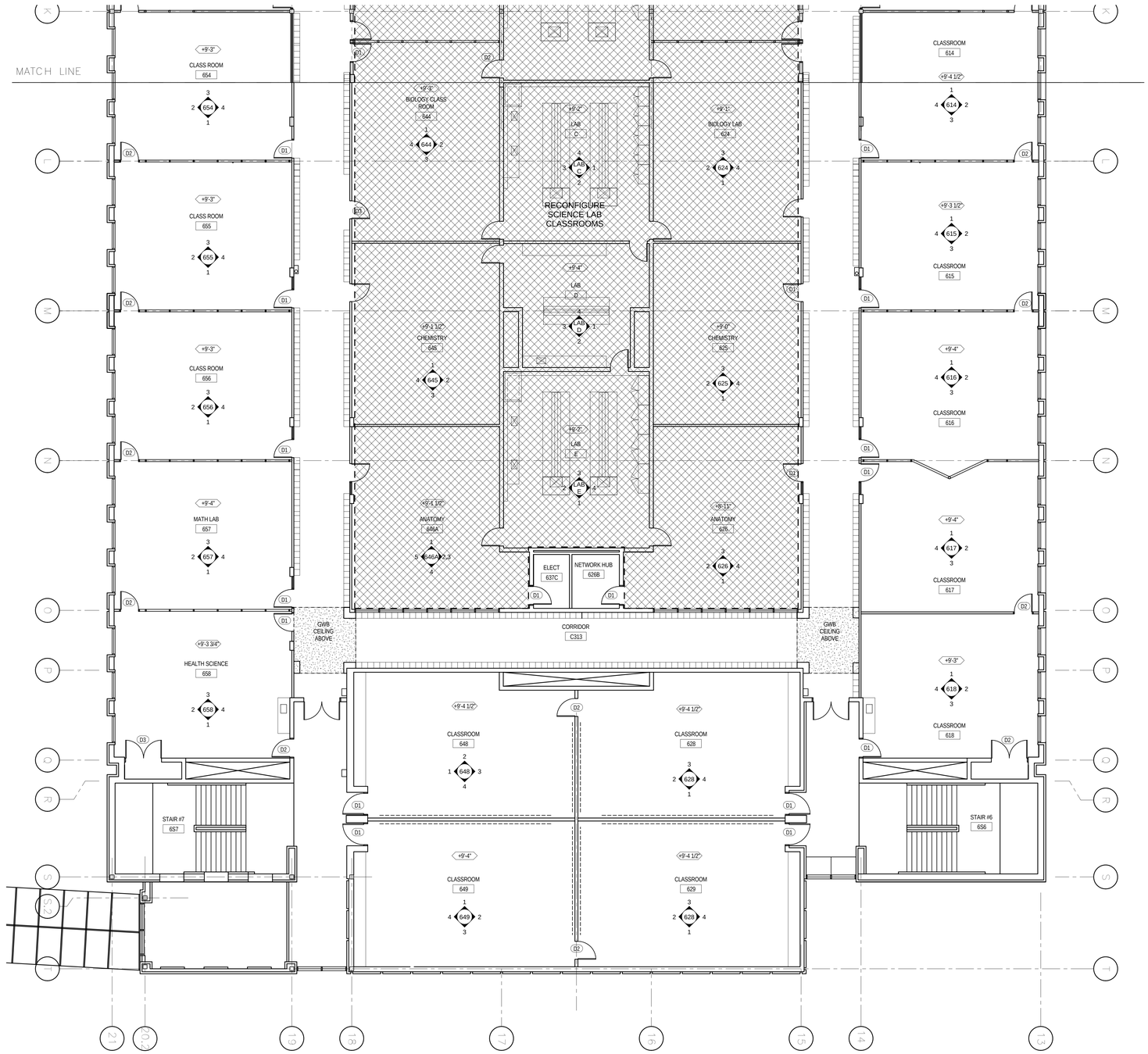
LHS - SECOND FLOOR LORD SOUTH

SCALE: 1/8" = 1'-0"

A-202s

Project Status

Project Issue Date



1 THIRD FLOOR PLAN - LORD NORTH

1/8" = 1'-0"

C:\REVIT LOCAL\LHS - Fieldhouse_pjones.rvt
11/7/2016 11:59:26 AM

NO. DATE

0' 4' 8' 16' 24'

SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman

50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
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2 Center Plaza, Boston, MA 02108

Landscape:
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150 Chestnut St., Providence, RI 02903

Structural:
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Mechanical & Plumbing:
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Electrical:
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370 Faunce Corner Road, N. Dartmouth, MA 02747

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Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

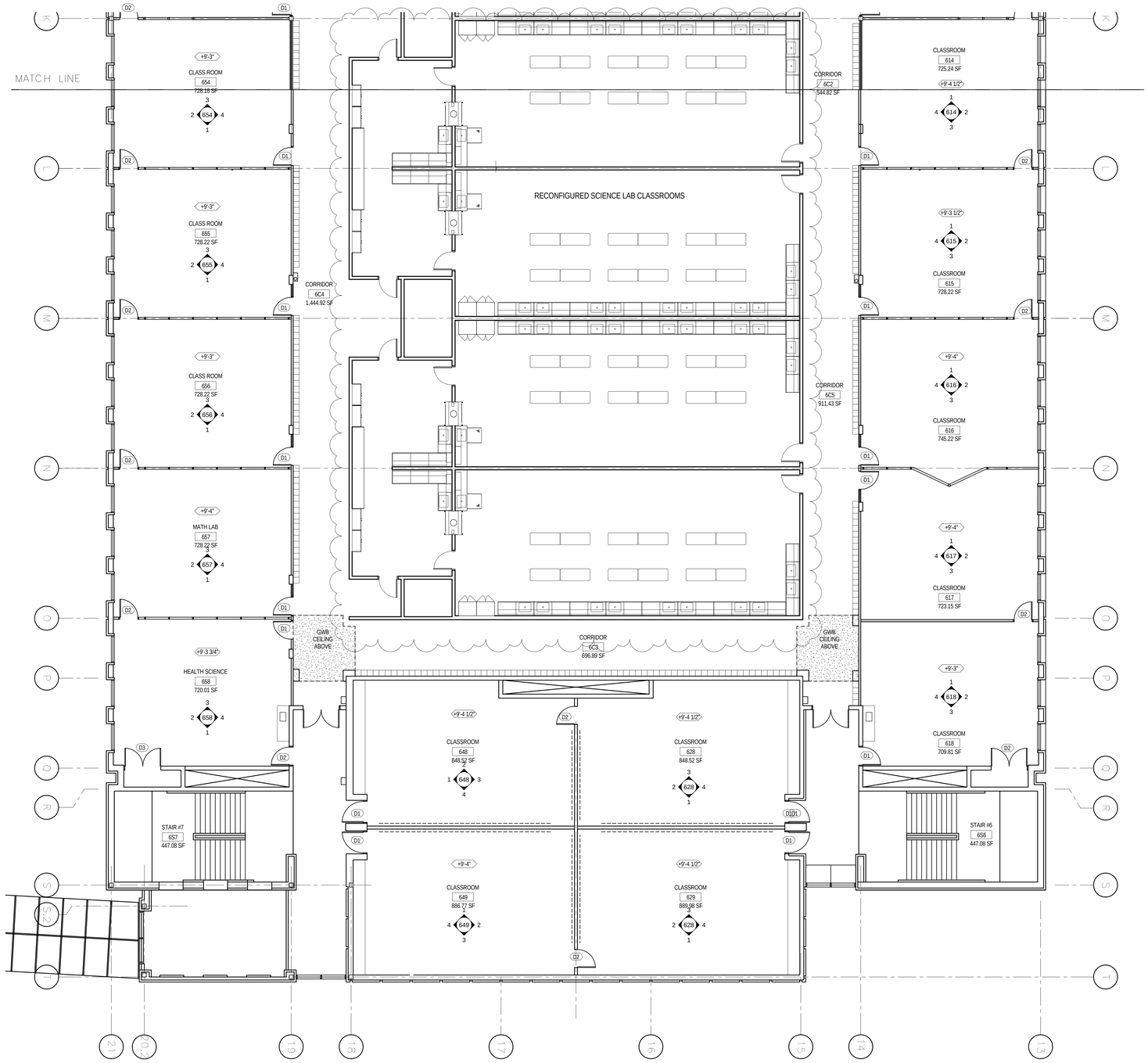
LHS - THIRD FLOOR LORD NORTH

SCALE: 1/8" = 1'-0"

A-203n

Project Status

Project Issue Date



1 THIRD FLOOR PLAN - LORD NORTH - LAB FITOUT
1/8" = 1'-0"

C:\REVIT LOCAL\LHS - Fieldhouse_pjones.rvt
2/13/2017 1:59:37 PM

NO.	DATE	
1	Date 5	Revision 5

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Deisgn Group
150 Chestnut St., Providence, RI 02903

Structural:
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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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529 Main Sreet, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

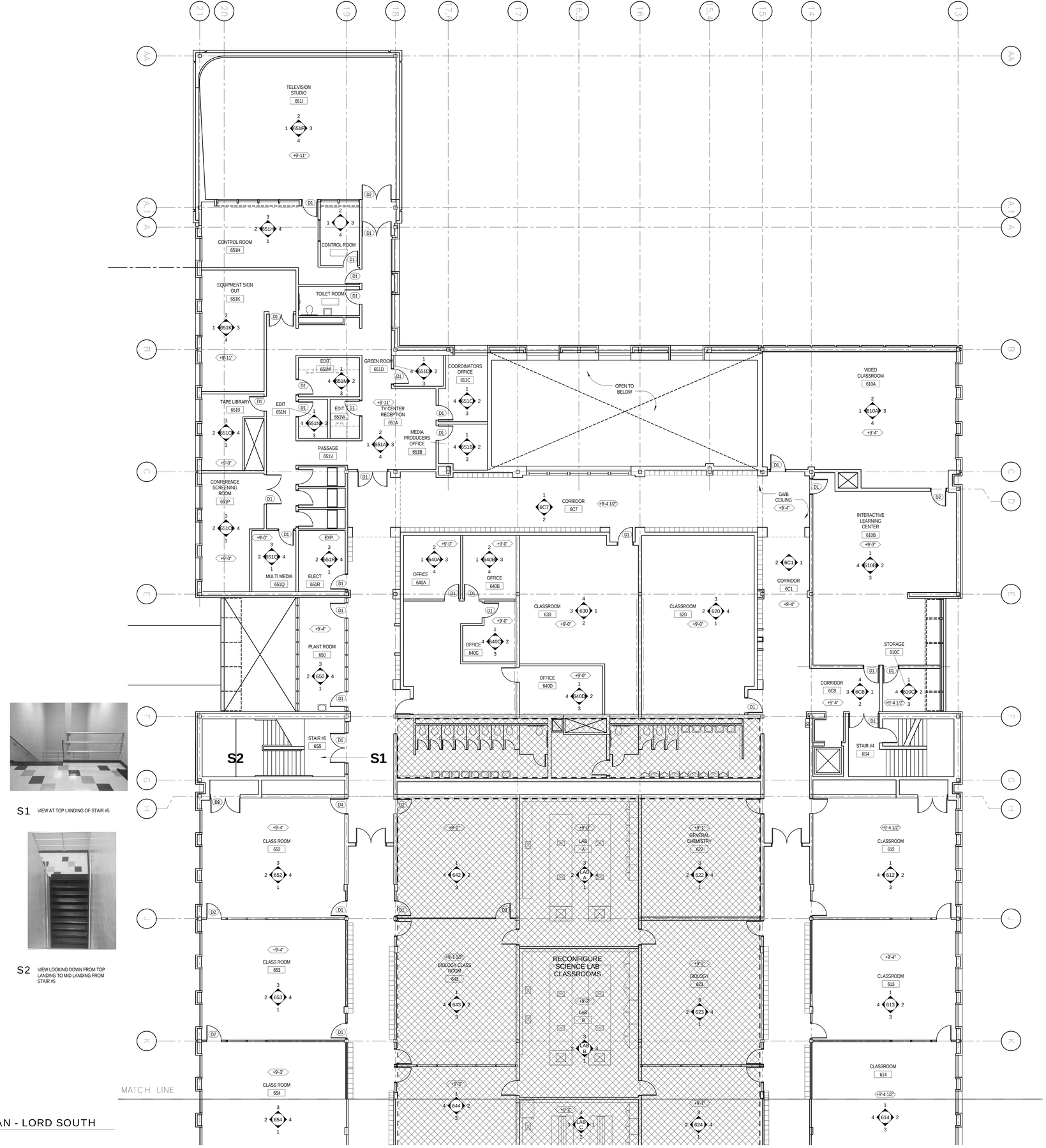
THIRD FLOOR LORD - NORTH - LAB FITOUT

SCALE: 1/8" = 1'-0"

A-203nL

Project Status

Project Issue Date



S1 VIEW AT TOP LANDING OF STAIR #5

S2 VIEW LOOKING DOWN FROM TOP LANDING TO MID LANDING FROM STAIR #5

1 THIRD FLOOR PLAN - LORD SOUTH
1/8" = 1'-0"

C:\REVIT LOCAL\LHS - Fieldhouse_pjones.rvt
11/7/2016 11:59:33 AM

NO.	DATE

0' 4' 8' 16' 24'
SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
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101 Seaport Boulevard, Boston, MA 02210

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2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

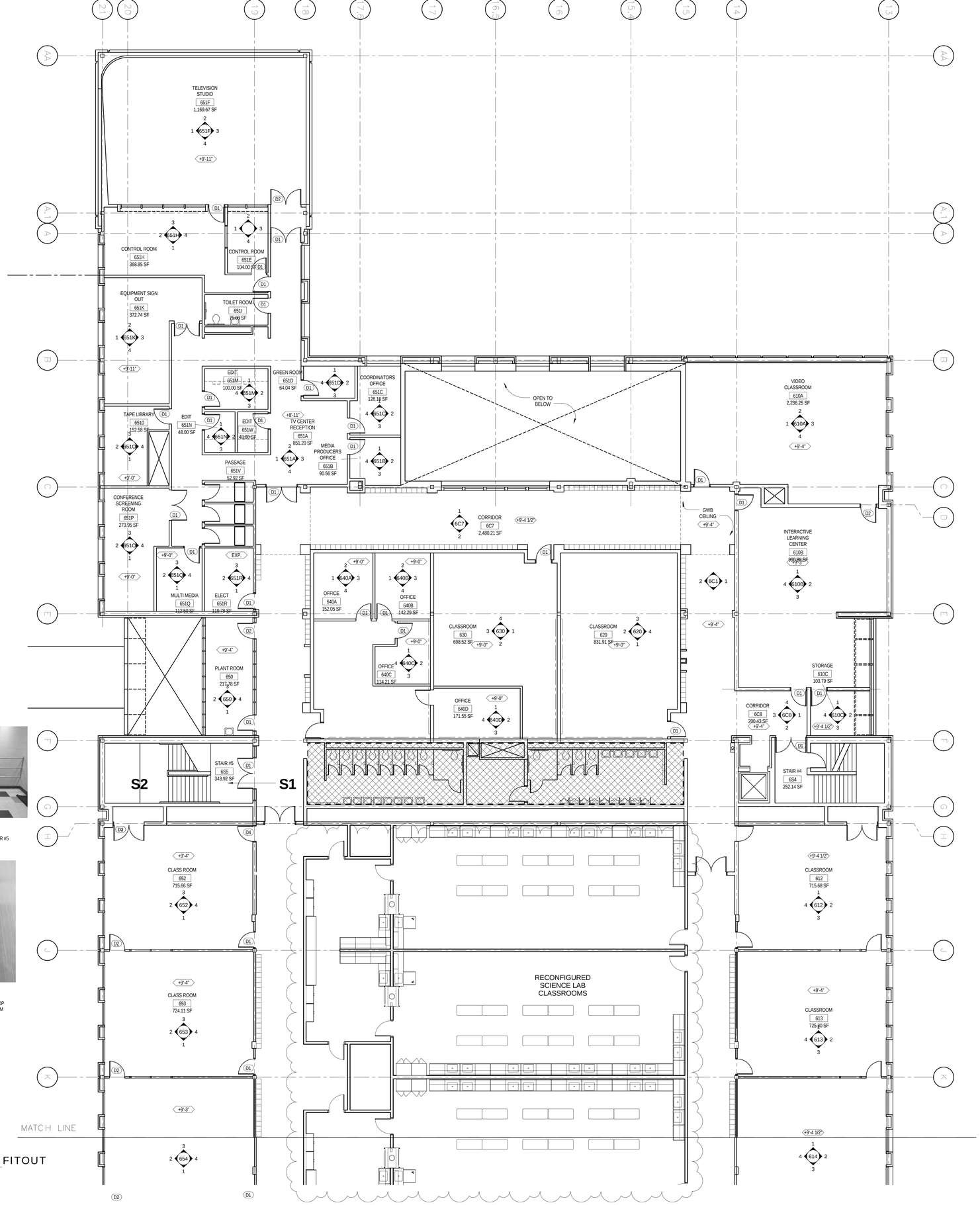
LHS - THIRD FLOOR LORD SOUTH

SCALE: 1/8" = 1'-0"

A-203s

Project Status

Project Issue Date





S1 VIEW AT TOP LANDING OF STAIR #5



S2 VIEW LOOKING DOWN FROM TOP LANDING TO MID LANDING FROM STAIR #5

1 THIRD FLOOR PLAN - LORD SOUTH - LAB FITOUT
1/8" = 1'-0"

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2/13/2017 1:39:43 PM

NO.	DATE	
1	Date 5	Revision 5

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T. 617.449.4000
F. 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

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Birchwood Deisgn Group
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

THIRD FLOOR LORD - SOUTH - LAB FITOUT

SCALE: 1/8" = 1'-0"

A-203sL

Project Status

Project Issue Date

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- FIELD HOUSE

FIRST FLOOR

PE #: 67150

REV. 11/01/16

																DOORS/ FRAMES													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	L DISPLAY WB/T	Ceiling	Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
A-101	LOBBY	W405	W405	W405	W405		F503	B302	10% OF BASE REPAIR		C104	12'-0"		SEE EXTERIOR ELEVATIONS													SEE PLANS		REMOVE EXST PHONE BANK/ DISPLAY - REPLACE WITH NEW DISPLAY CASE - SEE PLAN FOR EXTENT.
A102	WOMEN'S TOILET	W303	W303	W303	W303		F503	B302	5% OF BASE REPAIR		C201	9'-3"			D104, D208		H106												
A103	WOMEN'S OFFICIAL LOCKER ROOM	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	9'-3"			D104, D208		H106												
A-104	CORRIDOR	W303	W303	W303	W303	1:12 RAMP, KEEP EXISTING RAILING	F503/F106	B302	10% OF BASE REPAIR		C104	VARIES			D102	4"x12" LITE, 3'-8" DOOR	H106	D101	3'-PAIR	H106									
A-106	ELECTRICAL (IN WEIGHT ROOM A-113)	W310	W310	W310	W310		F406	--			C104	EXP			D104, D208		H106												
A-107	GIRLS VARSITY LOCKER - SHOWER	W303	W303	W303	W303		F503	B302	REVISE SHOWER TO INCLUDE INDIVIDUAL STALLS, NEED NEW ADA COMPLIANT THRESHOLD		C210	10'-7"			NO DOOR														
A-108	MECHANICAL	W310	W310	W310	W310		F406	--			EXP.				D101	PAIR 3'-8 DR	H106	D101	24" DOOR	H106									
A-109	GIRLS VARSITY LOCKER - MAIN	W303	W303	W303	W303		F407	B101			C201	10'-7"			D101	3'-8"	H106	D101		H106									
A-109T	GIRLS VARSITY LOCKER - TOILET	W303	W303	W303	W303		F407	B101	REVISE TOILETS TO ALLOW FOR ADA STALL		C201	10'-7"																	
A-110	GIRLS VARSITY LOCKER - OFFICE	W303	W303	W303	W303		F407	B101		NEW TB	C201	10'-7"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106												
A-111	STORAGE	W303	W303	W303	W303		F407	B101			C201	10'-7"			D101		H106												
A-113	WEIGHT ROOM	W303	W303	W303	W303		F407	B101	PROVIDE 3'X3' RUBBER TILE WEIGHTROOM FLOOR	NEW TB, WD	C201	11'-8"			D104, D208	PAIR 3', 4X24 LITE	H106	D104, D208	3'-8" DR, 4X24 LITE	H106	D104, D208	3'-8" DR, 4X24 LITE	H106	D104, D208		H106			
A-119A	GIRLS LOCKERS - STAFF TOILET	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101		H106												
A-115	CUSTODIAL	W303	W303	W303	W303	REPLACE WALL MOP SINK	F501	B301			C101	10'-8"			D101		H106												
A-117	GIRLS LOCKER ROOM	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101	3'-6"; HALF GLASS - CARD READER	H106	D101		H106	D101		H106						
A-118	GIRLS LOCKER - TOWELS	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101		H106												
A-119	GIRLS LOCKER - OFFCE	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION	NEW TB	C104	10'-8"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106												
A-120	GIRLS TOILETS (LOCKER)	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	10'-8"																	
A-122	POOL STORAGE	W303	W303	W303	W303		F503	B302			C101	10'			D102	PAIR 3'-0" DR	H106												
A-141	POOL STORAGE	W303	W303	W303	W303		F503	B302			C101	10'			D102	PAIR 3'-0" DR	H106												
A-124	TOILET	W303	W303	W303	W303		F501	B101	TOTAL GUT RENOVATION		C201	10'-8"			D101		H106												
A-125	GIRLS FIRST AID/ATHLETIC TRAINING	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106											CW101	
A-126	EQUIPMENT	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101		H106												
A-131	STAIR #1 (FIRST FLOOR)	W303	W303	W303	W303	CLEAN AT BRICK PIERS	F407	B101	PROVIDE RUBBER DISK FLOORING@ ALL TREADS, RISERS, AND LANDINGS		C101	13' 11 5/8"	EXTERIOR STORFRONT - SEE ELEVATIONS	EVIDENCE OF LEAKING AT PERIMETER	D101	3'-8" DOOR; 4x24" LITE	H106	D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READER	H106	D101	3'-8" DOOR	H106					
A-132	POOL	W303	W303	W303	WD103 W303	REUSE ALL POOL FIXTURES/ BENCHES/ TACK BOARDS	F501	B301	INCLUDE TILE IN POOL AS WELL AS ON POOL DECK		C401	18'-10"	EXTERIOR STORFRONT - SEE ELEVATIONS	CEILING IS ACCOUSTICAL STRAND 2X6 PANELS														
A-132	STAIR #2 (FIRST FLOOR)	W303	W303	W303	W303	CLEAN AT BRICK PIERS	F407	B101	PROVIDE RUBBER DISK FLOORING@ ALL TREADS, RISERS, AND LANDINGS		C101	13' 11 5/8"	EXTERIOR STORFRONT - SEE ELEVATIONS	EVIDENCE OF LEAKING AT PERIMETER	D101	3'-8" DOOR; 4x24" LITE	H106	D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READER	H106	D101	3'-8" DOOR	H106					

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- FIELD HOUSE

FIRST FLOOR

PE #: 67150

REV. 11/01/16

																DOORS/ FRAMES													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	L DISPLAY WB/T	Ceiling	Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
A-135	EQUIPMENT	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101		H106												
A-138	POOL OFFICE	W303	W303	W303	W303	NEW BORROW LIGHT	F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106											CW101	
A-140	BOYS FIRST AID/ATHLETIC TRAINING	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106											CW101	
A-142	BOYS LOCKER - OFFCE	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION	NEW TB	C104	10'-8"			D101		H106												
A-142A	BOYS LOCKERS - STAFF TOILET	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101		H106												
A-144	BOYS LOCKER ROOM	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101	3'-6"; HALF GLASS - CARD READER	H106	D101		H106	D101		H106						
A-145	BOYS LOCKER - TOWELS	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C210	10'-8"			D101		H106												
A-149	CUSTODIAL	W303	W303	W303	W303	REPLACE WALL MOP SINK	F501	B301			C101	10'-8"			D101		H106												
A-150	CORRIDOR	W303	W303	W303	W303	REPLACE TACK BOARDS/ MARKER BOARDS (2 EACH@ 6' LONG)	F407	B101			C104	10' -8"		EXTERIOR STORFRONT - SEE ELEVATIONS															
A-150A	WEIGHT ROOM	W303	W303	W303	W303	NEW MIRRORS	CLEAN FLR	NO BASE	RUBBER FL00R IN GOOD CONDITION		C201				D101	PAIR 3'	H106												
A-150B	CROSS COUNTRY OFFICE (X-1)	W303	W303	W202 W203	W202 W203		F100	B101			C104	9' -4"		F100 IN FOYER AREA	D101	4"x48" LITE	H106												
A-150C	TEAM STORAGE	W202	W303	W303	W303	ALL SHELVING IS LOOSE	F503	B101			C104	9'-4 1/2"		STORAGE OF TEAM EQUIPMENT	D101	PAIR 3'	H106												
A-151	STORAGE	W303	W303	W303	W303		F407	B101			C201	10'-7"			D101		H106												
A-152	BOYS VARSITY LOCKER - OFFICE	W303	W303	W303	W303		F407	B101		NEW TB	C201	10'-7"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106												
A-153	BOYS VARSITY LOCKER - MAIN	W303	W303	W303	W303		F407	B101			C201	10'-7"			D101	3'-8"	H106	D101		H106									
A-153T	BOYS VARSITY LOCKER - TOILET	W303	W303	W303	W303		F407	B101	REVISE TOILETS TO ALLOW FOR ADA STALL		C201	10'-7"																	
A-154	MECHANICAL	W310	W310	W310	W310		F406	--			EXP.				D101	PAIR 3'-8 DR	H106	D101	24" DOOR	H106									
A-155	BOYS VARSITY LOCKER - SHOWER	W303	W303	W303	W303		F503	B302	REVISE SHOWER TO INCLUDE INDIVIDUAL STALLS, NEED NEW ADA COMPLIANT THRESHOLD		C210	10'-7"			NO DOOR														
A-157	WRESTLING ROOM	W303	W303	W303	W303	REPLACE PROTECTIVE WALL MATTS 5'-6"/ REPAINT WALL EQUIPMENT/ REUSE SIGNS	F407	--	REUSE EXISTING WRESTLING MATTS THAT COVER ENTIRE FLOOR		C101	11' -10"			D101	4"x2' 48" LITE	H106	D101	4"x2' 48" LITE	H106	D101	4"x2' 48" LITE	H106				REPLACE PROTECTIVE MATTS ON ALL DOORS - SIM TO WALL MATTS		
A-158	MENS TOILET	W303	W303	W303	W303		F501	B301			C201	9'-3"			D104, D208		H106												
A-158A	MEN OFFICIALS LOCKER ROOM	W303	W303	W301 W303	W301 W303	NON COMPLIANT SINGLE TOILET AND SHOWER	F501	B301	TOTAL GUT RENOVATION		C101	9' -4"			D1 - 3'-0";D102 ;H101														
A163	POOL OFFICE	W303	W303	W303	W303	NEW BORROW LIGHT	F501	B301	TOTAL GUT RENOVATION		C201	10'-8"			D101	REPLACE FULL LENGTH OF HM FRAME AND BORROWED LIGHTS/ CARD READERS	H106											CW101	

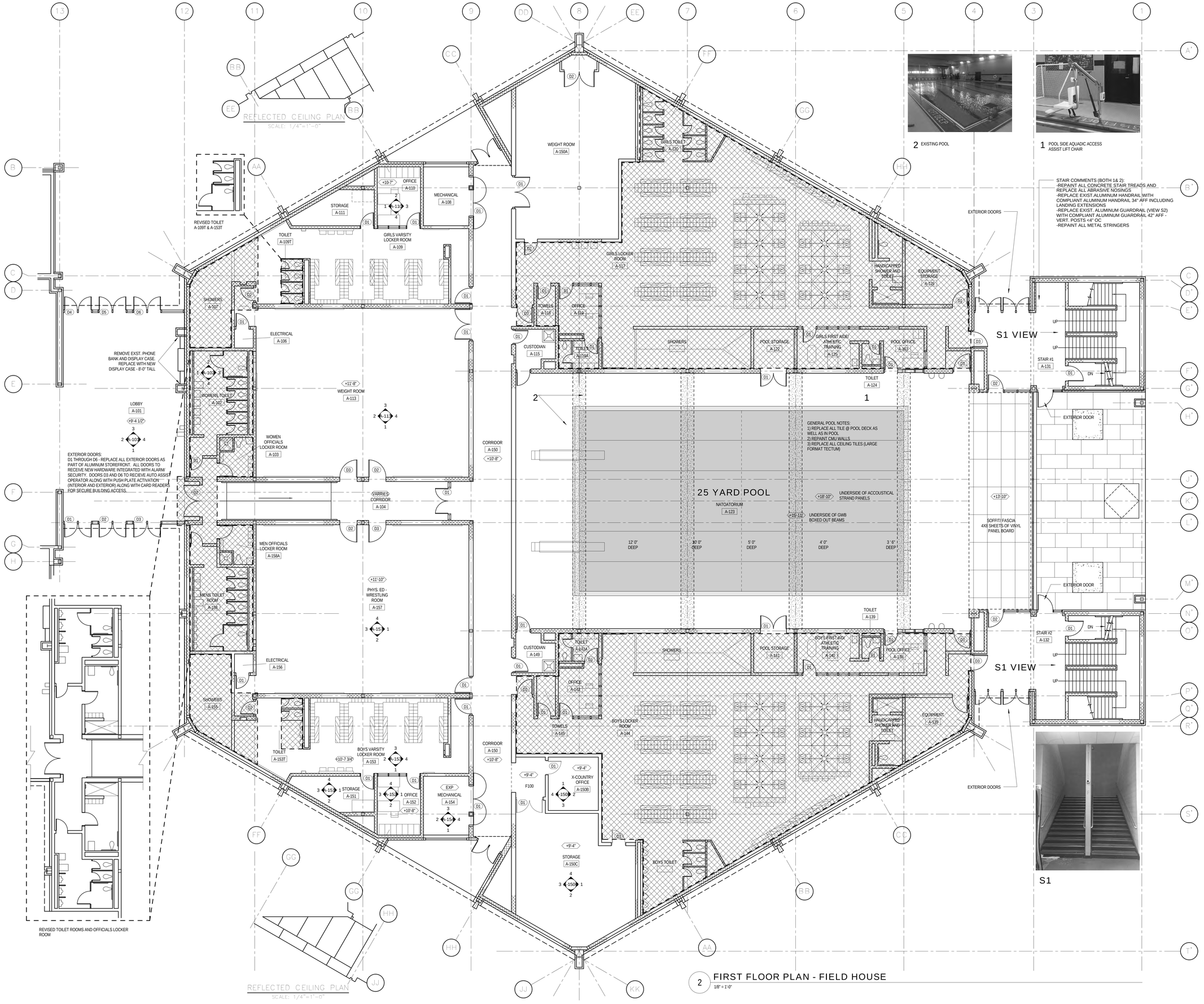
LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT/ BASE REPAIR REPORT- FIELD HOUSE

FIRST FLOOR

PE #: 67150

REV. 11/01/16

															DOORS/ FRAMES														
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	L DISPLAY WB/T	Ceiling	Ceiling Hgt.	Windows (SEE EXT. ELEVATIONS)	Add. Windows/ Ceiling Comments	D1	GL. DIM.	H1	D2	GL. DIM.	H2	D3	GL. DIM.	H3	D4	GL. DIM.	H4	Add. Door Comments	CASEWORK	Comments
A-201	FIELD HOUSE	HEXIGON W/ ALL WALLS SIMILAR. - W303 UP TO 12'-8";REPLACE ACCOUSTICAL STRAND 2X8 PANELS ABOVE						B101	SEE GENERAL NOTES/ REPLACE GYM FLOOR		EXP	VARIES	SEE EXTERIOR BLDG. NOTES	CLEAN EXPOSED ACCOUSTICAL DECK															
A-202	FIELD HOUSE LOBBY	STOREFRONT -	W405	STOREFRONT -	W405		F407	NONE			C103	9' -4 1/2"																	
A-203	STAIR #1	W303	W303	W303	W303		F407	B301							D101	3'-8"	H106	D101	3'-8"	H106	D101	3'-8"	H106						
A-204	CUSTODIAN	W303	W303	W303	W303		F407	B101							D101		H106												
A-205	HEAD TRAINERS ROOM	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C101	9' -4"		Major ceiling damage	D101		H106										SEE PLANS		ONLY REMAINING FIXTURE IS ONE SINK - ALL OTHER FIXTURES HAVE BEEN REMOVED. REPLACED WITH ICE MACHINE, WHIRLPOOL, AND TRAINER TABLES
A-206	APPARATUS STORAGE	W303	W303	W303 W302	W303		F407	NONE			C501	EXP			D101		H106	D101		H106									
A-207	ELECTRICAL ROOM	W303	W303	W303	W303		F407								D101		H106												
A-208	BOYS TOILET ROOM	W303	W303	W303	W303		F501	B301	TOTAL GUT RENOVATION		C101	9' -4"		Major ceiling damage	D101		H106												
A-209	STAIR #2	W303	W303	W303	W303		F501	B301							D101	3'-8"	H106	D101	3'-8"	H106	D101	3'-8"	H106						



2 EXISTING POOL

1 POOL SIDE AQUADIC ACCESS ASSIST LIFT CHAIR

2 FIRST FLOOR PLAN - FIELD HOUSE
1/8" = 1'-0"

S1

NO.	DATE

0' 4' 8' 16' 24'
SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
T: 617.449.4000
F: 617.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Deisgn Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

LHS -FIRST FLOOR FIELDHOUSE

SCALE: 1/8" = 1'-0"

A-201

Project Status

Project Issue Date

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4 VIEW OF FIELD HOUSE LOBBY



3 VIEW OF FIELD HOUSE WALL CEILING



5 VIEW OF FIELD HOUSE ENTRY FROM LOBBY



1 VIEW OF TYPICAL FIELD HOUSE WALL - TELESCOPING STANDS * SHOWN FULLY EXTENDED.



2 VIEW OF TYPICAL FIELD HOUSE WALL - TELESCOPING STANDS* SHOWN FULLY EXTENDED.

*NOTE - REPLACE EXISTING TELESCOPING SEATING WITH ACCESSIBLE COMPLIANT - TIER SEATING - SIM. TO HUSSEYSEATING, MAXAM TELESCOPIC PLATFORM W/ WOOD BLEACHERS

8 TIER TELESCOPIC SEATING*

STAIR COMMENTS (BOTH 1& 2):
-REPAINT ALL CONCRETE STAIR TREADS AND REPLACE ALL ABRASIVE NOSINGS
-REPLACE EXIST.ALUMINUM HANDRAIL WITH COMPLIANT ALUMINUM HANDRAIL 34" AFF INCLUDING LANDING EXTENSIONS
-REPLACE EXIST. ALUMINUM GUARDRAIL (VIEW S2) WITH COMPLIANT ALUMINUM GUARDRAIL 42" AFF - VERT. POSTS <4" OC
-REPAINT ALL METAL STRINGERS

OVERHEAD ROLL DOWN DOOR TO REMAIN (17'-0" M.O. x 7'-4" HIGH)

DOORS:

D1	3'-8" HM	D101	H101
D2	3'-8" HM	D101	H101
D3	PAIR 3'-0" HM	D101	H101
D4	3'-8" HM	D101	H101
D5	3'-8" HM	D101	H101

LOBBY A-202 +9'-4 1/2"

FIELD HOUSE A-201

VARIES

STAIR #1 A-203

S2 VIEW

S3 VIEW

TRAINERS ROOM A-205

CUSTODIAN A-204

EQUIPMENT STORAGE A-206

OVERHEAD ROLL DOWN DOOR TO REMAIN (10'-0" M.O. x 7'-4" HIGH EACH)

ELECTRICAL ROOM A-207

+9'-4"
BOYS TOILET ROOM A-208

STAIR #2 A-209

16 TEIR TELESCOPIC SEATING*



S2



S3

REVISED ENTRY AND ACCESSIBLE TOILET ROOM A-208 (NOTE - SAME REVISED ENTRY ONLY NEEDED FOR TRAINER ROOM A-205)

1 SECOND FLOOR PLAN - FIELD HOUSE
1/8" = 1'-0"

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NO. DATE

0' 4' 8' 16' 24'
SCALE : 1/8" = 1'-0"

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 203
BOSTON, MA 02110
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F. 617.449.4049

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City of Lowell
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Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 Father Morissette Boulevard
Lowell, MA 01852

PROJECT No: 67150

DRAWING TITLE:

LHS - SECOND FLOOR FIELDHOUSE

SCALE: 1/8" = 1'-0"

A-202

Project Status

Project Issue Date

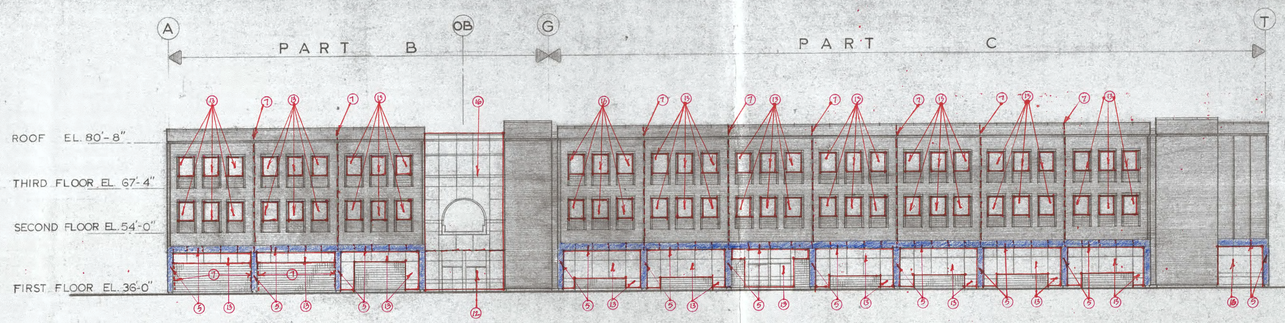
LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
GENERAL NOTES FOR ELEVATIONS - ALL BUILDINGS

2/16/17

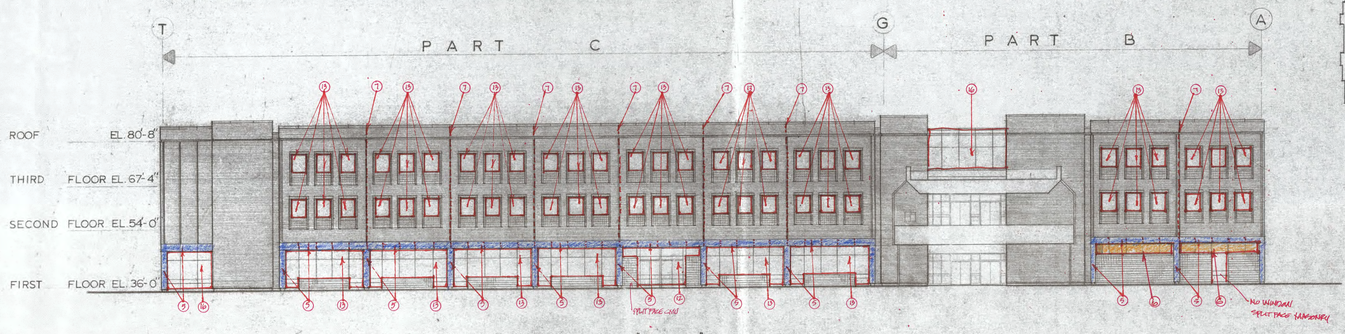
PE # 67150.00

GENERAL NOTES:

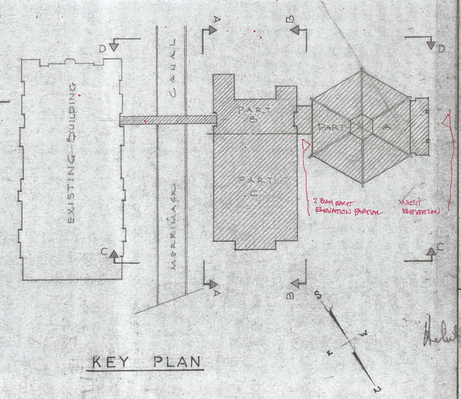
1. **CLEAN BRICK MASONRY VENEER**
2. **REPLACE BRICK MASONRY VENEER**
3. **REPLACE BRICK HEADER**
4. **REPLACE BRICK MASONRY VENEER**
5. **REPLACE CEMENTATIOUS PANELS**
6. **REPLACE PLASTIC FACED PLYWOOD PANELS**
7. **REPLACE SEALANT**
8. **REPLACE LOUVERS**
9. **REPLACE ALUMINUM DOOR + FRAME**
10. **REPLACE ALUMINUM DOOR + FRAME + SIDELIGHT + TRANSOM**
11. **REPLACE SOFFIT W/ EXTERIOR CEMENT BOARD FINISH SYSTEM + CR METAL FRAMING**
12. **REPLACE ALUMINUM DOOR + FRAME + ENTRY**
13. **REPLACE ALUMINUM WINDOWS**
14. **REPLACE BROKEN BRICK**
15. **REPLACE BROKEN PRECAST CONCRETE CAPSTONE**
16. **REPLACE ALUMINUM STOREFRONT**
17. **REMOVE EFFLOURESCENCE**
18. **REPLACE STELL SECURITY SCREEN**
19. **REPOINT STONE STEPS**
20. **NEW LIGHT FIXTURE**
21. **REPLACE EXIT LIGHT**
22. **CLEAN TERRACOTTA MOLDINGS, CORNICES + TRIM**
23. **SCRAPE/ PREP/ PAINT STEEL LINTEL**
24. **REPLACE SHEETMETAL PANEL W/ TERRACOTTA**
25. **SCRAP/ PREP/ PAINT METAL CORNICE**
26. **REPOINT BRICK MASONARY**
27. **REPLACE OVERHEAD COILING DOOR**
28. **REPLACE WOOD DOOR + FRAME**
29. **REPLACE POLY-CARBONATE GLAZING**
30. **REPLACE BROKEN INSULATED GLASS UNIT**
31. **REPLACE BRIDGE SOFFIT W/ INSULATED ALUMINUM PANELS ON LIGHT GAGE METAL FRAMING**

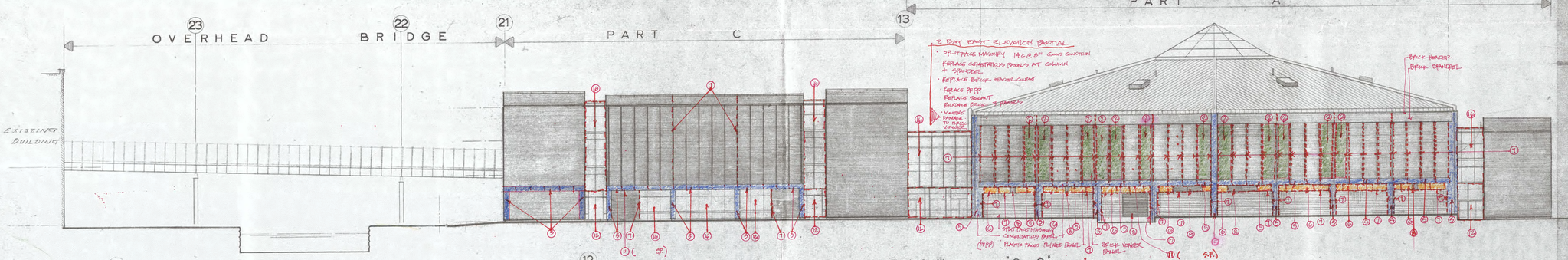


EAST ELEVATION "A-A"

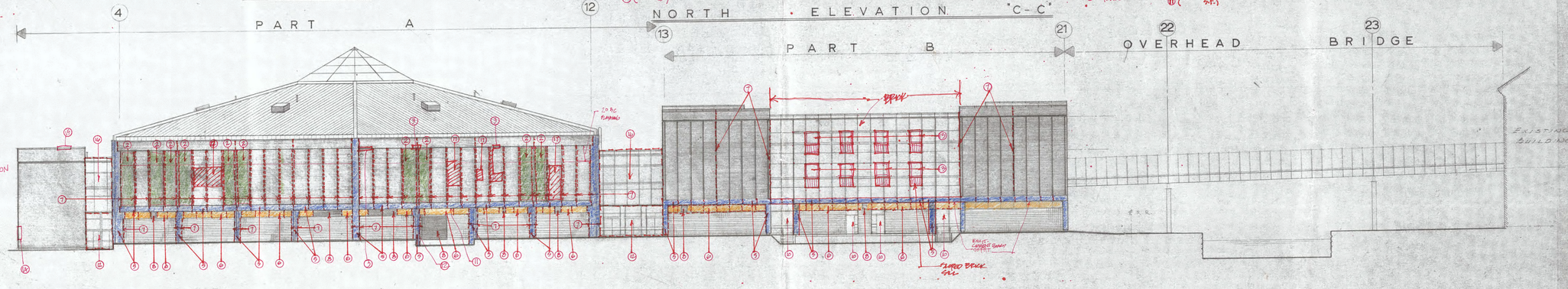


WEST ELEVATION "B-B"





NORTH ELEVATION "C-C"



SOUTH ELEVATION "D-D"

TO THE BEST OF MY KNOWLEDGE AND UNDERSTANDING, THE MATERIALS AND CONSTRUCTION INDICATED ON THESE PLANS CONFORM WITH AT LEAST THE MINIMUM REQUIREMENTS OF THE BASIC BUILDING CODE.

BY: _____

THE LHS

ADDITIONS TO
THE LOWELL HIGH SCHOOL
LOWELL • MASSACHUSETTS

PERLEY F. GILBERT ASSOCIATES, INC. ARCHITECTS & ENGINEERS
SUN BUILDING LOWELL, MASSACHUSETTS

LZA Lev Zetlin Associates, Inc. Engineers and Designers

DISTRIBUTION DATE
JOB NO. 73-3707
DRAWN BY R.A.D.
CHK'D BY R.J.D.

SCALE 1" = 16'
REVISIONS

COMPOSITE ELEVATIONS

A 01

1. CLEAN BRICK MASONRY VENEER
2. REPLACE BRICK MASONRY VENEER
3. REPLACE BRICK HEADER
4. REPLACE BRICK MASONRY VENEER
5. REPLACE CEMENTATIOUS PANELS
6. REPLACE PLASTIC FACED PLANKED PANELS
7. REPLACE SEALANT
8. REPLACE LOUVERS
9. REPLACE ALUMINUM DOOR + FRAME
10. REPLACE ALUMINUM DOOR + FRAME + SIDELIGHT + TRANSOM
11. REPLACE SEALANT AT EXTERIOR CONCRETE BOUND THROUGH OPENING + AT METAL TRANSITS
12. REPLACE ALUMINUM DOOR + FRAME + TRANSOM
13. REPLACE ALUMINUM WINDOWS
14. REPLACE DAMAGED BRICK
15. REPLACE DAMAGED PRECAST CONCRETE CAMPANILE
16. REPLACE ALUMINUM STOREFRONT
17. REMOVE EFFLORESCENCE
18. REPLACE TERRA COTTA SILLS WITH CAST STONE
19. REPAINT METAL STEPS
20. NEW LIGHT FIXTURE
21. REPLACE EXIT LIGHT
22. CLEAN TERRA COTTA MOLDINGS, CORNICE + TRIM
23. SCRAPE/PREP/PAINT STEEL LINTEL
24. REPLACE SHEETMETAL PANEL W/ TERRA COTTA PANEL
25. SCRAP/PREP/PAINT METAL COPING 10'-10" + 1'-6" + 11'-6" = 3-4 2/3
26. REPAINT BRICK MASONRY
27. REPLACE OVERHEAD COILING DOOR
28. REPLACE WOOD DOOR + FRAME
29. REPLACE POLYCARBONATE GLAZING
30. REPLACE BROKEN INSULATED GLASS UNIT
31. REPLACE BRIDGE SOFFIT W/ INSULATED ALUMINUM PANELS ON LIGHT GAUGE METAL FRAMING

FIELD HOUSE

TYPICAL METAL ROOFING AT HEXAGONAL FIELD HOUSE PITCH BUILT UP ROOF SEE SPECS SEC. 07510

TRANSLUCENT SKYLIGHT TYPICAL - SEE DETAILS DRAWING A-49

LOUVERED PENTHOUSE

FLUE

CRICKET TYP.

ROOF HATCH (5'x10') SCUTTLE PAN

CONC. SPLASH BLOCK SEE DET. 3/A-02 TYP. WHERE OCCURS

TYPICAL COUNT. GUTTER SEE TYP. DETAILS DRAWINGS A-226 & A-49

SEE GUTTER & FLASHING DETAILS 2 & PERM. A-49 (TYPICAL SIX SIDES)

PLUMBING VENT TYPICAL

HVAC UNIT

EXP. JT.

ROOF CONTROL JNT.

BRIDGE BELOW

PRECAST CONC. PARAPET CAP. FOR DETAILS SEE DET. 5/A-01 (TYP.)

SEE A226 FOR ROOF

1/A.02 ROOF HATCH & LADDER DETAIL
SCALE: 1/2" = 1'-0"

2/A.02 TYP FLUE FLASHING THRU ROOF
NOT TO SCALE

3/A.02 TYP VENT STACK

4/A-02 ROOF VENT DETAIL
NOT TO SCALE

NOTE: PROVIDE ONE AS SHOWN FOR EACH 1000 SQ FT. OF ROOF AREA

5/A.02 ROOF LADDER DETAIL
SCALE: 3/4" = 1'-0"

FRONT ELEVATION

SIDE ELEVATION

11/A.02 ROOF EXPANSION JOINT DET.
SCALE: 1" = 1'-0"

12/A.02 ROOF CONTROL JOINT DET.
SCALE: 1" = 1'-0"

13/A.02 PLAN OF GUTTER
SCALE: 1" = 1'-0"

ROOF @ 8" I.C. AT COL. LINES DETAIL "A"
SCALE: 1" = 1'-0"

7/A.02 TYP. ROOF DRAIN
SCALE: 1" = 1'-0"

8/A.02 DOUBLE LEAF ROOF HATCH
SCALE: 3/4" = 1'-0"
(AT ROOM A-01 PRE-FILTER & MECH.)

9/A.02 SELF FLASHING CURB
SCALE: 1" = 1'-0"
(AT ROOF PANS TYPICAL)

10/A.02 ROOF EQUIP. SUPPORT
SCALE: 1" = 1'-0"

15/A.02 MULT-ZONE UNIT CURB
SCALE: 1" = 1'-0"

16/A.02 EXP. JT. OR CONTROL JT. @ MULTI-ZONE UNIT CURB
SCALE: 1" = 1'-0"

LEGEND FOR ROOF PLAN

V. =	VALLEY
R. =	RIDGE
R.D. =	ROOF DRAIN
M.Z.U. =	MULTI ZONE UNIT - SEE H.V.A.C.
R.F. =	ROOF FAN
R.V. =	ROOF VENT BY ROOFER
P.R.V. =	PLUMBING ROOF VENT.
W. =	WALK WAY UNITS BY ROOFER

KEY PLAN

THE LHS

ADDITIONS TO THE LOWELL HIGH SCHOOL
LOWELL • MASSACHUSETTS

LZA Lev Zetlin Associates Inc.
Engineers and Designers

PERLEY F. GILBERT ASSOCIATES INC. ARCHITECTS & ENGINEERS
SUN BUILDING LOWELL, MASSACHUSETTS

ROOF PLAN

SCALE: 1/16" = 1'-0"
REVISIONS
DATE: MAY 26, 2004
JOB NO. 77-3087
DR. BY: RAD - DFB
CH. BY: RAD

A 02

R13 REPLACE METAL GUTTER W/ COPPER GUTTER

R1 REPLACE EPDM ROOFING + INSULATION.
PROVIDE: • VAPOR BARRIER
• 7" POLYISOCYANURATE INSULATION
• ½" PROTECTION BOARD
• 2 - PLY MODIFIED BIT. ROOFING

R2 REPLACE ALUMINUM COPING
PROVIDE: COPPER COPING
ALL CORNERS SOLDERED

R3 REPLACE EXISTING ROOF DRAINS

R4 EXPANSION JOINT

R5 CONTROL JOINT

R6 REPLACE PRECAST CONCRETE COPING

R7 REPLACE FIBERGLASS SKYLIGHTS W/ KALWALL

R8 REPLACE GLASS SKYLIGHTS

R9 REPOINT BRICK MASONRY (HEIGHT)

R10 EXISTING TERRA COTTA COPING

R11 REPLACE METAL ROOF.
PROVIDE: VAPOR BARRIER
• 7" POLYISO INSULATION
• 3/4" PLY PLYWOOD SHEATHING
• STANDING SEAM COPPER ROOF W/ SOLDERED SEAMS

R12 NEW COPPER + CI DOWN SPOUT

ROOF DRAINS
COPING SEALANT

LEGEND

- EXISTING ROOF DRAIN, REF. DETAIL D2/A401
- EXISTING CURB MOUNTED EXHAUST FAN, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED SMOKE VENT, REF. DETAIL D5/A401
- EXISTING CURB MOUNTED DUCT HOOD, REF. DETAIL D5/A401
- EXISTING PIPE PENETRATION, REF. DETAIL D3/A401
- EXISTING POCKET PENETRATION, REF. DETAIL D4/A401
- S — ROOF SLOPE

ROOFING NOTES (1980 BUILDING)

1. NEW ROOF SYSTEM, UNO.
2. PROVIDE 2'-0"ø WALKWAY PROTECTION PATH AS INDICATED
3. ROOF DRAIN W/ OVERFLOW REF. DETAIL D2/A401
4. MECHANICAL UNIT ON PRE-FABRICATED CURB REF. DETAIL D5/A401
5. CLEAN EXISTING MECHANICAL EQUIPMENT HOUSING AND APPLY SPECIAL COATING.

GENERAL NOTES (COBURN/1922 BUILDING)

1. PROVIDE AND INSTALL MODIFIED BITUMEN ROOF MEMBRANE AND RIGID INSULATION OVER ENTIRE ROOF AREA, UNO.
2. PROVIDE POSITIVE SLOPE TO DRAIN (1/4" PER FT.) THROUGHOUT EXISTING & NEW ROOF. CONSTRUCT CRICKETS AND HIGH POINTS AS REQUIRED AT CORNERS AND OBSTRUCTIONS ON ROOF TO PREVENT PONDING.
3. 10% OF EXISTING PARAPET WALLS TO BE CLEANED OF LOOSE MORTAR AND REPOINTED TO PROVIDE STABLE SUBSTRATE FOR NEW ROOF FLASHING. CONTRACTOR TO IDENTIFY SPECIFIC AREAS OF REPAIR.

FIELD HOUSE ROOF (BLDG.)

ROOF BELOW

R-1

EXPANSION JOINT, TYP.

TAPERED INSULATION CRICKET, PROVIDE POSITIVE SLOPE TO DRAIN BETWEEN DRAINS AND AROUND CURBS, TYP.

TAPERED INSULATION CRICKET, SLOPE TO DRAIN, TYP.

CONTROL JOINT, TYP.

TAPERED INSULATION CRICKET, PROVIDE POSITIVE SLOPE TO DRAIN BETWEEN DRAINS AND AROUND CURBS, TYP.

TAPERED INSULATION SLOPE TO DRAIN, ¼"/ FT., TYP.

NORTH PEDESTRIAN BRIDGE BELOW

MATCH LINE
SEE CONTINUATION
SEE SHEET A227

A1 PARTIAL ROOF PLAN
1/16" = 1'-0"

A1 PARTIAL ROOF PLAN
1/16" = 1'-0"

Sverdrup
SVERDRUP FACILITIES, INC.

One Charles Park, Boston, Massachusetts 02129-1566

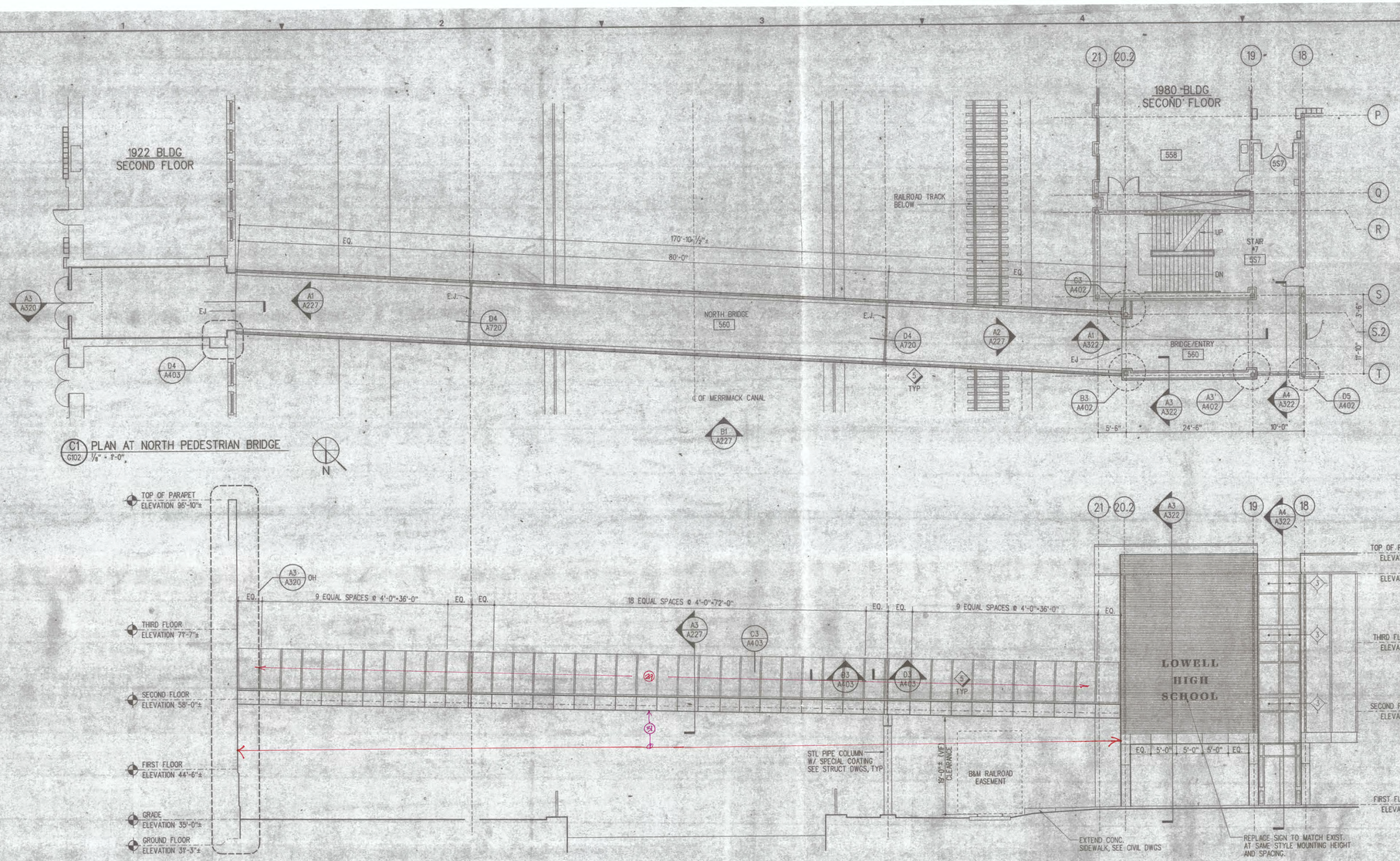
Revisions:

LOWELL HIGH SCHOOL RENOVATIONS - TASK 2
LOWELL, MASSACHUSETTS

Key Plan:

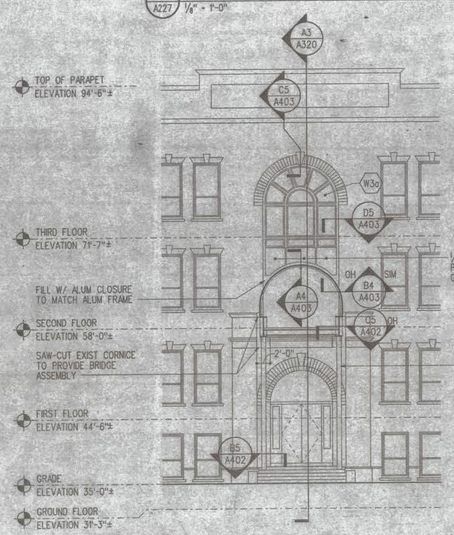
Sverdrup Project No.: 021456
Drawing Title:
ARCHITECTURAL
1980 BUILDING
PARTIAL ROOF PLAN
Date: December 9, 1997
Designed By: MM
Drawn By: SW
Checked By: TC
TASK 2
Drawing Number
A226

LORD BUILDING
1/16" = 1'-0"

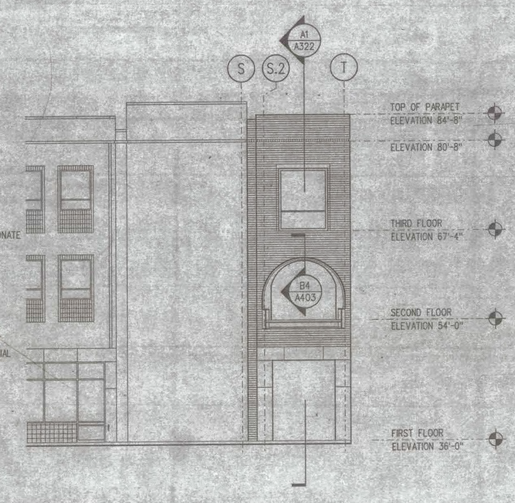


C1 G102 PLAN AT NORTH PEDESTRIAN BRIDGE
1/8" = 1'-0"

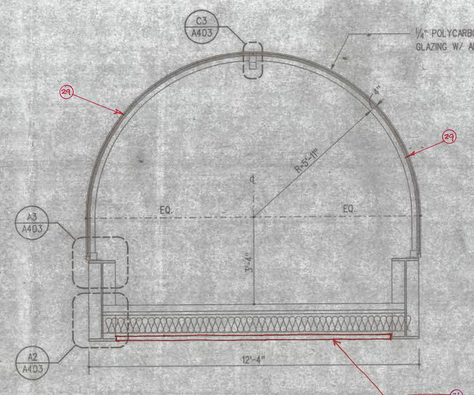
B1 A227 ELEVATION AT NORTH PEDESTRIAN BRIDGE
1/8" = 1'-0"



A1 A227 ELEVATION - NORTH BRIDGE AT 1922 BUILDING
1/8" = 1'-0"



A2 A227 ELEVATION - NORTH BRIDGE AT 1980 BUILDING
1/8" = 1'-0"



A3 A227 SECTION AT NORTH PEDESTRIAN BRIDGE
1/2" = 1'-0"

GENERAL NOTES:

1. ALL GLASS TYPE IS (1) UNO.
2. ACTUAL ROUGH OPENING FOR TYPICAL WINDOWS IS 7'-4⅜" WIDTH x 9'-4⅜" HEIGHT.
3. ELEVATIONS OF NEW FLOOR SLAB OF EACH FLOOR, TOP OF PARAPET, UNDERSIDE OF PRECAST BAND, AND UNDERSIDE OF BRICK RECESSED COURSE SHALL MATCH EXISTING. ELEVATIONS SHOWN ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR 1980 BUILDING ARE BASED ON FIRST FLOOR = EL. 36'-0", SECOND FLOOR= EL. 54'-0", AND THIRD FLOOR =EL. 67'-4". ELEVATIONS SHOWN ON ARCHITECTURAL DRAWINGS AND STRUCTURAL DRAWINGS FOR 1922 BUILDING ARE BASED ON GROUND FLOOR = EL. 31'-3", FIRST FLOOR = EL. 44'-6", SECOND FLOOR = EL. 58'-0", AND THIRD FLOOR = EL. 71'-7". THIS INFORMATION SHALL BE FIELD VERIFIED PRIOR TO STARTING CONSTRUCTION AND ADJUST IN FIELD ACCORDINGLY.
4. ALL EXPOSED STEEL SHALL RECEIVE SPECIAL COATING, UNO.
5. ALUMINUM MULLIONS SHALL BE PERPENDICULAR TO SLOPE OF BRIDGE.
6. REFER TO DWGS A210 & A221 FOR EXISTING BUILDING RENOVATION WORK.

BRIDGE
NORTH

Sverdrup
SVERDRUP FACILITIES, INC.
Two Center Plaza, Boston, Massachusetts 02108-1906

Revision:

LOWELL HIGH SCHOOL RENOVATIONS - TASK 2
LOWELL, MASSACHUSETTS

Key Plan:

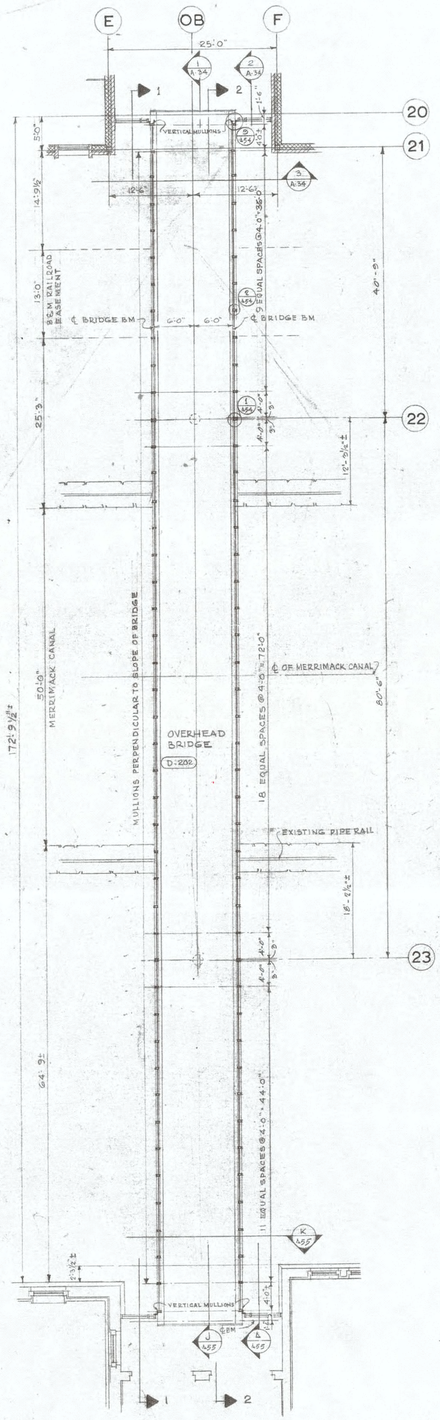
Scales:
0' 4' 8' 16'
1/8" = 1'-0"
0 1" 2" 4'
1/2" = 1'-0"

Sverdrup Project No.: 021465

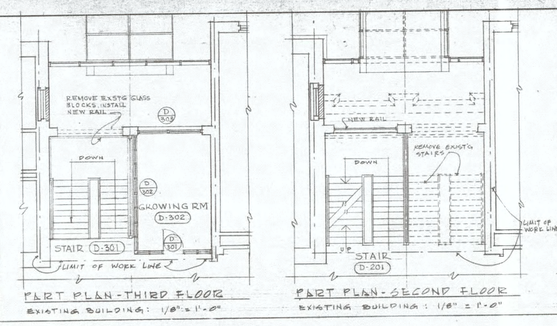
Drawing Title:
ARCHITECTURAL
BRIDGE
PLANS
SECTIONS & DETAILS

Date: December 11, 1995
Designed By: K.Y.C.
Drawn By: R.E.T.
Checked By: T.C.
TASK 2
Drawing Number: A227

DATE: 12/05/95 TIME: 22:03:05 USER: RSPOT FILE: s:\projects\bhwa\cad\dgn\arch\a227.dgn



OVERHEAD BRIDGE PLAN (PART D)
SCALE 1/8" = 1'-0"

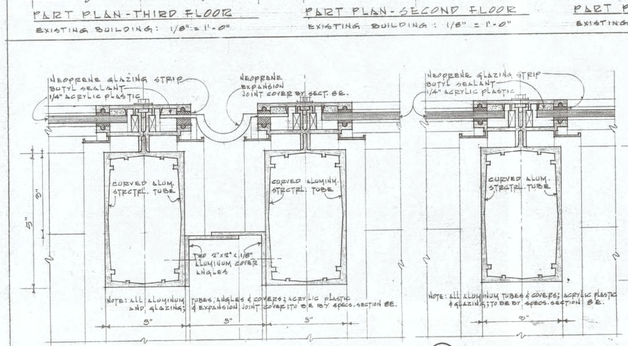


PART PLAN - THIRD FLOOR
EXISTING BUILDING: 1/8" = 1'-0"

PART PLAN - SECOND FLOOR
EXISTING BUILDING: 1/8" = 1'-0"

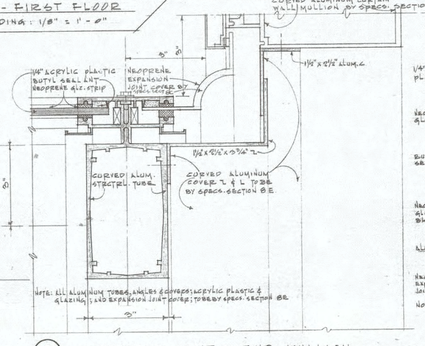
PART PLAN - FIRST FLOOR
EXISTING BUILDING: 1/8" = 1'-0"

PART PLAN - GROUND FLR
EXISTING BUILDING: 1/8" = 1'-0"

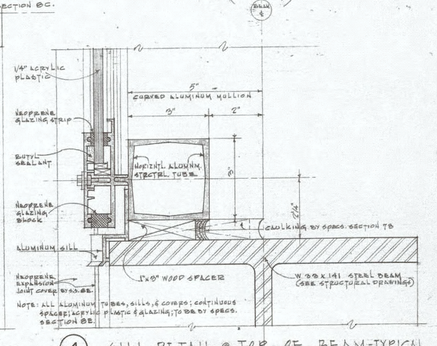


1 EXPANSION JOINT @ TWIN MULLIONS
SCALE HALF SIZE

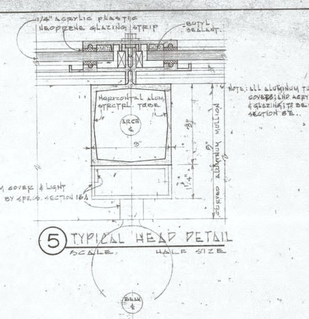
2 TYPICAL MULLION
SCALE HALF SIZE



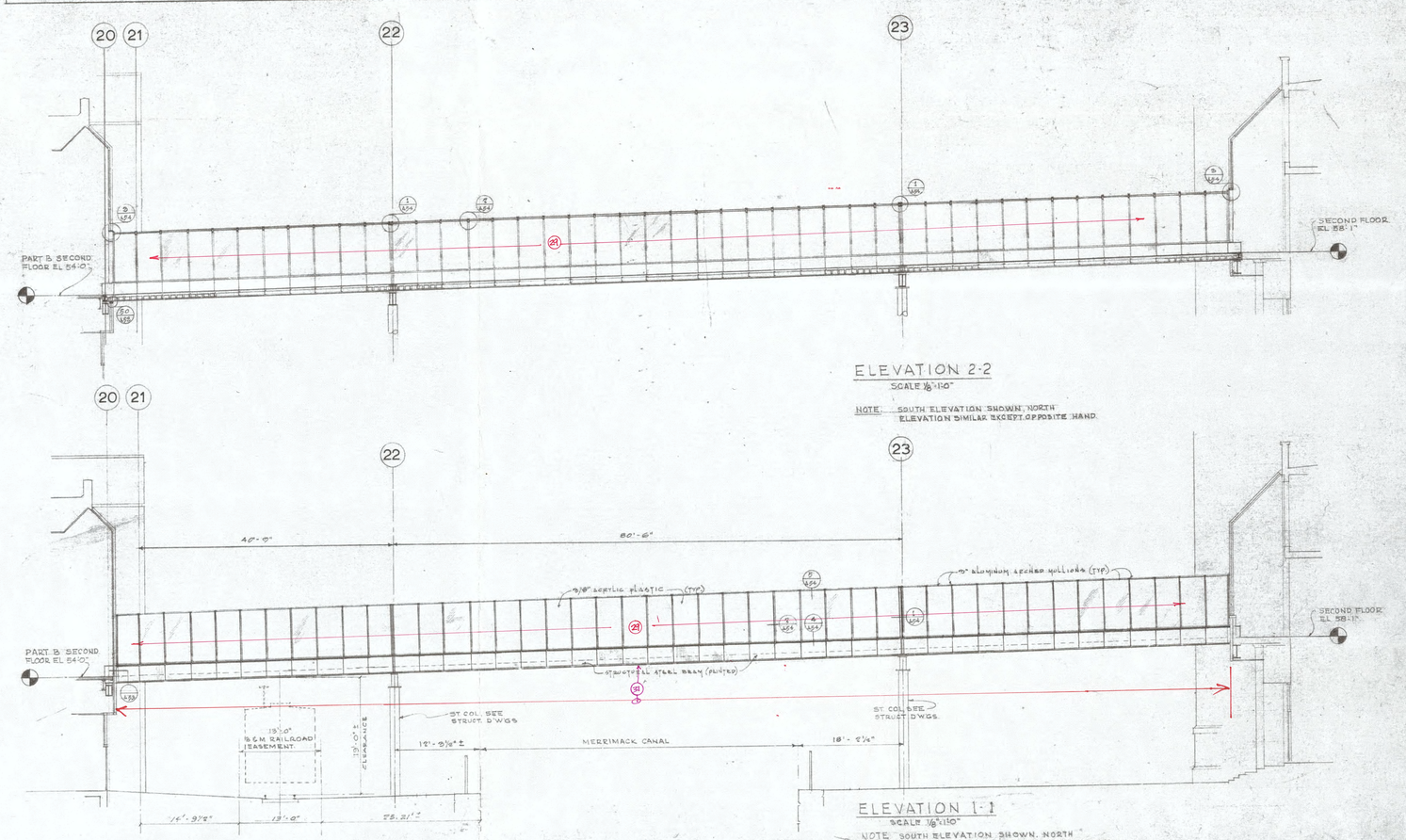
3 EXPANSION JOINT @ END MULLION
SCALE HALF SIZE



4 SILL DETAIL @ TOP OF BEAM-TYPICAL
SCALE HALF SIZE



5 TYPICAL HEAD DETAIL
SCALE HALF SIZE



ELEVATION 2-2
SCALE ⅛"=1'-0"

NOTE: SOUTH ELEVATION SHOWN, NORTH ELEVATION SIMILAR EXCEPT OPPOSITE HAND.

ELEVATION 1-1
SCALE ⅛"=1'-0"

NOTE: SOUTH ELEVATION SHOWN, NORTH ELEVATION SIMILAR EXCEPT OPPOSITE HAND.

THE LHS
ADDITIONS TO THE LOWELL HIGH SCHOOL
LOWELL, MASSACHUSETTS

PERLEY F. GILBERT ASSOCIATES INC. ARCHITECTS & ENGINEERS
SUN BUILDING LOWELL, MASSACHUSETTS
SCALE 1" = 8'-0" | DATE MAY 26, 76
REVISIONS | JOB NO. 7730B.7
DR. BY J.T.H.
CHD. BY R.A.D.

LZA Lev Zetlin Associates Inc. Engineers and Designers

OVERHEAD BRIDGE
PLAN, ELEVATIONS

A 54

SOUTH BRIDGE.

LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
FRESHMAN ACADEMY
11/10/16
PE # 67150.00

GENERAL NOTES:

1. **GENERAL NOTES APPLY TO ALL CONDITIONS NOTED BELOW EVEN IF NOT NOTED ON BASE REPAIR SPREADSHEETS.**
2. **REFER TO EXISTING CONDITIONS / BASE REPAIR REPORTS FOR CONSULTANT SCOPE.**
3. **REPLACE ALL DOORS.**
4. **ALL GWB & PLASTER WALLS ARE PAINTED / REPAINTED.**
5. **REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS.**
6. ***GENERAL NOTE #6 NOT USED***
7. **REPLACE ALL COMPLETE HARDWARE SETS.**
8. **INSTALL POWER OPERATORS AT 20% OF DOORS TO PROVIDE HC COMPLIANCE.**
9. **INSTALL 2'-0" W. X 4'-0" L. 2-HR. RATED SHAFTWALL CHASE AT EACH CLASSROOM; MODIFY FRAMING AS REQUIRED. PROVIDED RATED SHAFTBOTTOM AT 1ST FLR. FRAMING NOTE: CHASE GRAPHIC NOT SHOWN ON PLAN.**
10. **REPAIR GWB/PLASTER/WD WAINSCOAT AT ALL EXTERIOR WALLS RESULTING FROM REMOVAL OF RADIATORS. NOTE: RADIATOR GRAPHIC NOT SHOWN ON PLANS**
11. **CHALKBOARDS ARE REMOVED PER HAZ MAT REPORT. PATCH ALL PLASTER WALLS WHERE CHALKBOARDS ARE REMOVED. REPAIR/REPAINT ALL RUNNING TRIM TO REMAIN AT CHALKBOARD SURROUND.**
12. **INSTALL NEW TOILET ACCESSORIES THROUGHOUT.**
13. **REPLACE ALL CEILINGS.**
14. **REPLACE ALL DOORS.**
15. **REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS.**
16. **REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE**

FLOOR:

VCT/VINYL SHEET

F100	REPLACE VCT/VINYL SHEET OR CARPET W/ BIOBASED TILE.
F101	REPLACE VAT
F102	PATCH REPAIR VCT
F103	CLEAN AND WAX VCT/SHEET VINYL
F104	REPLACE TRANSITION STRIP
F105	CLEAN SHEET VINYL FLOORING
F106	REPLACE RADIAL RUBBER
F107	REPLACE SHEET VINYL FLOORING TREADS AND RISERS
F108	REPLACE WOOD FLOOR W/ BIOBASED TILE. REMOVE WOOD FLOOR, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING AT THRESHOLD.

F109 REPLACE CARPET W/ BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.

F110 CLEAN SHEET VINYL

F111 REPLACE CARPET W/ BIOBASED TILE.

F112 REPLACE RESILIENT DANCE FLOOR

F113 REPLACE SHEET VINYL FLOORING W/ LINOLEUM.

F114 INSTALL BIOBASED TILE

F115 REPLACE CERAMIC TILE AND INSTALL BIOBASED TILE. REMOVE WOOD FLOOR OR PLYWOOD AS OCCURS, FASTEN ROUGH SAWN WOOD, INSTALL ROSIN PAPER & E/4" T&G PLYWOOD, AND BIOBASED TILE. TAPER FLOORING DOOR AT THRESHOLD.

F116 REMOVE EXISTING VCT, SHEET FLOORING OR CARPET AND GYPCRETE AND INSTALL NEW CEMENTITIOUS FLOOR LEVELER AND BIOBASED TILE.

CARPET

F201 REPLACE CARPET

F202 CLEAN AND SHAMPOO CPT

WOOD

F301 REPLACE WOOD FLOOR

F302 PATCH AND REPAIR WOOD FLOOR

F303 REFINISH WOOD FLOOR

F304 POWER SAND AND REFINISH WOOD FLOOR

F307 REPAIR STRIP WD. FLOORING AND REFINISH

CONCRETE

F401 REPLACE CONC. FLOOR

F402 PATCH AND REPAIR CONC. FLOOR

F403 LEVEL CONC. FLOOR

F404 REPLACE CONC. FLOOR

F405 REPAIR CONCRETE FLOOR

F406 CLEAN AND RESEAL CONCRETE FLOOR

F407 REPAINT CONC. FLOOR

F408 PATCH HOLES IN CONC. FLOOR FROM REMOVAL OF MEP PIPES

CERAMIC TILE

F501 REPLACE CERAMIC TILE

F502 PATCH AND REPAIR CERAMIC TILE

F503 CLEAN CERAMIC TILE

F504 REGROUT FLOOR TO BASE CERAMIC TILE

F505 REPLACE CARPET W/ CERAMIC TILE

TERRAZZO :

F601 REPLACE TERRAZZO

F602 REPLACE METAL TRIM IN TERRAZZO

F603 PATCH AND REPAIR CRACKS IN TERRAZZO

F604 CLEAN AND WAX TERRAZZO

F605	CLEAN QUARRY TILE/STONE
F606	REPAIR TERRAZZO BASE
F607	CLEAN/POLISH TERRAZZO FLOOR

EPOXY

F701	REPLACE EPOXY FLOORING
F702	REPAIR EPOXY FLOORING AND BASE
F703	CLEAN EPOXY FLOORING
F704	INSTALL EPOXY FLOORING

ENTRY MAT

F801	REPLACE ENTRY MAT
F802	REPLACE RECESSED ENTRY MAT
F803	REPLACE RECESSED ENTRY MAT FRAME

MARBLE

F1001	CLEAN MARBLE FLOOR

BASE:

VINYL

B101	REPLACE OR INSTALL VINYL BASE
B102	REFASTEN HEAVY DUTY VINYL BASE BOARD
B103	CLEAN QUARRY TILE BASE
B105	CLEAN TILE BASE
B106	REPLACE ATHLETIC BASE
B107	CLEAN VINYL BASE
B108	REPLACE VCT W/ LINOLEUM

WOOD

B201	REPLACE OR INSTALL WOOD BASE
B202	REFINISH WOOD BASE
B203	REPAINT WOOD BASE

TILE

B301	REPLACE TILE BASE
B302	PATCH AND REPAIR TILE BASE
B303	REPAINT CMU WALL

TERRAZZO

B401	REPLACE TERRAZZO
B402	PATCH AND REAPAIR TERRAZO
B403	CLEAN/POLISH TERRAZZO

GLAZED CMU

B501	CLEAN GLAZED CMU BASE
B502	PATCH GLAZED CMU

CONCRETE

B601	REPAINT CONCRETE BASE

MARBLE

B701	CLEAN MARBLE BASE

STEEL

B801	PAINT STEEL BASE

WALLS:

WALL PLASTER

W001	REMOVE WOOD PANELED WALLS W/ HOMOSOTE ABOVE ON METAL STUDS & REPLACE PLASTER W/GWB IN METAL STUDS
W101	REPLACE PLASTER WALL
W102	PATCH &REPAIR PLASTER WALL
W103	REPAINT PLASTER WALL
W104	REPLACE VINYL WALLCOVERING ON PLASTER WALL
W105	INSTALL NEW PLASTER WALL
W106	REMOVE WOOD PANELING
W107	CLEAN & REPAIR C.T. ON PLASTER

GWB

W201	REPLACE OR PROVIDE GWB WALL
W202	PATCH AND REPAIR GWB WALL
W203	REPAINT GWB WALL
W204	REPAIR CRACK IN GWB WALL
W205	PAINT AND PATCH COLUMN
W206	RECAULK AT GYPSUM BOARD AND TILE CONNECTION
W207	INSTALL 2'-0" W. X 4'-0" L. 2-HR. RATED SHAFTWALL CHASE; MODIFY FRAMING AS REQUIRED. PROVIDED RATED SHAFTBOTTOM AT 1ST FLR. FRAMING NOTE: CHASE GRAPHIC NOT SHOWN ON PLAN.
W208	REMOVE ONE SIDE OF WALL TO INSTALL NEW PIPING AND PLUMBING FIXTURE CARRIERS. INSTALL NEW WALL TO MATCH EXISTING NOTE: THIS CONDITION OCCURS AT ALL PLUMBING FIXTURES AND PIPING EVEN IF NOT NOTED ON SPREADSHEET.

CMU

W301	REPLACE CMU WALL
W302	PATCH AND REPAIR CMU WALL
W303	REPAINT CMU WALL
W304	REPOINT CMU WALL
W305	EXTEND CMU WALL TO UNDERSIDE OF STRUCTURE
W306	FIRESTOP AT TOP OF CMU WALL
W307	PAINT UNFINISHED CMU
W308	INFILL WINDOW OPEING AT CMU
W309	INSTALL CMU

W310	EXPOSED CMU

BRICK

W401	REPLACE BRICK WALL
W402	PATCH AND REPAIR BRICK WALL
W403	REPAINT BRICK WALL
W404	REPOINT BRICK WALL
W405	CLEAN BRICK
W406	CLEAN GLASS BLOCK

GLAZED CMU

W501	REPLACE GLAZED CMU
W502	PATCH AND REPAIR GLAZED CMU
W503	REPOINT GLAZED CMU
W504	CLEAN GLAZED CMU
W505	CLEAN 2 X 2 WALL TILE

WOOD PANEL

W601	REPLACE WOOD PANEL
W602	PATCH AND REPAIR WOOD PANEL
W603	REPAINT WOOD PANEL
W604	REFINISH WOOD PANEL
W605	PAINT PLYWOOD SHEATHING
W606	REPAIR VERTICAL
W607	PAINT WOOD VALANCE
W608	REPAINT TACK SURFACE
W609	REPLACE PEG BOARD
W610	REMOVE WOOD PANEL AND PLASTER WALL
W611	REMOVE WOOD PANEL
W612	REMOVE HOMOSOTE
W613	PROVIDE NEW WOOD PANELING

WOOD WINDOW WALL

W701	REPLACE FIN WOOD WINDOW WALL
W702	REPAIR FIN WOOD WINDOW WALL
W703	REFINISH FIN WOOD WINDOW WALL
W704	REPAINT FIN WOOD WINDOW WALL
W705	REPAINT METAL WINDOW WALL

WOOD CHAIRRAIL AND WAINSCOT

W801	REPLACE WD WAINSCOT
W802	REPAIR WD WAINSCOT
W803	REFINISH WD PNL WAINSCOT
W804	REPAINT WD WAINSCOT

W805 REPAINT ED CHAIRRAIL
W806 REFINISH WD CHAIRAIL
W807 REWORK WD CHAIRRAIL

WAINSCOT

W901 REPLACE CERAMIC TILE WAINSCOT
W902 REPAIR CERAMIC TILE WAINSCOT
W903 REFINISH CERAMIC TILE WAINSCOT
W904 REPAINT CERAMIC TILE WAINSCOT
W905 CLEAN CERAMIC TILE WAINSCOT/WALL
W906 REPLACE PLAS. LAM. CHAIRAIL

CERAMIC TILE

W1001 PATCH CT WALL
W1002 CLEAN CT WALL

CONCRETE

W1101 REPAINT CONC. WALL
W1102 PAINT UNFINISHED CONC. WALL
W1103 REPAIR CRACK CONC. FOUND

CLAY TILE

W1202 REPAINT CLAY TILE

METAL WALL PANEL

W1301 CLEAN METAL WALL PANEL SYSTEM
W1302 REPAINT STEEL COLUMN
W1401 REPAIR CONC. FOUNDATION
W1501 REFINISH DEMOUNTABLE PARTITION AND BRACE FROM TOP OF PARTITIION @ CEILING TO DECK W/ LIGHT GUAGE FRAMING.

WINDOWS:

METAL WINDOWS

WD001 REMOVE MANUAL OPERATION SYSTEM
WD101 REPLACE MTL WINDOW
WD102 REGLAZE MTL WINDOW
WD103 RESEAL MTL WINDOW AT OPERABLE SASH
WD104 REPLACE WINDOW TRIM
WD105 REFINISH WOOD TRIM
WD106 REPLACE WINDOW HARDWARE
WD107 WINDOW NOT THERMALLY BROKEN
WD108 REFINISH METAL WINDOW
WD109 REPAINT MTL BORROWED LIGHT
WD110 REPLACE INSUL. PANEL
WD111 REMOVE & REPLACE WINDOW STOOL
WD113 REFINISH WOOD WINDOW SILL

WD114 REPLACE WINDOWS FRAMES AND SASHES AS INDICATED ON ELEVATIONS W/ ALUMINUM THERAMLLY BROKEN WINDOWS W/ LOW-GLAZING, INSECT SCREENS AND OPERABLE BOTTOM SASH (AWNING). WINDOW SHALL HAVE HISTORIC PATTERN (INTERNAL MUNTINS AND PROFILE SIMILAR TO 1922 BUILDING. REPLACE WINDOW TREATMENTS W/ MECHOSHADES (5% OPENNESS). REPLACE WINDOW STOOLS AND APRONS W/ SOLID SURFACE DARK COLOR STOOL & APRON. REPAIR & PAINT EXISTING WOOD TRIM AT 1892 & 1922 BUILDING.

WOOD WINDOWS

WD201 REPLACE WD WINDOW
WD202 REGLAZED WD WINDOW
WD203 RESEAL WD WINDOW
WD204 REPAINT WD WINDOW
WD205 REFINISH WD WINDOW
WD206 REPLACE WINDOW TRIM
WD207 REFINISH WINDOW TRIM
WD208 REPLACE WINDOW HARDWARE
WD209 REPLACE PARTING BEADS
WD210 REPLACE SCREEN
WD211 EX WINDOW WILL NOT CLOSE
WD212 HARDWARE MISSING
WD213 REPAINT WD WINDOW TRIM
WD214 REPLACE WD WINDOW SILL
WD215 REPLACE WD WINDOW WALL SYSTEM

GLASS BLOCK

WD401 REPLACE WINDOW & GLASS BLOCK SYSTEM

DOORS:

METAL DOOR AND FRAME

D101 REPLACE MTL DOOR AND FRAME
D102 REPAINT MTL DOOR AND FRAME
D103 REPLACE DOOR LIGHT AND STOPS
D104 REPAINT MTL DOOR
D108 REPLACE HM FRAME
D109 INSUFFICIENT HCP CLEAR W1401
D110 EGRESS DOORS ARE NOT REQUIRED 3’-0” WIDTH
D111 HM DOOR NEEDS LABEL RATING
D112 REPLACE DOOR LITE W/ WIRE GLASS
D113 REPLACE TRANSOM W/WIRE GLASS
D114 REWORK HM DOORS OR OPENINGS TO PROVIDE HCP ACCESSIBILITY
D115 REPLACE HM DOOR ONLY & REPAINT FRAME
D116 REPLACE ALUM. ENTRY W/ HM
D117 THRESHOLD NOT ACCESSIBLE
D118 PAINT HM WINDOW WALL
D119 PAINT HM FRAME

WOOD DOORS

D201	REPLACE WD DOOR AND FRAME
D202	REPLACE WD DOOR AND FRAME W/HM DOOR AND FRAME
D203	REPLACE WD DOOR ONLY W/ EXTERIOR HM DOOR
D204	REFINISH WD DOOR AND FRAME
D205	REPLACE DOOR LIGHTS
D206	UNEQUAL LEAFS ARE REQUIRED
D207	REPAINT WOOD DOOR
D208	REPAINT HM FRAME
D209	INSUFFICIENT HCP CLEARANCE
D210	REFINISH WD DOOR AND PAINT MTL FRAME AND REPLACE HARDWARE
D211	PAINT DUTCH BOTTOM
D212	REPLACE WD DOOR AND FRAME W/RATED WD DOOR AND FRAME
D213	REPLACE DOOR LIGHT W/1/4" WIRE GLASS
D214	REFINISH WD TRANSOM AND PAINT METAL FRAME
D215	REPLACE WOOD DOOR ONLY
D215A	REPLACE WD REVERSE SWING & REWORK WOOD FRAME (DUTCHMAN)
D216	REMOVE WOOD DOOR AND FRAME
D217	REPLACE DUTCH DOOR
D219	REPLACE WOOD DOOR
D219A	INCREASE HM DOOR FRAME OPENINGS FOR HC COMPLIANCE
D220	REPLACE WD & INSTALL HM RATED FRAME W/ WD TRIM TO MATCH
D221	REPLACE WD AND PAINT EXIST. HM FRAME
D222	REPLACE WOOD DOOR AND REFINISH WOOD FRAME
D223	REWORK WOOD DOORS/FRAMES OR OPENING TO PROVIDE HCP ACCESS
D224	BONDO, SAND & PAINT FRAME
D225	REPLACE WD DOOR W/ LABEL DOOR, PAINT HM FRAME/ PROVIDE HC HARDWARE
D226	REFINISH WOOD FRAME & SIDE LIGHTS
D227	REFINISH/REPAIR WOOD FRAME

STEEL DOORS

D301	REPLACE STEEL DOOR & FRAME W/ HM DOOR & FRAME
D401	REFINISH WD TRANSOM & PAINT MTL FRAME

OVERHEAD DOORS

D401	REPLACE SECTIONAL OVERHEAD DOOR

CEILINGS:

ACT

C001	CEILING TILES DO NOT MATCH REPLACE - MATCH TILE AT ELEV. VEST
C101	REPLACE ACT CLG 2 X 4
C102	REPLACE 12 X 12 CLG TILES
C103	REPLACE 12 X 12 ACT W/ 2 X 4 ACT
C104	REPLACE 12 X 12 ACT W/ 2 X 4 ACT
C105	REPLACE ACT 2 X 2

C106 REPAINT SCT CLG
C107 INSTALL ACT CLG 2 X 2 & LIGHTING
C108 NEW ACT 2 X 4 GOOD CONDITION
C109 PROVIDE 2 X 4 LIGHTING
C110 PROVIDE 2 X 4 ACT
C111 12 X 12 GOOD CONDITION
C112 REPLACE ACT (CLASSROOMS/OFFICES/CONFERENCE) ULTIMA TEGULAR 2'X4'
C113 REPLACE ACT (MUSIC ROOM) ULTIMA TEGULAR W/ 50% WEDGE SHAPED TILES CONWED DESIGNSCAPE BY OWNS CORNING.
C114 REPLACE ACT (CORRIDORS/STORAGE/STAIRS) ULTIMA LAY-IN 2'X4'
C115 REPLACE ACT (KITCHEN) HEALTH ZONE OPTIMA 2X2

PLASTER

C201 REPLACE PLASTER CLG
C202 PATCH & REPAIR PLASTER CLG
C203 REPAINT PLASTER CLG
C204 PATCH AND REPAIR PLASTER AT SKYLIGHT WELL
C205 EXIST. PLASTER CLG CONTAIN ASBESTOS SPRAYED STIPPLE FINISH
C206 INSTALL PLASTER SOFFFIT & FASCIA @ DROPPED CLG
C207 REMOVE SKYLIGHT PATCH OPENING
C208 REMOVE PLASTER CLG & MTL LATH SYSTEM @ STRUCTURE
C209 INFILL AT CLG STORAGE AREA MEZZANINES W/ 1 HR ENCLOSURES
C210 PROVIDE PLASTER CEILING

GWB

C301 REPLACE GWB CLG.
C302 PATCH AND REPAIR GWB CLG.
C303 REPAINT GWB CLG.
C304 PROVIDE GWB CEILING
C305 REPAIR CRACK AT GWB CLG.
C306 REPAINT SKYLIGHT WELL

CEILING PANELS

C401 REPLACE CEILING PANELS
C402 PATCH & REPAIR CLG. PNLS
C403 REPAINT CEILING PNLS

EXPOSED STRUCTURE

C501 PAINT EXPOSED STL STRUCT. & DECK
C502 PAINT EXPOSED ED BEAMS
C503 REFINISH EXPOSED WD PLANKS, GLULAM BEAMS, COLUMN, AND BASE
C504 REFINISH GLULAM BEAMS
C506 EXIST. CEMENT FIBER DECK EXPOSED UNPAINTED W/ BULBTEES
C507 PAINT EXPOSED HVAC/MECH/ELEC. PIPING CONDUIT
C508 PAINT CONC. CLG.

CONCRETE

C601	PAINT EXPOSED CONC. STRUCT.

METAL PANEL

C701	REPLACE 12 X 12 METAL PANEL CLG.

METAL PANEL

C702	REPLACE 12 X 12 METAL PANEL CEILING ELEVATOR
E1	CAB SIDE NON-COMPLAINT
E2	CONTROLS ARE TOO HIGH
E3	FLOOR LEVEL NEEDS ELEVATOR

ATTACHMENTS

ACOUSTICAL TREATMENTS
REPLACE 4 X 8 TECTUM PANELS ON WALLS

WOOD TRIM

A101	REPLACE WOOD TRIM
A102	REPAIR WOOD TRIM
A103	REFINISH WOOD TRIM
A104	REPAINT WOOD TRIM
A105	REFINISH WOOD SEAT
A106	REFINISH WD GUARD RAIL 2 X 8
A107	PAINT HVAC GRILLE

VISUAL DISPLAY SURFACES: CHALK/TACK/AND FRAME

A201	REPLACE CHALK AND FRAME
A202	REPAIR CHALK AND TACK AND METAL FRAME
A203	REPAIR CHALK AND TACK AND WOOD FRAME
A204	PAINT TACK BOARDS AND FRAME
A205	REPLACE TACK AND FRAME
A206	REPLACE TACK, REMOVE & REINSTALL WD TRIM
A207	REPLACE TACK W/MTL FRAME
A208	REPLACE CHALK & MTL FRAME
A209	REPLACE CHALK, REMOVE & REINSTALL
A210	PAINT TACK BD. TRM
A211	PAINT WOOD TACK STRIP
A212	REPAINT TACK BD
A213	STRIP PAINT FROM ALUM CH & TACK BDS.
VD214	REPLACE EXISTING CHALK/WHITE/TACK BDS & PROVIDE TWO – 8'LONG WHITE BOARDS & FOUR-4' LONG TACK BOARDS. CHALKBOARDS ARE REMOVED PER HAZMAT REPORT; PATCH PLASTER AT WHERE CHALKBOARDS ARE REMOVED IN 1892 AND 1922 BUILDING CLASSROOMS.
VD214A	REMOVE EXISTING WHITE/TACK BOARDS & PROVIDE TWO-8'LONG WHITE BOARDS & FOUR-4' LONG TACK BOARDS. PATCH GWB AS REQUIRED.
VD215	REPLACE/PROVIDE EXISTING WHITE/TACK BDS & PROVIDE ONE – 4'LONG WHITE BOARD & ONE – 4' LONG TACK BD

VD216 REPLACE/PROVIDE ALL EXISTING TACK BDS & DISPLAY CASES & PROVIDE TWO'8' LONG TACKBOARDS
& 1 DISPLAY CASE

SPEAKER/CLOCK

A301 REPLACE SPEAKER/CLOCK
A302 PROVIDE SPEAKER/CLOCK
A303 NO SPEAKER
A304 REPLACE CLOCK

FIRE EXTINGUISHER & EXIT SIGNAGE (NOTE: LOWELL HIGH SCHOOL REPLACE ALL EXTINGUISHERS & CABINETS TYP EVEN IF NOTES NOT INCLUDED ON SPREADSHEET).

A401 REPLACE FIRE EXTINGUISHER ONLY
A402 REPLACE FIRE EXTINGUISHER AND CABINETS
A403 ADD FIRE EXTINGUISHER
A404 EXIT SIGNS NOT ILLUMINATED
A405 NO EXIT SIGNS PRESENT
A406 REPLACE EXIT SIGN
A407 PAINT FIRE EXT. CABINET
A408 REPLACE WIRE GLASS IN FIRE EXT. CABINET

MOVABLE PARTITIONS

A501 REPLACE OPERABLE PARTITION
A502 REPLACE DIVIDER SCREEN
A503 ADJUST AS REQUIRED
A504 REPAIR AND REFINISH

GYM EQUIPMENT

A601 REPLACE BLEACHERS
A602 ADJUST BLEACHERS
A603 REPAIR SEATING
A604 REFINISH SEATING

CASEWORK AND EQUIPMENT

CASEWORK

CW001 REPLACE UNIT VENTILATOR AND INTEGRAL STORAGE UNIT
CW101 REPLACE CASEWORK (PLASTIC LAMINATE)
CW102 REPAIR CASEWORK
CW103 REPLACE COUNTER TOP ONLY (FINISH)
CW104 REFINISH CASEWORK
CW105 REPAINT CASEWORK
CW106 REPLACE HARDWARE
CW107 PROVIDE SHELVES
CW108 RECONFIGURE FOR HCP AT SINK
CW109 REPAINT SHELVING

CW110	CLEAN BASE & WALL CABINET ADJUSTINGS
CW111	CASEWORK NT HCP ACCESSIBLE - REWORK
CW112	ADD LOCKS TO CASEWORK
CW113	REPLACE CASEWORK AND COUNTERTOP/SINK
CW114	REPLACE CASEWORK AND COUNTERTOP AND WALL CABINET
CW115	KITCHEN AREA- COUNTER/SINK/ STOVE/ DW/ REF NOT ACCESSIBLE
CW116	REWORK SHELVING FOR ACCESSIBILITY
CW117	REPLACE WOOD CASEWORK W/ WOOD (DARK STAIN CASEWORK IN CONFIGURATION TO MATCH EXISTING EXCEPT NO GLASS @ DOORS, ALL SOLID FRONTS.
CW118	REPLACE LAB CASEWORK

WARDROBES

CW201	REPLACE WARDROBES
CW202	REPAIR WARDROBES
CW203	REFINISH WARDROBES AND REPLACE HARDWARE WITH HCP
CW204	REPAINT WARDROBES
CW206	REPLACE WARDROBES
CW207	REPLACE WARDROBES DOOR MECHANISMS
CW208	ADJUST WARDROBES DOOR MECHANISMS
CW209	MAKE CLOSET HCP ACCESSIBLE

STORAGE UNITS

CW301	REFINISH STORAGE UNITS - WD (MAT)
CW302	PAINT STORAGE UNITS - MTL
CW302A	PAINT STORAGE UNITS - WD
CW303	REPAINT WALL STATION CABINET WITH CUBBY
CW304	REPLACE STORAGE UNITS (MAT)
CW305	REPLACE STORAGE UNITS HARDWARE

DISPLAY CASES

CW401	REPLACE DISPLAY CASE
CW402	REPAIR DISPLAY CASE
CW403	REFINISH DISPLAY CASE
CW404	REPLACE HARDWARE
CW405	PAINT DISPLAY CASE
CW406	REPLACE GLASS DOORS AT TEMP. GLAZED DOORS

LOCKERS:

L101	REPAINT EXISTING SINGLE TIER LOCKERS WITH ELECTROSTATIC PAINT, REPLACE 20% OF LOCKERS NOTE: KEY NOTE NOT ON SPREADSHEET, REFER TO PLANS FOR LOCKERS

SIGNAGE:

REPLACE ALL CODE AND DIRECTIONAL SIGNAGE WITH CODE COMPLIANT BRAILLE SIGNAGE
REPLACE ALL EXTERIOR SIGNAGE

LAB EQUIPMENT

CW501	REPLACE LAB TABLES
CW502	PROVDE SCIENCE LAB HCP WORK STATIONS
CW503	REPLACE SCIENCE CASEWORK
CW504	REPLACE SCIENCE DEMONSTRATION STATION
CW505	SCIENCE DEMONSTRATION STATION NOT ACCESSIBLE

BATHROOMS/FIXTURES

FIXTURES - HCP COMP.

BF101	REPLACE SINK (HCP)
BF102	REPLACE TOILETS (HCP)
BF103	REPLACE URINAL (HCP)
BF104	REPLACE DF
BF105	GANG WASH STATION NOT HP ACCESSIBLE
BF106	REMOVE URINAL
BF107	REMOVE SINK

FIXTURES

BF201	REPLACE SINK (BROKEN)
BF202	REPLACE TOILETS (HCP)
BF203	REPLACE URINAL (BROKEN)
BF204	REPLACE DF

FLOOR DRAINS

BF301	REPLACE FLOOR DRAIN

PARTITONS

BF401	REPLACE TOILET PARTITON (HCP)
BF402	REPLACE TOILET PARTITON (BROKEN)
BF403	REWORK TOILET PARTITIONS FOR HP COMPLIANCE
BF404	REPAIR TOILET PARTITONS
BF405	PAINT TOILET PARTITON

MISC.

BF501	PROVIDE NEW HC COMPLIANT TOILET ROOM ACCESSORIES
BF502	GRAB BARS NOT PROVIDED
BF503	DOOR SWINGS INTO FREE AREA
BF504	TOILET ROOM UNACCEPTABLE
BF505	CLEAR DIMENSION BETWEEN FIXTURES INADEQUATE
BF506	REWORK BATHROOM FOR HP COMPLIANCE
BF507	SHOWER NO HCP ACCESSIBLE
BF508	PROVIDE HCP HOME KITCHEN

TOILET ACCESSORIES (TYPICAL ALL BATHROOMS LOWELL HIGH SCHOOL)

BTA106	REPLACE ALL TOILET ACCESSORIES INCLUDING BUT NOT LIMITED TO: MIRRORS, GRAB BARS, PAPER TOWEL DISPENSERS, SOAP DISPENSERS, SANITARY NAPKIN DISPENSERS, TRASH DISPENSERS.

STAIRS:

TREADS AND RISERS

S101	TREADS INSUFFICIENT
S102	RISER INSUFFICENT
S103	INFILL REQUIRED
S104	PROIVDE NON-SLIP SURFACE
S105	PAINT UNDERSIDE OF STAIR
S106	REPLACE RUBBER TREADS AND RISERS
S107	REPLACE HANDRAIL
S108	REFINISH WOOD TREADS AND RISERS
S109	REPAIR BROKEN TERRAZZO NOSING
S110	RISE/RUN ILLEGAL

STAIR REPLACEMENT

S111	REPLACE ENTIRE STAIR W/ CONCRETE FILLED METAL PAN STAIRS AND INTERMEDIATE LANDINGS IN SIMILAR CONFIGURATION TO EXIST. PROVIDE METAL PAINTING HANDRAILS @ EACH SIDE AT 2'-10" AFF. PROVIDE METAL PAINTING RAILINGS/GUARDRAILS @ 3'-6" AFF W/ VERTICAL PICKETS @ 4" O.C. MAX. PROVIDE RUBBER DISK FLOORING AT ALL TREADS, RISERS AND LANDINGS. EXISTING FLOOR STRUCTURE TO REMAIN; INSTALL NEW RUBBER DISK FLOORING.

OTHER

S201	HANDRAILS OR GUARDRAILS NON-COMPLIANT
S202	REPAINT HANDRAILS OR GUARDRAILS
S203	LANDING INSUFFICIENT
S204	REPAIR LANDING
S205	INSUFFICIENT RAIL EXTENTION
S206	PROVIDE WALL MOUNTED HANDRAIL
S207	WALL MOUNTED HANDRAIL NON-COMPLIANT
S208	RE-PAINT STEEL LADDER AND CASE
S209	NO HANDRAILS PRESENT
S210	REWORK NEWEL MTL POST DOOR ADDED HEIGHT OF HANDRAIL
S211	REPAIR/REPLACE SKYLIGHTS
S212	REMOVE OFFICE CUBICLE (NOT ACCESSIBLE)
S213	NON HC COMPLIANT UNIT KITCHEN
S214	REPLACE OFFICE FURNITURE METAL FLOOR MTD PARTITIONS
S215	REPLACE S.S. CORNER GUARD
S216	FIRE PULL STATION NOT ACCESSIBLE
S217	REPLACE GUARDRAIL AT AREAWAY
S218	REPLACE CONC. STAIR

RAMP

R101	SLOPE NON-COMPLIANT
R102	HANDRAILS, NON-COMPLIANT
R103	REPAINT HANDRAILS

R104	LANDING NON-COMPLIANT
R105	PROVIDE NON-SLIP SURFACE
R106	NO HANDRAILS
R107	ADD NEW RAMP TO MAKE SPACE HC ACCESSIBLE

HARDWARE:

H101	REPLACE HARDWARE (HCP COMPLIANCE)
H102	ADD PANIC DEVICESER
H103	ADD DOOR CLOSURE
H104	UPDATE BOILER ROOM DOOR HARDWARE
H105	TACTILE WARNING HARDWARE REQUIRED
H106	REPLACE COMPLETE HARDWARE SET INCLUDING BUT NOT LIMITED TO; HINGES, LOCKSET (LEVER HANDLES), LATCHES, CLOSERS, KICKPLATES, WALL/FLOOR STOPS, PANIC DEVICES, THRESHOLDS,TRANSITION STRIPS.
H107	POWER OPERATOR WITH SURFACE MOUNTED CONDUIT

THERMAL & MOISTURE PROTECTION

TM101	SEALANT AT WINDOW
TM102	CAULKING AT WINDOW
TM103	SEALANT AT DOOR
TM104	CAULKING AT DOOR
TM105	RECAULK AT HC
TM 106	ADD C.J.'S

ASBESTOS

AS101	EXPOSED PIPE INSUL-POSSIBLE ASBESTOS
AS102	REPLACE VAT IN FLOOR
AS103	REMOVE POSSIBLE ASBESTOS FIBREBOARD

MECHANICAL:

M101	REPLACE CEILING FAN
M102	PROVIDE SEPARATE CONTROLS FOR GANG SHOWER
M103	REMOVE AND REPLACE KILN AND PROVIDE SEPARATE ROOM W/ EXHAUST
M104	REPLACE UV
M105	REPLACE UV MECHANICAL LOUVER
M106	REPLACE KITCHEN HOOD
M107	PAINT EXHAUST LOUVER
M108	REPLACE EXHSAUT LOUVER
M109	REPLACE ELECTRICAL HEAT COLL.
M110	REPLACE FIN TUBE RADIATION COVER
M111	REPLACE METAL WALL VENT
M112	REPLACE CUH

ELECTRICAL

E100	REPLACE 2 X 4 LIGHT LENS
E101	REPLACE 1 X 4 LIGHT LENS

STRUCTURAL

ST101	STEEL BEAM RUSTED BELOW WINDOW
ST102	PAINT STEEL BEAM

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT-FRESHMAN ACADEMY
GROUND FLOOR (LEVEL 0)
PE PROJECT #: 67150
11/10/16

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	Visual Display	Ceiling	Ceiling Hgt.	Windows	Add. Windows/ Ceiling Comments	Doors/Frames D1	Gl. Dim	H1	D2	Gl. Dim	H2	D3	Gl. Dim	H3	D4	Gl. Dim	H4	Add. Door Comments	Casework	Comments
006	TOILET	W1001	W1002	W1002	W1001		F503	CLEAN CT			C201	• 7'-6"			D219/ D119		H101									D1:H107		BTA 601
007	GIRLS RR.	W1001	W1002	W1002	W1001		F100	B101	MOISTURE MITIGATION						D219/ D119		H106											BTA 601. SEE SKETCH
008	BOYS RR.	W1001	W1002	W1002	W1001		F100	B101	MOISTURE MITIGATION						D219/ D119		H106											BTA 601. SEE SKETCH
009	PUMP/ SPRINKLER ROOM	W310	W404 STONE	CMU/CON STONE	W310		F402	NONE			CC301	SLOPED			D115		H106											REPLACE METAL PAN STAIR WITH NEW STAIRS & PAINTED METAL RAILINGS. PROVIDE ABRASIVE TREADS.
010	ELECTRICAL (BY ELEVATOR)	W404 STONE	W310/PATCH CONC.	W310	W310		F402	NONE			EXP.	• 11'-2" DECK NO FP • 8'-7 1/2" BEAM W/ FP			D115		H106									RATED		
016	CAFETERIA	W303 W203	W405/W604	W405/W604	W405/W604	WOOD PANELS 7' HIGH	F103	B107	RECENTLY RENOVATED	VD216 X 2	REPLACE TECTUM PANELS W/ GWB PERIMETER, PAINT TRUSSES	• 18'-1 1/2"	W114		D219/ D119	16X22	H106	D219/ D119	16X32	H106	D219/ D119	16X32	H106	D219/ D119		H106	DOORS 8' TALL, D5, D6, D7: D219/D119		REPLACE OPERABLE PARTITION 17' HIGH
019	KITCHEN (W/IN CAFETERIA)	W303	W303	W303	W303	INSTALL FRP 4'- H. ALL WALLS	REPLACE QUARRY TILE	REPLACE QUARRY TILE			C115/C208	8'-0"			D219/ D119	16X22	H106	D219/ D119	16X32	H106								SEE FOODSERVICE REPORT FOR ADDITIONAL INFORMATION. SPACE IS SMALL AND MAY NEED TO BE EXPANDED, SEE SKETCH
020	STORAGE (W/IN KITCHEN)	W303	W303	W303	W303		REPLACE QUARRY TILE	REPLACE QUARRY TILE			C115/C208	8'-0"																NEW WIRE SHELVING IN FOOD SERVICE
021A	CATIE'S CLOSET	W303	W303	W303	W303		F103	B107	RECENTLY RENOVATED		PAINT EXPOSED	8'-4" TO DECK			D219/ D119	4' DOOR	H106											STORAGE/SHELVING IN FFE, SEE SKETCH
021B	DRY FOOD STORAGE	W303	W303	W303	W303		F100	B101	MOISTURE MITIGATION		PAINT EXPOSED	9'-3" NO FIRE PROOFING			D219/ D119		H106											SEE FOOD SERVICE REPORT FOR ADDITIONAL INFO.
022	JOHN J. BURGOYNE THEATER	W405/W 604 REPLACE TECTUM	W405/W604	W405/W6 W203	W405/W604	WOOD PANELS 7' HIGH	F201/F301	B101			REPLACE TECTUM PANELS W/ GWB PERIMETER, PAINT TRUSSES	• 15'-6" TO HARD • 18'-7" TO TECTUM • 11'-7 1/2"H / 14'-2 1/2" TECTUM (REAR)	W114 PLUS BLACK-OUT SHADES		D219/ D119	7'-10"X3'	H106	D219/ D119		H106	D219/ D119		H106	D219/ D119		H106		REBUILD WD COUNTER/CASEWORK FOR MIXING BOARD AT REAR OF AUDITORIUM	• RECOVER FIXED SEATING - 144 TOTAL. PROVIDE AREA FOR HC SEATS. SEE AV REPORT FOR ADDITIONAL INFO. SEE SKETCH FOR HC ACCESS. EXISTING FLOOR SLOPE IS 1:12 BUT RUN EXCEEDS 30' W/OUT LANDING; LANDING REQUIRED BUT NOT FEASIBLE; VARIANCE REQUIRED.
030	CUSTODIAL	W101 W403	STONE	W403	W101	WATER DAMAGE	F100	B101			C201	• 6'-0" UNDER STAIR • 6'-5 • 9'-10"			D101	NO LITE	H106											SLOP SINK
700	MAKER SPACE	W405/CLEAN STONE	W405/CLE BRICK	W303	W203		F103	B107	NEWLY RENOVATED	AV214A	REPLACE TECTUM PANELS W/ GWB PERIMETER	7'-6" TO TECTUM	WD114		D219/ D119	16X22	H106	D204		H106							D1: WITH SIDE LITE, FULL HEIGHT	CW101	• CASEWORK W/ SINK
700B	FIRE PANEL/NETWORK	STONE BRICK	STONE BRICK	CMU	CMU		F103	B107	NEWLY RENOVATED		C114 /C208	7'-10"	WD114; OBSCURE GL.		D219/ D119		H106											
700C	STORAGE (W/IN 700)	W303	W303	STONE BRICK	STONE BRICK		F103	B107	NEWLY RENOVATED		C112	7'-10"			D219/ D119		H106											
701	CLASSROOM - SPANISH	W203	W203	W103	W203		F103	B107	NEWLY RENOVATED	AV214A	C112	• 8'-0" HARD • 9'-1 1/2" TO ACT •	WD114		D219/ D108	FULL GL.	H106	D201		H106	D219/ D119		H106				D1: BORROWED LIGHT 7'X7'. D2: REPLACE TEMP WD FRAME	CW101	
701B	STORAGE (W/IN 701)	W203	W203	W203	W203		F103	B107	NEWLY RENOVATED		C114 /C208																	REPLACE ADJUSTIBLE SHELVES
702	CLASSROOM	W203	W203 RADIATOR	W203	W203		F103	B107	REMOVE STEP AND PROVIDE NEW 5' PLATFORM W/ 8' LONG RAILING W/ HIGH & LOW RAILINGS EA. SIDE	AV214A	C112	• 7'-5" HARD • 8'-5 1/2" TO ACT •			D219/ D108	FULL GL.	H106	D201		H106	D219/ D119	NO LITE	H106/ H107				D1: BORROWED LITE	CW101	
702B	ELECTRICAL	W495	W495	W203	W495		F103	B107	NEWLY RENOVATED			C301			D219/ D119	PAIR 2'-3"	H106											
703	CLASSROOM	W203	W203	W203	W203		F103	B107	NEWLY RENOVATED	AV214A	C101	• 7'-5" HARD • 8'-5 1/2" TO ACT •	WD114		D219/ D119	FULL GL.	H106	D219/ D119	16X22	H106								CW101	
703B	STORAGE (W/IN 703)	W203	W203	W203	W203		F103	B107	NEWLY RENOVATED		C201	7'-6" HARD			D219/ D119		H106											REPLACE ADJUSTIBLE SHELVING
704	CLASSROOM	W203	W203	W203	W203	• W3: 7 1/2" RISER STEP - NO RAMP	F103	B107	REMOVE STEP AND PROVIDE NEW 5' PLATFORM W/ 8' LONG RAILING W/ HIGH & LOW RAILINGS EA. SIDE	AV214A	C101	• 7'-5" HARD • 8'-5 1/2" TO ACT •	• WATER DAMAGE ON CEILING		D219/ D108	FULL GL.	H106	D219/ D119		H106	D204		H106/ H107				D1: BORROWED LITE	CW101	
704B	ELECTRICAL	W495	W495	W203	W495		F103	B107	NEWLY RENOVATED			C301			D219/ D119	PAIR 2'-3"	H106											
C001	CORRIDOR 001	W405/W1002/W202	W405/W1002/W202			LOCKERS	F103	B107	RECENTLY RENOVATED	AV216	C114			WATER DAMAGE	D219/ D119	PAIR 2'-3"	H106									HOLD OPENS		
C002	COORIDOR 002	W405/W203	W203	W203	W203		F103	B107	RECENTLY RENOVATED	AV216	C114				D219/ D119	16X22	H106											
C012	CORRIDOR 012	W203	W203			LOCKERS	F103	B107	RECENTLY RENOVATED		C114/C301			WATER DAMAGE, REPLACE SKYLIGHTS														
C013	CORRIDOR 013	W405/W1002/W202	W405/W1002/W202				F103	B107	RECENTLY RENOVATED		C114/C301			WATER DAMAGE	D101		H106											
C017	CORRIDOR (@ THEATRE)	W202	W202	W405	W202		F103	B107	RECENTLY RENOVATED		C114		WD114		D115		H106											
C018	CORRIDOR (@ THEATRE)	W202	W405/W202	W203	W202		F103	B107	RECENTLY RENOVATED		C114		WD114		D115		H106											
C023	CORRIDOR 023	W203	W203				F100	B101	SEE SKETCH		C114			WATER DAMAGE	D115		H106											SEE SKETCH
0S7	STAIR NO. 7	W203	W203				S111	S111			C114	• 17'-4 +/-																S111
0S8	STAIR NO. 8	W203	W203				S111	S111			C114	• 17'-4 +/-																S111
0S13	STAIR (BY CORRIDOR) 013	W203	W203				S111	S111			C114	• 17'-4 +/-																S111
E1	ELEVATOR																											REPLACE ELEVATOR, DOUBLE SIDED , 6 STOPS DUE TO ELEVATION CHANGES

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT-FRESHMAN ACADEMY
FIRST & SECOND FLOOR

PE PROJECT #: 67150
11/10/16

															Doors/Frames													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	Visual Display	Ceiling	Ceiling Hgt.	Windows	Add. Windows/ Ceiling Comments	D1	Gl. Dim	H1	D2	Gl. Dim	H2	D3	Gl. Dim	H3	D4	Gl. Dim	H4	Add. Door Comments	Casework	Comments
	FLOOR 1																											
711	CLASSROOM	W203	W203	W405	W203	W207	F103	B107		VD2114A	C112	• 14'-9 1/2"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106							D2: H107	CW101	
711.1	GIRLS TOILET ROOM	W203 W303	W405	W203 FRP	W203 FRP	REPLACE FRP	F116	B107			C301	• 14'-7" • 9'- 3"	WD114		D219/ D119		H106	D219/ D119	16X22	H106									BTA601
712	CLASSROOM -	W203	W405	W203	W203	W207	F103	B107		VD2114A	C112	• 9'-10" • 14'-6"	WD114		D219/ D119	16X22	H106	D219/ D119	NO LITE	H106							D1:H107	CW101	
712.1	BOYS TOILET ROOM	W203 FRP	BRICK RADIATOR	W203 FRP	W203 FRP	REPLACE FRP	F116	B107			C301	• 14'-7" HARD • 9'- 3" ACT	WD114		D219/ D119		H106										• D1: 3'-6" W.		BTA601
713	CLASSROOM - ENGLISH	W203	W203	W203	W203	W207	F103/ F102	B107/ B101		VD2114A	C112	• 9'-10" • 14'-6"	WD114		D219/ D119	16X22	H106	D219/ D119	NO LITE	H106							D2:H107	CW101	
713B	STORAGE (PREV. TOILET W/IN 713)	W1002	W1001	W1002	W1002		F103	B107																					REMOVE PLUMBING FIXTURES AND TOILET ACCESSORIES, CAP PLUBMING FIXTURES. TOILET NOT REQUIRED/ RESIDUAL FROM OLD MIDDLE SCHOOL PROGRAM
714	CLASSROOM -	W203	W203	W405 W202	W203	W207	F103/ F102	B107/ B101		VD2114A	C112	• 9'-10" • 14'-6"	WD114		D219/ D119	16X22	H106	D219/ D119	NO LITE	H106							D2:H107	CW101	
714B	STORAGE (PREV. TOILET W/IN 714)																												REMOVE PLUMBING FIXTURES AND TOILET ACCESSORIES, CAP PLUBMING FIXTURES. TOILET NOT REQUIRED/ RESIDUAL FROM OLD MIDDLE SCHOOL PROGRAM
715	IN-HOUSE - DETENTION	W203	W103	W203	W203		F103	B107		VD2114A	C112	• 9'-10" • 14'-6"	WD114		D219/ D119	16X22	H106	D219/ D119	NO LITE	H106							D2:H107	CW101	
715.1	ELECTRICAL	W203	W203	W203	W203		F103	B107			C112				D219/ D119		H106												LOCKED
716A	GUIDANCE RECEPTION (ONE MEANS OF	W203	W203	W203	W203		F103	B107			C112				D219/ D108	16X22	H106											CW101	
716B	OFFICE (W/IN 716)	W203	W203	W203	W203		F103	B107			C112	9'-1"																	
716C	DATA/STORAGE (W/IN 716)	W203	W203	W203	W203		F103	B107			C112	8'-0"			D219/ D119		H106												REPLACE ADJUSTIBLE SHELVES
716D	OFFICE (W/IN 716)	W203	W203	W203	W203		F103	B107		VD215	C112	9'-2"			D219/ D119		H106												
716E	CONFERENCE (W/IN 716)	W203	W103	W203	W203	W207	F103	B107		VD215	C112	10'6"	WD114		D219/ D119	16X22	H106												
716F	OFFICE (W/IN 716)	W203	W103	W203	W203		F103	B107		VD215	C112	10'6"	WD114		D219/ D119	16X22	H106											CW101	
716G	OFFICE (W/IN 716)	W203	W103	W203	W203		F103	B107		VD215	C112	10'6"	WD114		D219/ D119	16X22	H106											CW101	
716H	OFFICE (W/IN 716)	W203	W103	W203	W203		F103	B107		VD215	C112	10'6"	WD114		D219/ D119	16X22	H106											CW101	
716J	OFFICE (W/IN 716)	W203	W103	W203	W203		F103	B107		VD215	C112	10'6"	WD114		D219/ D119	16X22	H106											CW101	
716K	KITCHEN (W/IN 716)	W203	W103	W203	W203		F103	B107		VD215	C112	10'6"			D219/ D119	16X22	H106											CW101	REPLACE APPLIANCES
716L	WOMEN'S TOILET (716)	W1002	W1002	W1002	W1002		F102/ F103	B107			C301	9-6"			D219/ D119		H106										D1: H107		BTA601, SEE SKETCH
716M	MENS TOILET (716)																										D1: H107		BTA601, SEE SKETCH
717	TEACHERS COPY	W203	W103 RADIATOR	W203	W203		F103	B107		VD215	C112	• 10'-5"	WD114	WATER DAMAGE	D219/ D119	16X22	H106										D1: H107	CW101	
717B	TEACHERS WORK ROOM (W/IN 717)	W103	W203	W203	W203		F103	B107		VD215	C112	• 10'-5"	WD114		D219/ D119	16X32	H106										D1: H107	CW101	REPLACE APPLIANCES
717C	STORAGE (W/IN 717)	W203	W203	W203	W203		F103	B107			C112	7'-11 1/2"			D219/ D119		H106												REPLACE ADJUSTIBLE SHELVES
720	CLASSROOM -	W405	W203	W203	W203	W207	F103	B107		VD2114A	C112	• 14'-9 1/2"	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106							D2:H107	CW101	
720.1	BOYS TOILET	BRICK	W905	BRICK	BRICK		F114	B101			C301				D219/ D119	16X32	H106												BTA601, SEE SKETCH
721	CLASSROOM(PREVIOUSLY SCIENCE)	W203	W203	W405	W203		F103	B107		VD2114A	C112	• 14'-9 1/2"	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106							D1:H107	CW101	
723	CLASSROOM -SCIENCE																												
N723	NEW SCIENCE LAB	W201	W201	W202	W202	W1,2: GWB OVER BRICK	F100	B101		VD2114A	C112	• 14'-9 1/2"	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106								CW118	
724	CLASSROOM -																												
724N	NEW PREP ROOM	W201	W202	W202	W202		F100	B101		VD2114A	C112	• 14'-9 1/2"	WD114		D219/ D108	16X32	H106											CW118	
	FLOOR 2							B107																					
105	MAIN OFFICE	W203 W203	W405	W203	W203		F103	B107		VD215	C112	• 7'-9" • 8'-11"	WD114		D219/ D119	16X32	H106											CW101	
106	MEN'S TOILET	W1002	W1002	W1002	W1002	W1: NEW CHASE WALL & TILE	F103	B107			C301	• 7'-3"			D219/ D119		H106										D1: H107		BTA601
107	WOMEN'S TOILET	W1002	W1002	W1002	W1002		F103	B107			C301	• 7'-3"			D219/ D119		H106										D1: H107		BTA601
108	STORAGE/CLOSET B	W202	W405	W203	W203		F103	B107			C201	• 7'-10" • 8'-11"			D219/ D119		H106												REPLACE ADJUSTIBLE SHELVES
109	ELECTRICAL	W203	W405	W203	W203		F103	B107			C201	• 7'-10"			D115		H106												
110	OFFICE D	W405	W405	W203	W203		F103	B107		VD215	C112	• 8'-9"	WD114		D219/ D119	16X32	H106											CW101	0
111	OFFICE E	W203	BRICK	W203	W203		F103	B107		VD215	C112	• 9'-6" • 8'-8 1/2"	WD114		D219/ D119	16X32	H106											CW101	
112	CONFERENCE/OFFICE F	W405	W405	W203	W203		F103	B107		VD215	C112	• 9'-6" • 8'-8 1/2"	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106								CW101	
114	LUNCH ROOM	W203	W203	W203	W203		F103	B107		VD215	C112	• 9'-6" • 8'-8 1/2"	WD114		D219/ D119	16X32	H106	D219/ D119		H106								CW101	REPLACE APPLIANCES
115	TESTING	W405	W203	W203	W203		F103	B107		VD215	C112	• 9'-6" • 8'-8 1/2"	WD114		D219/ D119	16X32	H106											CW101	
116	STORAGE	W405	W203	W203	W203		F103	B107		CW401	C112	9'-6"			D219/ D119		H106												
117	DISPLAY/STORAGE	W203	W405	W203	W203		F103	B107			C112	9'-6"			D219/ D119		H106												REPLACE ADJUSTIBLE SHELVING
118	GIRLS DRESSING ROOM	W202	W202	W202	W202		F116	B101			C201/ TECTUM		BORROWED LIGHT		D219/ D119		H106										D1: H107	CW101	PROVIDE WHEELCHAIR LIFT E/ CMU WALLS, HC VARIANCE REQUIRED
119	BOYS DRESSING ROOM	W202	W202	W202	W202		F116	B101			C201/ TECTUM		BORROWED LIGHT		D219/ D119		H106										D1: H107	CW101	PROVIDE WHEELCHAIR LIFT E/ CMU WALLS, HC VARIANCE REQUIRED
120	ELECTRICAL	W203	W203	W203	W203		F116	B101			C201/ TECTUM				D115		H106												

C101	CORRIDOR 101/STAIR	W202	W202	W202	W202		F103	B107	S111	VD216	C114	9'-6"			D219/ D119	FULL GL.	H106				• D1: MAGNETIC HOLD OPEN		S111
C102	CORRIDOR 102	W202	W202	W202	W202		F103	B107		VD216	C114	9'-6"											
C103	CORRIDOR 103	W202	W202				F103	B107		VD216	C114	9'-6"			D219	PAIR 3'	H101				• D1: MAGNETIC HOLD OPEN		
C104	CORRIDOR	W202	W202				F116	B101		VD215	C114		WD114										
C121	CORRIDOR 121	W202	W202				F103	B107		VD216	C114	9'-6"											
C122	CORRIDOR 122	W202	W202				F103	B101		VD216	C114	VARIES											SEE SKETCH; REBUILD LANDINGS 5' MIN. LENGTH, AND REBUILD BOTTOM RAMPS
C123	VESTIBULE 123	W202	W202	W202	W405		F103	B101	F803		C201				D219/ D119	FULL G.	H106	REPLACE, SEE ELEVATIONS					S111, NOT ACCESSIBLE, VARIANCE REQUIRED, RAMP NOT FEASIBLE AT SIDEWALK
C124	CORRIDOR 124	W202	W202			LOCKERS	F103	B107		VD216	C114			LEAKS									
C125	CORRIDOR 125	W202	W405	BRICK	W202		F100	B101		VD216	C114				D219/ D119	FULL GL.	H106						
1S1	STAIR NO. 1	W202	W202	W202	W202	S111	S111	B101	F803		C114				D115	16X32	H106	D115 16X32 H106	REPLACE SEE ELEVATIONS		D1: H107		EXISTING EXTERIOR ACCESSIBLE ENTRANCE
1S2	STAIR NO. 2	W202	W202	W202	W202	S111	S111	B101			C114				D115	16X32	H106	D115 16X32 H106	REPLACE SEE ELEVATIONS				S111, NOT ACCESSIBLE, VARIANCE REQUIRED, RAMP NOT FEASIBLE AT SIDEWALK
1S4	STAIR NO. 4	W405	W405	W405	W405	S111	S111	S111			C114				D115	16X32	H106	REPLACE SEE ELEVATIONS					S111, NOT ACCESSIBLE, VARIANCE REQUIRED, RAMP NOT FEASIBLE AT SIDEWALK
1S5	STAIR NO. 5	W202	W202	W202	W202	S111	S111	S111			C114				D115	16X32	H106	REPLACE SEE ELEVATIONS					S111, NOT ACCESSIBLE, VARIANCE REQUIRED, RAMP NOT FEASIBLE AT SIDEWALK
1S6	STAIR NO. 6	W405	W405	W202	W202	S111	S111	S111			C114	12'-11" HARD											SEE SKETCH
1S7	STAIR NO. 7	W202	W202			S111	S111	S111			C114												S111
1S8	STAIR NO. 8	W202	W202			S111	S111	S111			C114												S111
1S13	STAIR NO. 13	W202				S111	S111	S111			C114												S111
E1	ELEVATOR																						REPLACE ELEVATOR, DOUBLE SIDED , 6 STOPS DUE TO ELEVATION CHANGES

THIRD FLOOR & FLOOR 3A

PE PROJECT #: 67150

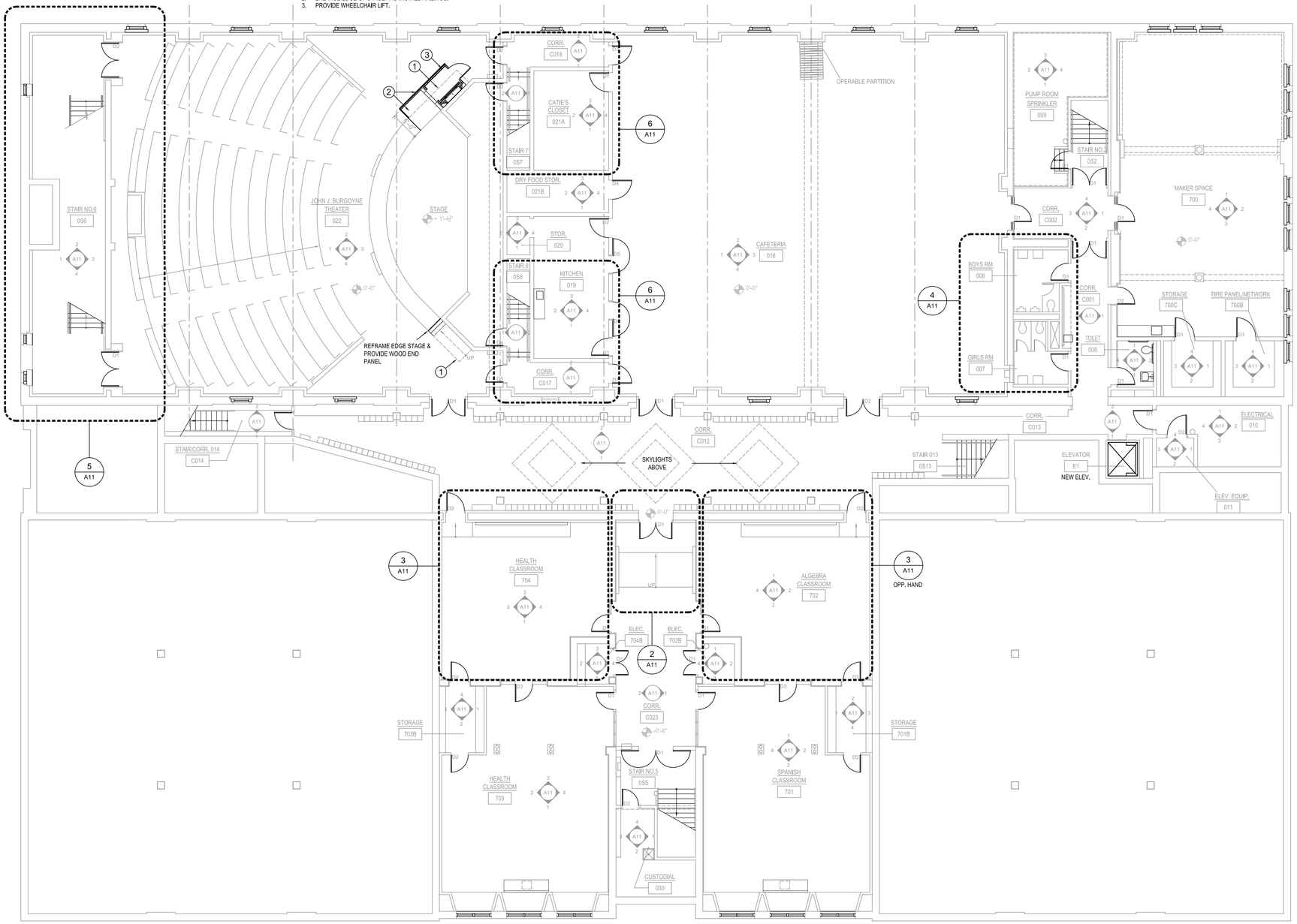
11/10/16

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	Visual Display	Ceiling	Ceiling Hgt.	Windows	Add. Windows/ Ceiling Comments	Doors/Frames D1	Gl. Dim	H1	D2	Gl. Dim	H2	D3	Gl. Dim	H3	D4	Gl. Dim	H4	Add. Door Comments	Casework	Comments
810	COMPUTER LAB	W405	W405	W203	W405 W203	W207	F116	B101		VD214A	C112	• 10-6"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106								CW101	REMOVE CURVED CASEWORK AND DO NOT REPLACE. DESKS INCLUDED IN FFE
811	COLLEGE GEAR UP - MIDDLESEX	W203	W405	W203	W202		F116	B101		VD214A	C112	• 11'-4"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106						H107	CW101	
811B	STORAGE	W203	W203	W203	W203		F116	B101			C114				D219/ D119		H106											
811C	ELECTRICAL	W203	W203	W203	W203		F116	B101			C114				D219/ D119		H106											
812	CLASSROOM -	W203	W203	W203	W203	W207	F116	B101		VD214A	C112	• 9'-2 1/2" • 10'-4"	WD114		D219/ D119		H106	D204	16X22	H104							CW101	
812B	(STORAGE)	W203	W203	W203	W203		F116	B101			C112	• 10'-4"	WD114		D219/ D119		H106	D219/ D119		H106							CW101	
813	CLASSROOM -	W203	W203 RADIATOR	W203	W203	W207	F116	B101		VD214A	C112	• 10'-1"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106							CW101	
813B	(STORAGE)	W202	W203	W203	W203		F116	B101			C114	• 9'-2 1/2"	WD114		D219/ D119		H106	D219/ D119		H106								REMOVE CASEWORK
813.1	BOYS RESTROOM	W1002	W1002	W1002	W1002		F502	PATCH CT			C201	• 7'-9 1/2"			D219/ D119		H106											BTA601, SEE SKETCH
813.2	GIRLS RESTROOM	W1002	W1002	W1002	W1002		F502	PATCH CT			C201	• 7'-9 1/2"			D219/ D119		H106											BTA601, SEE SKETCH
816	CLASSROOM -	W203	W202	W203	W203	W207	F116	B101		VD214A	C112	• 10'-1"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW101	
816.1	TOILET WOMEN FACULTY	W203 FRP	W203 FRP	W203 FRP	W203 FRP	CLEAN FRP	F503	CLEAN CT			C2-1			• LEAKS	D219/ D119		H106									REPLACE INACCESSIBLE MARBLE THRESHOLD		BTA601, SEE SKETCH
816.2	JANITOR CLOSET	FRP	FRP	FRP	FRP		F503	CLEAN CT			C114				D219/ D119		H106									REPLACE INACCESSIBLE MARBLE THRESHOLD		SLOP SINK
817	CLASSROOM -	W203	W202	W203	W203	W207	F116	B101		VD214A	C112	• 9'-9 1/2"	WD114		D219/ D119	16X22	H106										CW101	
817.1	TOILET (NURSE, BY ROOM 813)	W203 FRP	W203 FRP	W203 FRP	W203 FRP		F503	CLEAN CT			C201				D219	NO LITE	H101									H107REPLACE INACCESSIBLE MARBLE THRESHOLD		BTA601
817.2	TOILET MENS	W203 FRP	W203 FRP	W203 FRP	W203 FRP		F503	CLEAN CT			C201				D219	NO LITE	H101									REPLACE INACCESSIBLE MARBLE THRESHOLD		BTA601, SEE SKETCH
818	CLASSROOM	W203	W203	W203	W203	W207	F116	B101		VD214A	C112	• 10'-4"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106							CW101	
819	CLASSROOM	W203	W202	W203	W203	W207	F116	B101		VD214A	C112	• 10'-4"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW101	
820	CLASSROOM	W203	W202	W203	W203	W207	F116	B101		VD214A	C112	• 10'-1" HARD • 10'-3"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW101	
821	CLASSROOM	W203	W202	W203	W203	W207	F116	B101		VD214A	C112	• 10'-4"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW101	
823	STORAGE	W203	W203	W203	W202	REMOVE WING WALL	F116	B101			C112	• 10'-4"	WD114		D219/ D119	16X22	H106											REMOVE CASEWORK
901 N901	SCIENCE LAB/CLASSROOM NEW SCIENCE LAB	W202	W202	W201	W201		F116	B101		VD214A	C112	• 10'-4"	WD114		D219/ D119	16X22	H106	D219/ D108	16X22	H106							CW118	SEE SKETCH SEE SKETCH
901B	STORAGE (W/IN 901)	W203	W203	W203	W203						C114	8'-0" TO ACT			D219/ D108	16X22	H106											
N901B	NEW PREP ROOM	W202	W202	W201	W201		F116	B101		VD215	C114	8'-0" TO ACT	WD114		D219/ D119	16X22	H106										CW118	SEE SKETCH
901C	STORAGE (W/IN 901)																											SEE SKETCH
901D	NETWORK HUB (W/IN 901)																											SEE SKETCH
902	NURSE	W203	W405	W203	W203		F116	B101		VD215	C112	10'-1"	WD114		D219/ D119	16X22	H106										CW101	
902B	NURSE'S OFFICE	W203	W203	W203	W203		F116	B101		VD215	C112	8'-0 1/2"			D219/ D119	16X22	H106										CW101	
902B.1	TEACHER'S LUNCH ROOM	W103	W203	W203	F405		F116	B101		VD215	C112	• 8'-0" • 10'-6" TO 2X4 ACT	WD114		D219/ D119	16X22	H106	D115		H106						D1: H107	CW101	
902C	JANITOR CLOSET	W203	W203 F405	W201	W203		F116	B101			C114	7'-11"			D219/ D108		H106											SLOP SINK, SEE SKETCH
902D	NURSE TOILET	NEW CT	W1002	W1002	W1002		F503	CLEAN CT			C201	7'-11"			D219/ D108		H106											BTA601, SEE SKETCH
903	COMPUTER LAB									VD214A	C201	7'-11"			D219/ D119	16X32	H106											SEE SKETCH
903N	NEW SMALL CLASSROOM	W201	W202	W202	W202		F116	B101					WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106								CASEWORK IN FFE
903B	STORAGE (W/IN 901)																											SEE SKETCH
904	SCIENCE CLASSROOM																											SEE SKETCH
N904	NEW COMPUTER LAB	W201	W202	W202	W202	W207	F116	B101		VD214A	C201	7'-11"	WD114		D219/ D119	16X32	H106											SEE SKETCH
905	CLASSROOM -	W203	W203	W203	W203	W207	F116	B101		VD214A	C112	• 10-6"	WD114		D219/ D119	16X22	H106										CW101	
905B	ELECTRICAL	W203	W203	W203	W203		F116	B101			C201				D219/ D119		H106											
906	CLASSROOM -																											
N906	NEW SCIENCE LAB	W201	W202	W201	W202	W207																					CW118	SEE SKETCH
907	CLASSROOM -	W203	W203	W203	W203	W207	F116	B101	W207	VD214A	C112	• 10-6"	WD114		D219/ D119	16X32	H106	D204	6X36	H104							CW101	
908	CLASSROOM -								REMOVE RAISED PLATFORM & CASEOWORK TO PROVIDE LEVEL FLOOR																			SEE SKETCH
N908B	NEW PREP ROOM	W202	W202	W201	W201		F116	B101		VD215	C114	8'-0" TO ACT	WD114		D219/ D108	16X22	H106	D219/ D108	16X22	H106							CW118	SEE SKETCH
909	CLASSROOM -	W203	W405	W203	W203	W207	F116	B101	W207	VD214A	C112	• 10-6"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW101*	
910	CLASSROOM -																											SEE SKETCH
N210	NEW SCIENCE LAB	W201	W201	W202	W201	W207	F116	B101		VD214A	C112	• 10-6"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106							CW118	SEE SKETCH
910.1	GIRLS TOILET	W405	W1005	W405	W405	NEW CT	F114	B101			C201	9'-0"	WD114	WATER DAMAGE	D219/ D119		H106											BTA601, SEE SKETCH
911	SCIENCE CLASSROOM	W203 W405	W203 W405	W203	W203		F116	B101		VD214A	C112	• 10'-9"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106							CW101	SEE SKETCH
911N	NEW SCIENCE LAB	W202	W202	W201	W202		F116	B101		VD214A	C112	• 10'-9"	WD114		D219/ D119	16X22	H106	D219/ D119	16X22	H106	D219/ D119	16X22	H106				CW118	SEE SKETCH
912	CLASSROOM -																											SEE SKETCH
912N	NEW PREP ROOM	W202	W201	W202	W202	W2: NEW GWB OVER BRICK	F116	B101		VD214A	C112	• 10'-9"	WD114		D219/ D108	16X22	H106	D219/ D119	16X22	H106							CW118	SEE SKETCH

C201	CORRIDOR 201	W202	W202	W202	W202	S111	F116	B101		VD216	C112	• 9' 1 1/2"		• LEAKS	D219/ D119 16X22 H106							S111
C202	CORRIDOR 202	W201	W202				F116	B101		VD216	C112	• 9' 1 1/2"		• LEAKS	D219/ D119 16X22 H106							NEW EWC
C203	CORRIDOR 203	W202	W202	W202			F116	B101		VD216	C112	• 9' 1 1/2"			D219/ D119 16X22 H106					HOLD OPENS		
C204	CORRIDOR 204	W202	W202			LOCKERS	F100	B101		VD216	C112	• 9' 1 1/2"		• LEAKS								
C205	CORRIDOR 205	W202	W202	W202			F100	B101		VD216	C112	• 9' 1 1/2"			D219 PAIR 3' H106					HOLD OPENS		
C230	CORRIDOR 230	W202	W202	W202	W202	LOCKERS	F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS								
C232	CORRIDOR 232	W202	W202			LOCKERS	F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS								
C233	CORRIDOR 233	W202	W202			LOCKERS	F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS	D219 16X22 H106	D219 16X22 H106				HOLD OPENS		
C234	CORRIDOR 234	W202	W202	W202		LOCKERS	F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS								
C235	CORRIDOR 234	W202	W202	W202		LOCKERS	F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS								
C236	CORRIDOR 235	W202	W405	W405	W202		F116	B101		VD215	C114	• 9' 1 1/2"		• LEAKS	D219 2 16X22 H106							
3S1	STAIR NO. 1	W202	W202	W202	W202	S111	S111	S111			C114	• 9' 1 1/2"	WD114		D115 2 16X22 H101	D115 16X22 H106						S111
3S2	STAIR NO. 2	W202	W202	W202	W202	S111	S111	S111			C114	• 9' 1 1/2"	WD114		D115 2 16X22 H101							S111
3S3	STAIR NO. 3	W202	W202	W202	W202	S111	S111	S111			C114	• 9' 1 1/2"			D115 2 16X22 H101							S111
3S4	STAIR NO. 4	W405	W405	W405	W405	S111	S111	S111			C114	• 9' 1 1/2"		• LEAKS	D115 2 16X22 H101							S111
3S5	STAIR NO. 5	W202	W202	W202	W202	S111	S111	S111			C114	• 9' 1 1/2"		• LEAKS	D115 2 16X22 H101							S111
E1	ELEVATOR 1																					REPLACE ELEVATOR, DOUBLE SIDED , 6 STOPS DUE TO ELEVATION CHANGES

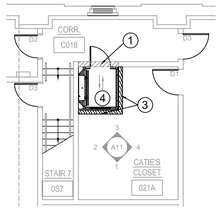
LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT-FRESHMAN ACADEMY
FOURTH FLOOR
PE PROJECT #: 67150
11/10/16

																Doors/Frames													
Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	Visual Display	Ceiling	Ceiling Hgt.	Windows (See Elevations)	Add. Windows/ Ceiling Comments	D1	Gl. Dim	H1	D2	Gl. Dim	H2	D3	Gl. Dim	H3	D4	Gl. Dim	H4	Add. Door Comments	CASEWORK	Comments
850	CLASSROOM (W/IN 851)																											SEE SKETCH
N850	NEW PREP ROOM	W202	W202	W202	W202		F116	B101		VD215	C112	10-81/2"		WD114	D219/ D108	FULL GL	H106	D219/ D119	16X32	H106								CW118	SEE SKETCH, LAB TABLES INC FFE
851	CLASSROOM - SCIENCE																												
N851	NEW SCIENCE LAB	W202	W202	W202	W202	W207	F116	B101		VD214	C112	10-81/2"		WD114	D219/ D119	FULL GL	H106	D219/ D119	16X32	H106								CW118	SEE SKETCH, LAB TABLES INC FFE
851A	CLOSET (851)																												SEE SKETCH
851B	CLOSET (851)																												SEE SKETCH
851C	CLOSET (851)																												SEE SKETCH
852	COPY	W203	W203	W203	W203		F116	B101		VD215	C112	• 9'-0"			D219/ D119	HALF GL.	H106	D219/ D119	HALF GL.	H106								CW101	
852B	STORAGE (W/IN 852)	W203	W203	W203	W203		F116	B101			C114	8'-0"			D219/ D119		H106												
852C	TEACHER LOUNGE (WIN 852)	W203	W103	W103	W203		F116	B101		VD215	C104	• 10'-4"	WD114															CW101	PROVIDE NEW APPLIANCES TYP.
852D	JANITOR/ROOF ACCESS	W202	W202	W202	W202		F116	B101			C301	• 7'-10"/ 17'-0"		REPLACE ROOF HATCH	D219/ D119		H106											CW101	SLOP SINK, PAINT METAL LADDER
853	CLASSROOM - ENGLISH	W202	W202	W202	W202	• W1, W3: REPLACE TECTUM, W207	F116	B101	REMOVE TIERED FLOOR	VD214A	C112	• 10'-7 1/2" HARD • 10'-3"	WD114		D219/ D119	HALF GL.	H106											CW101	REMOVED TIERED FLOOR AND INSTALL NEW LEVEL, ACCESSIBLE FLOOR ON LIGHTGUAGE FRAMING FLUSH W/ THE PASSAGE / TOP TIER.
853B	PASSAGE (W/IN 853)	W203	W203	W203	W203		F116	B101			C114	• 10'-3" TO 2X2 ACT		CEILING LEAKS	D219/ D119	16X22	H106	D219/ D119	16X22	H104									
853C	STORAGE (W/IN 853)	W203	W203	W203	W203		F116	B101			C114	• 9'-3 TO HARD																PROVIDE NEW ADJUSTIBLE SHELVIING
853E	PASSAGE (W/IN 853)	W203	W203	W203	W203		F116	B101			C114	• 10'-3" TO 2X2 ACT			D219/ D119	16X22	H106	D219/ D119	16X22	H104									
853D	STORAGE (W/IN 853)	W203	W203	W203	W203		F116	B101			C114	• 9'-3 TO HARD			D219/ D119	NO LITE	H106												PROVIDE NEW ADJUSTIBLE SHELVIING
853.1	BOYS RESTROOM	W1002	W1002	W1002	W1002		F502	PATCH CT			C301	• 7'-9 1/2"			D219/ D119		H106												BTA601, SEE SKETCH
853.2	GIRLS RESTROOM	W1002	W1002	W1002	W1002		F502	PATCH CT			C301	• 7'-9 1/2"			D219/ D119		H106												BTA601, SEE SKETCH
853.3	MECHANICAL	W310 W405	W310 W405	W405	W310		F402				EXP.				D101		H106									RATED DOOR/FRAME			
853.4	MECHANICAL (PENT HOUSE)	W404	W404	W404	W404		F405				EXP.	11'-4"			D101		H106									RATED DOOR/FRAME			
854	PASSAGE TO POLICE DEPT	W203	W203	W203	W203		F116	B101			C112	• 9'-1"			D219/ D119	16X22	H106												
854A	POLICE DEPARTMENT (W/IN 854)	W202	TECTUM	TECTUM	TECTUM	REPLACE TECTUM	F116	B101		VD215	C112	• 10'-5"	WD114		D219/ D119	16X22	H106												0
854B	MIDDLESEX COMM COLLEGE(W/IN 854	W203	W103	W203	TECTUM	REPLACE TECTUM	F116	B101		VD215	C101	• 10'-5"	WD114	CEILING LEAKS	D219/ D119		H106												
854C	TOILET (IN POLICE SUITE)	W203 FRP	W203 FRP	W203 FRP	W203 FRP		F100	B101			C301	• 9'-2"			D219/ D119		H106									H107			BTA601, SEE SKETCH
854.2	CUSTODIAL	W203 FRP	W203 FRP	W203 FRP	W203 FRP		F502	CLEAN			C114	• 8'-7 1/2"			D219	NO LITE	H101												REMOVE AND CAP TOILET FIXTURES, TOILET USED AS STORAGE. SLOP SINK
854.3	TOILET WOMENS	W203 FRP	W203 FRP	W203 FRP	W203 FRP		F116	B101			C301	• 8'-10"			D219/ D119		H106												BTA601, SEE SKETCH
855	CLASSROOM -	W203	W103	W203	W203	W207	F116	B101		VD214A	C112	• 10'-3"	WD114	CEILING LEAKS	D219/ D119	16X32	H106	D204	16X32	H104								CW101	NO SINKS REQUIRED IN TYP. CLASSROOM
856	CLASSROOM (SCIENCE)												WD114																SEE SKETCH
N856	NEW SCIENCE LAB	W201	W202	W202	W202	W207	F116	B101		VD214A	C112	• 10'-3"	WD114	CEILING LEAKS	D219/ D119	16X32	H106	D204	16X32	H104								CW118	SEE SKETCH
857	CLASSROOM -	W203	W103	W203	W203	W207	F116	B101		VD214A	C112	• 10'-4"	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106	D204	NO LITE	H104					CW101	
858	CLASSROOM -																												SEE SKETCH
N858	NEW PREP ROOM	W202	W202	W201	W202		F116	B101		VD215	C112	• 10'-4"	WD114		D219/ D108	16X32	H106											CW118	SEE SKETCH
859	HEARING IMPAIRED CLASSROOM	W203	W103	W203	W203	W207	F116	B101		VD214A	C112	• 10'-4" TO 2X2 ACT	WD114		D219/ D119	16X32	H106	D219/ D119	16X32	H106								CW101	
859B	PASSAGE (W/IN 859)	W203	W203	W203	W203		F116	B101			C112	• 9'-4" TO HARD																	
859C	STORAGE(PREV.DARK RM. W/IN 859)	W202	W202	W202	W202		F116	B101			C112	• 9'-4" TO HARD		• CEILING LEAKS, SEE PLAN/PHOTOS														REMOVE	ASSUME STORAGE/ DARK ROOM NOT REQD. REMOVE CASEWORK / CUT & CAP FIXTURES.CONFIRM IF DARK ROOM REQD. FOR PROGRAM
859D	STORAGE(PREV.DEV. RM. W/IN 859)	W202	W202	W202	W202		F116	B101			C112	• 9'-4" TO HARD			D219/ D119		H106											REMOVE	ASSUME STORAGE/ DEV. ROOM NOT REQD. REMOVE CASEWORK / CUT & CAP FIXTURES.CONFIRM IF DARK ROOM REQD. FOR PROGRAM
859E	STORAGE(PREV.DEV. RM. W/IN 859)	W202	W202	W202	W202		F116	B101			C201	• 9'-4" TO HARD			D204	NO LITE	H104											REMOVE	ASSUME STORAGE/ DEV. ROOM NOT REQD. REMOVE CASEWORK / CUT & CAP FIXTURES.CONFIRM IF DARK ROOM REQD. FOR PROGRAM
860	CLASSROOM -	W202	W202	W202	W202		F116	B101			C201	• 9'-4" TO HARD			D219/ D119	16X32	H106	D219/ D119	16X32	H106	D204	NO LITE	H104					CW101	SEE SKETCH
861	OFFICE	W203	W203	W103	W202	REMOVE WING WALL @ DOOR	F116	B101		VD215	C112	• 10'-3"	WD114		D219/ D119	16X32	H106									H107	CW101	
C302	CORRIDOR 302	W202	W202				F116	B101	EXTENSIVE SPALLED GYPCRETE	VD216	C114	• 7'-8"			D219/ D119	FULL GL.	H106									HOLD OPENS	REMOVE	
C303	CORRIDOR 303	W202	W202			LOCKERS	F116	B101		VD216	C114	• 9' 1 1/2"			D219/ D119	FULL GL.	H106									HOLD OPENS		
C304	CORRIDOR 304	W202	W202			LOCKERS	F116	B101		VD216	C114	• 9' 1 1/2"			D219/ D119	FULL GL.	H106									HOLD OPENS		
C306	CORRIDOR 306	W202	W202	W202		LOCKERS	F117	B101		VD216	C114	• 9' 1 1/2"	WD114		D219/ D119	FULL GL.	H106									HOLD OPENS		
4S1	STAIR NO. 1	W202	W202	W202	W202 W804		S111	S111			C114		WD114	• CEILING LEAKS	D101	6X36	H106	D101	6X36	H106				RATED DOOR/FRAME				S111
4S2	STAIR NO. 2	W202	W202	W202	W202		S111	S111			C114		WD114	• CEILING LEAKS	D101	6X36	H106							RATED DOOR/FRAME				S111
4S3	STAIR NO. 3	W202	W202	W202	W202		S111	S111			C114		WD114	• CEILING LEAKS	D101	6X36	H106							RATED DOOR/FRAME				S111
E1	ELEVATOR 1																												REPLACE ELEVATOR, DOUBLE SIDED , 6 STOPS DUE TO ELEVATION CHANGES



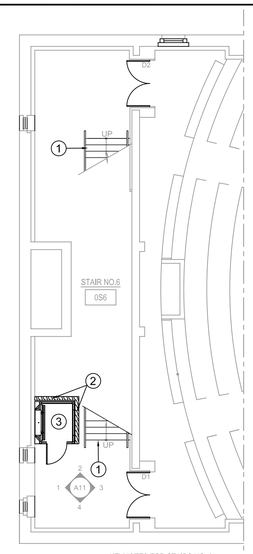
1 FRESHMAN ACADEMY GROUND FLOOR
1/8" = 1'-0"

NOTE: SEE SPREADSHEET FOR BASE REPAIR KEYNOTE SCOPE IN ALL ROOMS



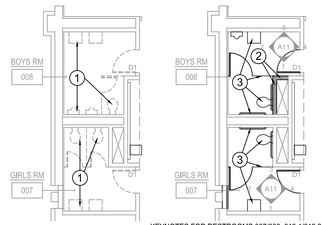
6 RMS 021A/118 & 017/019
1/8" = 1'-0"

KEYNOTES FOR RM 021A/118 & 019/119:
1. CUT OPENING IN MASONRY WALL & PROVIDE LINTEL.
2. CUT FLOOR OPENING & HEAD OFF FRAMING.
3. PROVIDE 3'-6" HIGH MTL. STUD WALLS WITH GWB. & WOOD CAP.
4. PROVIDE NEW WHEELCHAIR LIFT FOR ACCESS TO DRESSING ROOM (NOTE: HC VARIANCE REQUIRED).



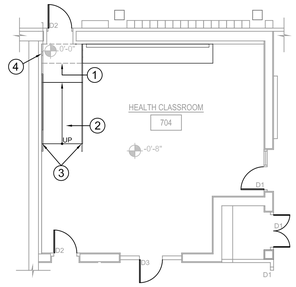
5 STAIR #6
1/8" = 1'-0"

KEYNOTES FOR STAIRS NO. 6:
1. REBUILD EXISTING STAIR.
2. PROVIDE NEW MTL. STUD/GWB WALLS WITH WOOD CAP.
3. PROVIDE NEW WHEELCHAIR LIFT FOR ACCESS TO FIRST FLOOR (NOTE: HC VARIANCE REQUIRED).



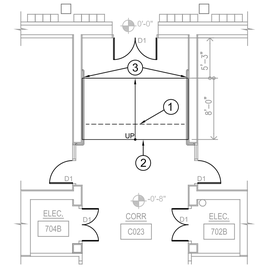
4 RM 007 / 008
1/8" = 1'-0"

KEYNOTES FOR RESTROOMS 007/008, 813.1/813.2, 853.1, 853.2:
1. REMOVE EXISTING PLUMBING FIXTURES & ACCESSORIES.
2. PROVIDE NEW MTL. STUD/GWB WALLS.
3. PROVIDE NEW TOILET PARTITIONS, PLUMBING FIXTURES & ACCESSORIES.



KEYNOTES FOR RM 702 &704:
1. DEMO STEP.
2. PROVIDE NEW LIGHT GAUGE RAMP WITH 2 LAYERS T&G PLYWOOD & VCT TO MATCH EXISTING.
3. PROVIDE HIGH/LOW RAILINGS EACH SIDE.
4. PROVIDE POWER OPERATOR AT DOOR.

3 RM 702 (OPP. HAND) & 704
1/8" = 1'-0"



2 CORR. CO23
1/8" = 1'-0"

CORRIDOR C023 NOTES:
1. DEMO EXISTING RAMP.
2. PROVIDE NEW LIGHT GAUGE RAMP WITH 2 LAYERS T&G PLYWOOD & VCT TO MATCH EXISTING.
3. PROVIDE HIGH/LOW RAILINGS EACH SIDE.

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 201
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Site:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
Garcia Galuska DeSousa, Inc.
Mechanical & Plumbing Consultant Address

Electrical:
Garcia Galuska DeSousa, Inc.
370 Faunce Corner Road, N. Dartmouth, MA 02747

Food Service:
Crabtree McGrath Associates, Inc.
161 West Main St., Georgetown, MA 01833

Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

FRESHMAN ACADEMY GROUND FLOOR

SCALE: 1/8" = 1'-0"

A11

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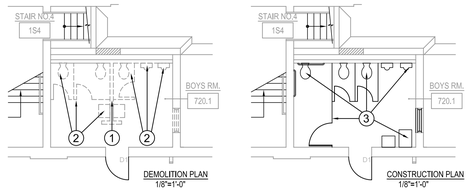
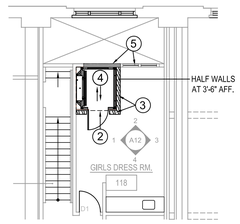
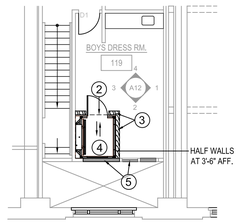


KEYNOTES FOR RESTROOMS 720.1 & : 910.1:

1. DEMO WALLS
2. REMOVE EXISTING PLUMBING FIXTURE & ACCESSORIES.
3. PROVIDE NEW TOILET PARTITIONS, FIXTURE & ACCESSORIES.

7 BOYS RM 720.1
1/8" = 1'-0"

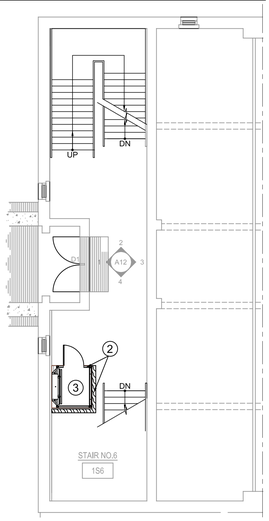




KEYNOTES FOR RM 021A/118 & 019/119:

1. CUT OPENING IN MASONRY WALL & PROVIDE LINTEL.
2. CUT FLOOR OPENING & HEAD OFF FRAMING.
3. PROVIDE 3'-6" HIGH MTL. STUD WALLS WITH GWB. & WOOD CAP.
4. PROVIDE NEW WHEELCHAIR LIFT FOR ACCESS TO DRESSING ROOM (NOTE: HC VARIANCE REQUIRED).
5. REMOVE EXISTING WINDOW & INFILL THE OPENING. PROVIDE NEW WINDOW AS SHOWN.

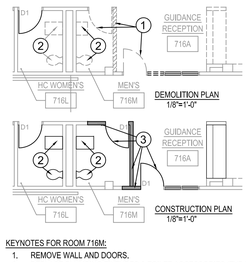
6 RM 021A/118 & 019/119
1/8" = 1'-0"



KEYNOTES FOR STAIRS NO. 6

1. REBUILD STAIR.
3. PROVIDE 3'-6" HIGH MTL. STUD WALLS WITH GWB. & WOOD CAP.
3. PROVIDE NEW WHEELCHAIR LIFT FOR ACCESS TO FIRST FLOOR (NOTE: HC VARIANCE REQUIRED).

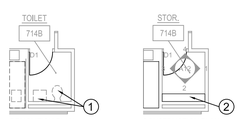
5 STAIR #6
1/8" = 1'-0"



KEYNOTES FOR ROOM 716M:

1. REMOVE WALL AND DOORS.
2. REPLACE PLUMBING FIXTURES & TOILET ACCESSORIES (TYP.)
3. PROVIDE NEW WALLS, DOOR & FRAMES.

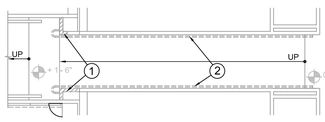
4 RM. 716L & 716M
1/8" = 1'-0"

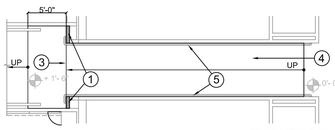


KEYNOTES FOR ROOM 714B & 713B (SIM.)

1. REMOVE PLUMBING FIXTURES.
2. PROVIDE SHELVING.

3 RM. 713B & 714B (SIM.)
1/8" = 1'-0"



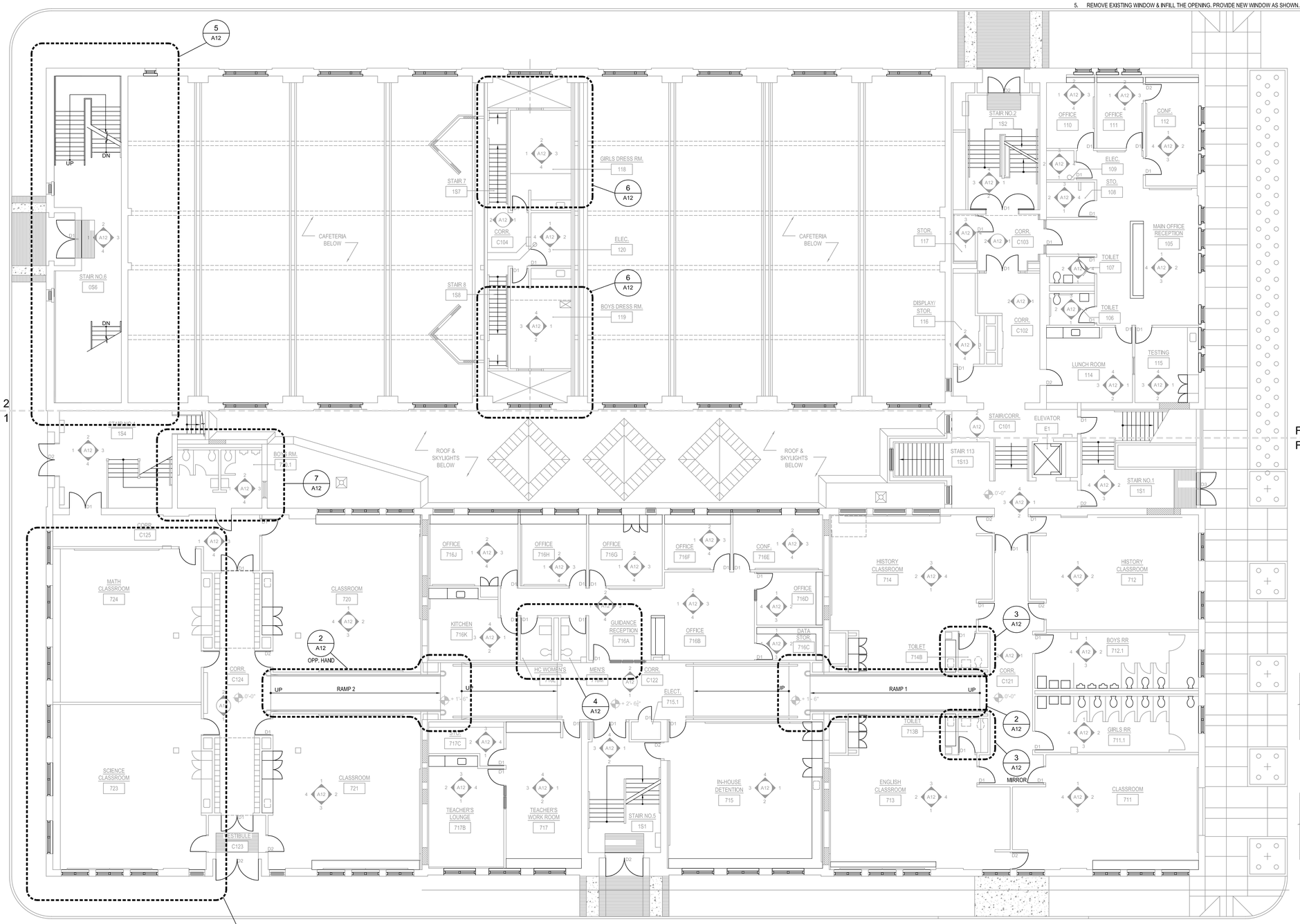


KEYNOTES FOR RAMP 1 & 2

1. REMOVE EXISTING & PROVIDE NEW WALLS.
2. REMOVE RAILINGS
3. PROVIDE 12" OF LANDING TO MATCH.
4. REBUILD BOTTOM RAMPS.
5. PROVIDE RAILINGS.

2 RAMP2 (OPP. HAND) & RAMP 1
1/8" = 1'-0"

FLOOR 2
FLOOR 1



1 FRESHMAN ACADEMY FLOOR 1 & 2
1/8" = 1'-0"

NOTE: SEE SPREADSHEET FOR BASE REPAIR KEYNOTE SCOPE IN ALL ROOMS

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 20
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
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Construction Manager:
Skanska
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Civil / Site:
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2 Center Plaza, Boston, MA 02108

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150 Chestnut St., Providence, RI 02903

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Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

FRESHMAN ACADEMY FLOOR 1 & 2

SCALE: 1/8" = 1'-0"

A12

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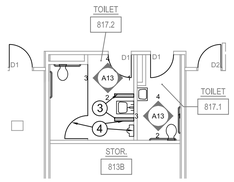
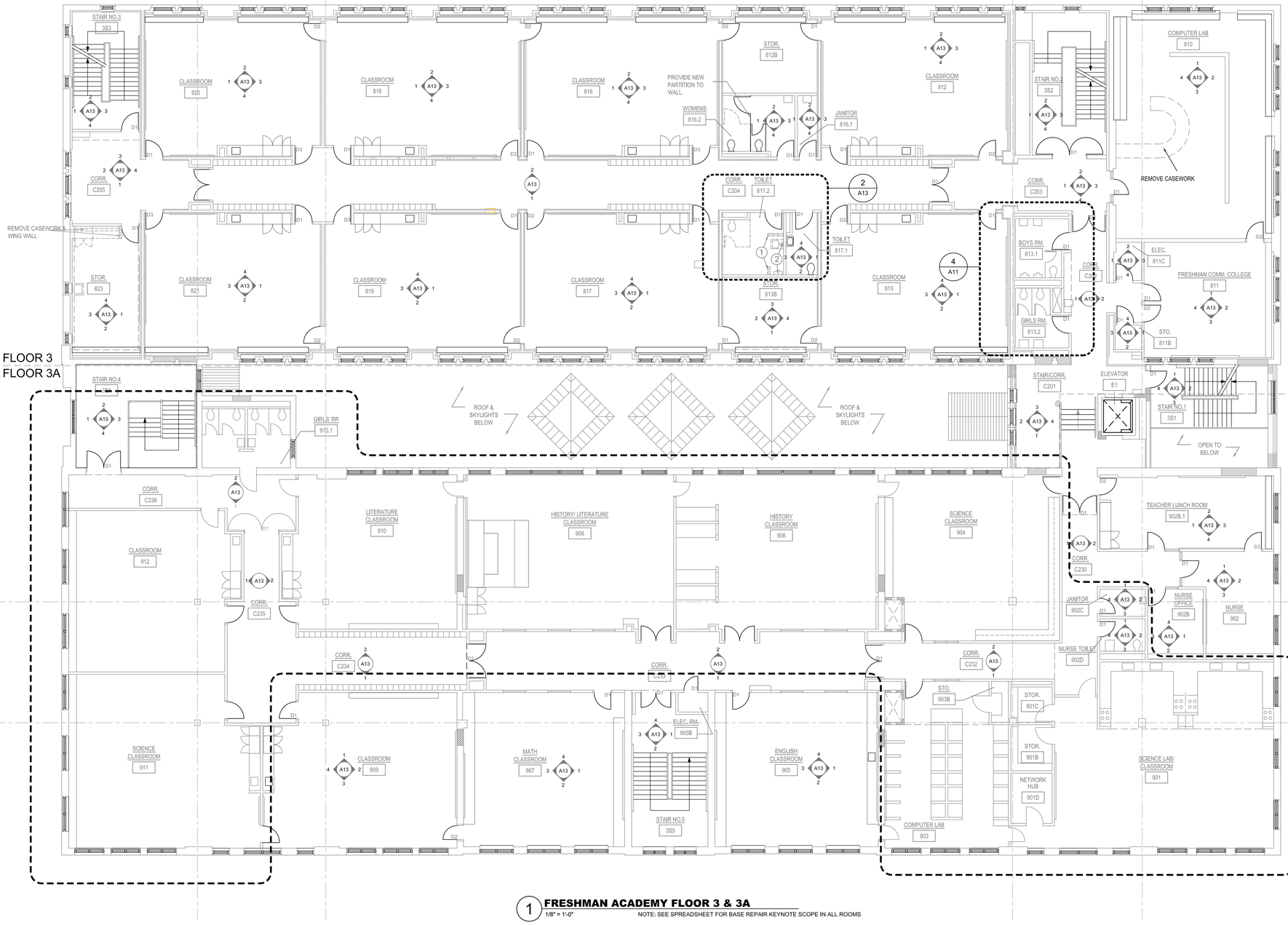


2 CONSTRUCTION PLAN
1/8" = 1'-0"

KEYNOTES FOR RESTROOM 817.2

1. DEMO WALLS
2. REMOVE EXISTING PLUMBING FIXTURES & ACCESSORIES.
3. NEW GWB. WALLS
4. PROVIDE NEW TOILET PARTITIONS, PLUMBING FIXTURES & ACCESSORIES.



1 FRESHMAN ACADEMY FLOOR 3 & 3A
1/8" = 1'-0"

NOTE: SEE SPREADSHEET FOR BASE REPAIR KEYNOTE SCOPE IN ALL ROOMS

NO. DATE REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 201
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Sitec:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
Birchwood Design Group
150 Chestnut St., Providence, RI 02903

Structural:
Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

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370 Faunce Corner Road, N, Dartmouth, MA 02747

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Code Consultant:
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529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

FRESHMAN ACADEMY FLOOR 3 & 3A

SCALE: 1/8" = 1'-0"

A13

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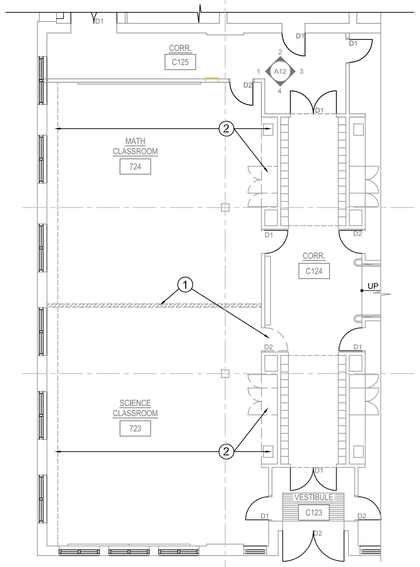
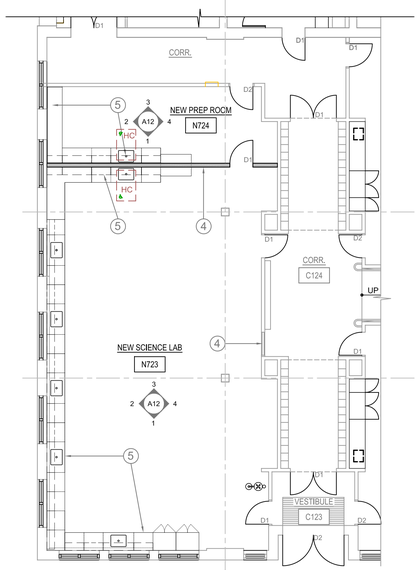
11/10/2016



4 DEMOLITION PLAN FLOOR 1
1/8" = 1'-0"

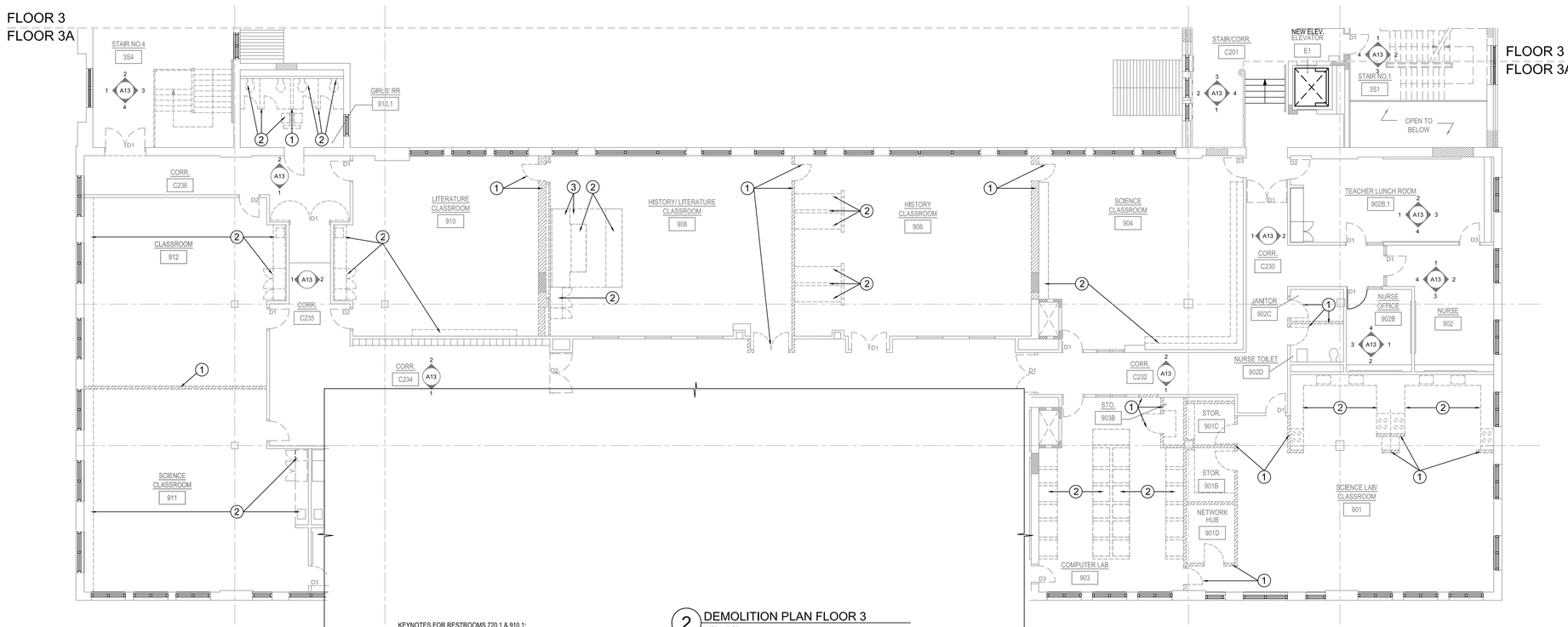
KEYNOTES FOR SCIENCE LAB/PREP ROOM/ 902C & 902D:

1. DEMO WALLS AND DOORS.
2. DEMO CASEWORK.
3. DEMO TIERED FLOOR, INSTALL NEW LEVEL, ACCESSIBLE LIGHT GAUGE FRAMING FLUSH WITH THE PASSAGE AREA/ TOP TIER.
4. NEW WALL AND DOOR
5. INFILL WALL
6. NEW LAB CASEWORK.



3 CONSTRUCTION PLAN FLOOR 1
1/8" = 1'-0"

FLOOR 3
FLOOR 3A

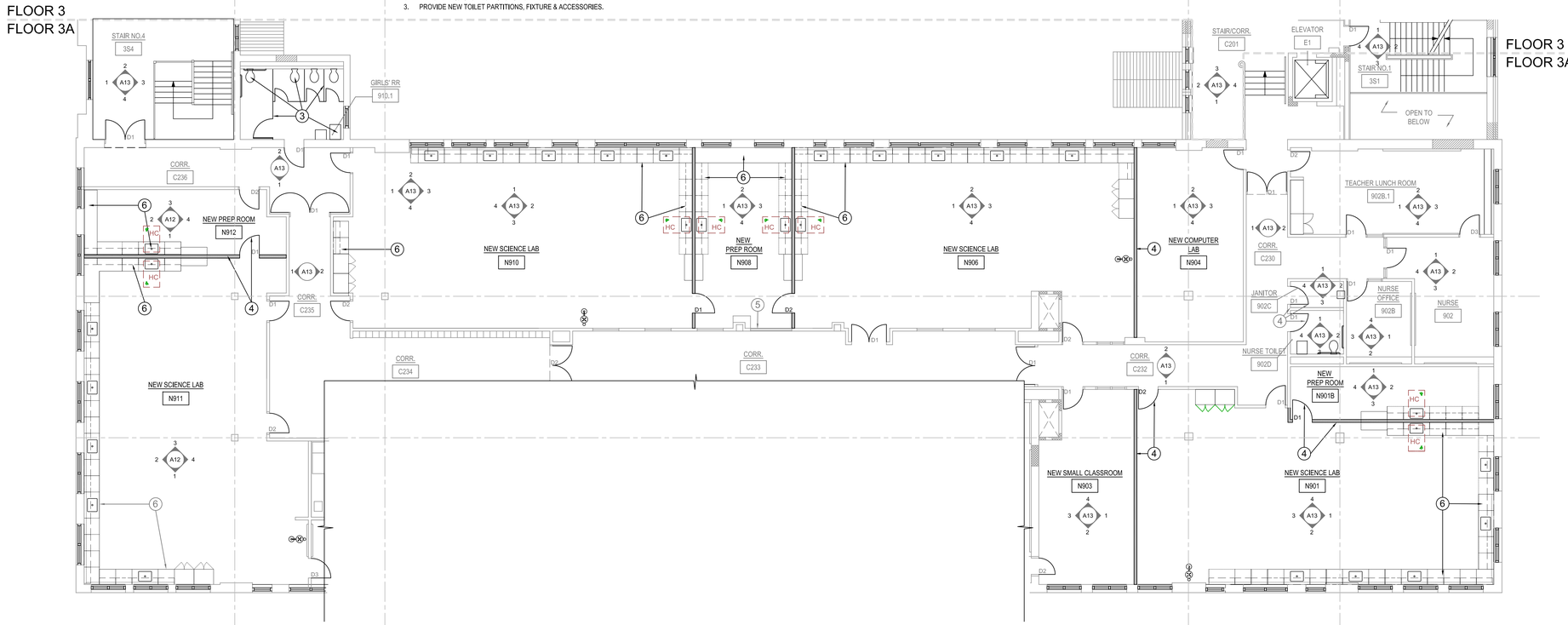


KEYNOTES FOR RESTROOMS 720.1 & 910.1:

1. DEMO WALLS
2. REMOVE EXISTING PLUMBING FIXTURE & ACCESSORIES.
3. PROVIDE NEW TOILET PARTITIONS, FIXTURE & ACCESSORIES.

2 DEMOLITION PLAN FLOOR 3
1/8" = 1'-0"

FLOOR 3
FLOOR 3A



1 CONSTRUCTION PLAN FLOOR 3
1/8" = 1'-0"

NOTE: SEE SPREADSHEET FOR BASE REPAIR KEYNOTE SCOPE IN ALL ROOMS

FLOOR 3
FLOOR 3A

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 20
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
Skanska
101 Seaport Boulevard, Boston, MA 02210

Civil / Sitec:
Nitsch Engineering
2 Center Plaza, Boston, MA 02108

Landscape:
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Foley Buhl Roberts & Assoc.
2150 Washington St., Newton, MA 02462

Mechanical & Plumbing:
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Mechanical & Plumbing Consultant Address

Electrical:
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Code Consultant:
R.W. Sullivan Engineering
529 Main Street, Boston, MA 02129

Acoustical Consultant:
Cavanaugh Tocci Associates, Inc.
327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

FRESHMAN ACADEMY NEW SCIENCE LABS

SCALE: 1/8" = 1'-0"

A13.1

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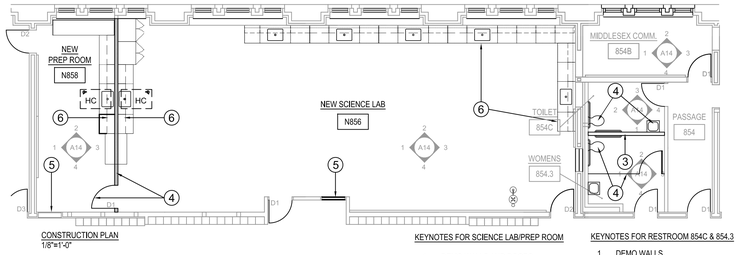


CONSTRUCTION PLAN
1/8"=1'-0"

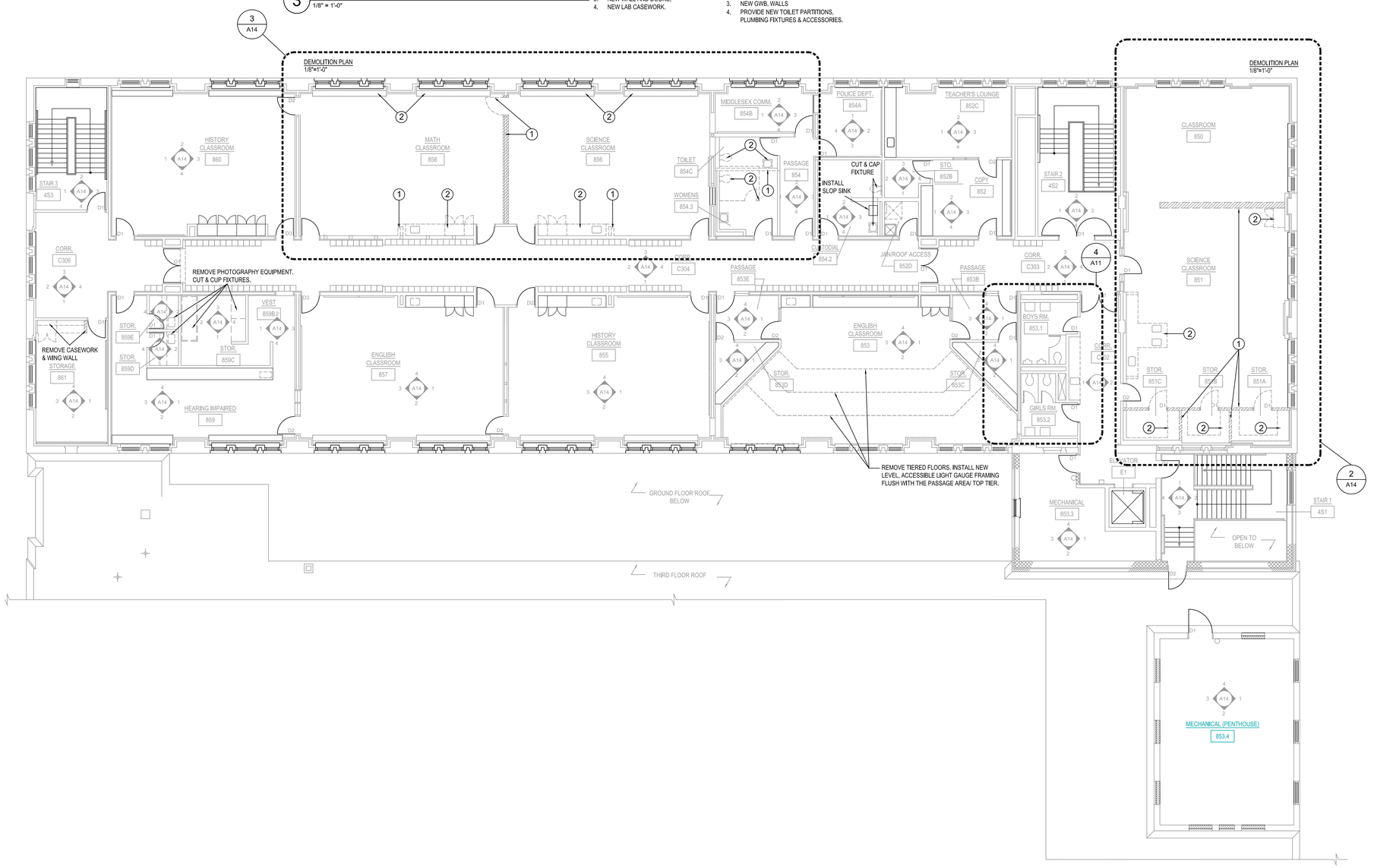
KEYNOTES FOR SCIENCE LAB/PREP ROOM

1. DEMO WALLS AND DOORS.
2. REMOVE CASEWORK.
3. NEW WALL AND DOORS.
4. NEW LAB CASEWORK.

KEYNOTES FOR RESTROOM 854C & 854.3

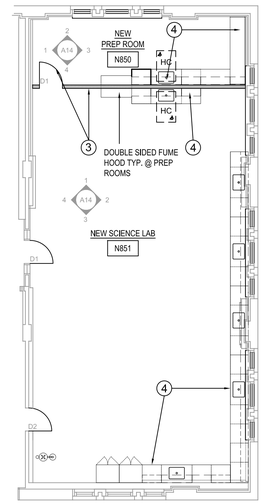
1. DEMO WALLS
2. REMOVE EXISTING PLUMBING FIXTURES & ACCESSORIES.
3. NEW GWB. WALLS
4. PROVIDE NEW TOILET PARTITIONS, PLUMBING FIXTURES & ACCESSORIES.

3 SCIENCE LAB/PREP RM N856/N856 & TOILET 854C/854.3
1/8" = 1'-0"



1 FRESHMAN ACADEMY FLOOR 4
1/8" = 1'-0"

NOTE: SEE SPREADSHEET FOR BASE REPAIR KEYNOTE SCOPE IN ALL ROOMS



CONSTRUCTION PLAN
1/8"=1'-0"

KEYNOTES FOR SCIENCE LAB/PREP ROOM

1. DEMO WALLS AND DOORS.
2. REMOVE CASEWORK.
3. NEW WALL AND DOORS.
4. NEW LAB CASEWORK.

2 SCIENCE LAB/PREP RM N850 & N851
1/8" = 1'-0"

NO.	DATE	REVISION

SEAL

KEY PLAN

Perkins Eastman
50 FRANKLIN STREET
SUITE 20
BOSTON, MA 02110
T. 671.449.4000
F. 671.449.4049

Owner:
City of Lowell
375 Merrimack St., Lowell, MA 01852

Construction Manager:
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327 F Boston Post Road, Sudbury, MA 01176

PROJECT TITLE:

LOWELL HIGH SCHOOL BASE REPAIR

50 FATHER MORISSETTE BLVD,
LOWELL, MA 01852

PROJECT No: 67150

DRAWING TITLE:

FRESHMAN ACADEMY FLOOR 4

SCALE: 1/8" = 1'-0"

A14

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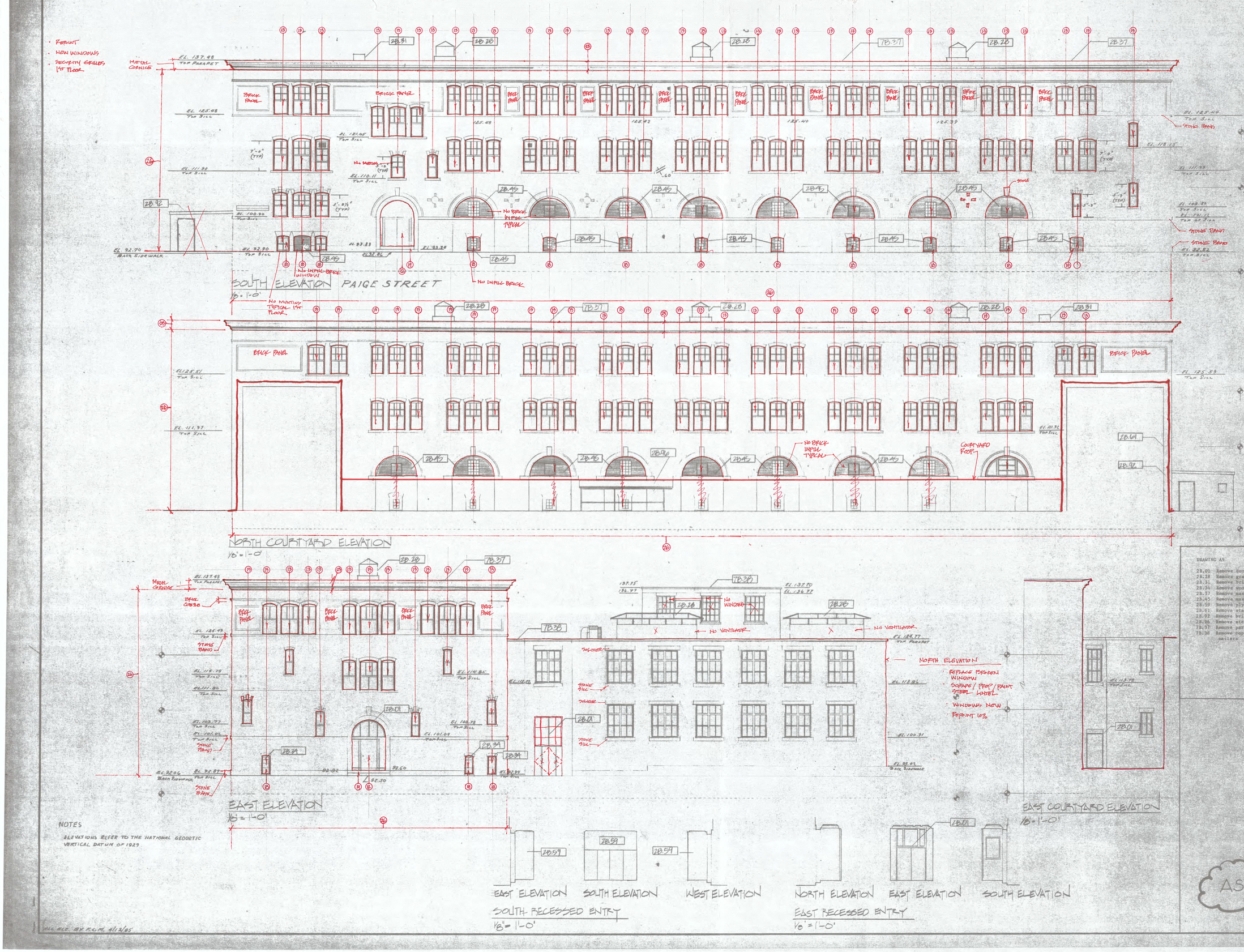
LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
GENERAL NOTES FOR ELEVATIONS - ALL BUILDINGS

2/16/17

PE # 67150.00

GENERAL NOTES:

1. **CLEAN BRICK MASONRY VENEER**
2. **REPLACE BRICK MASONRY VENEER**
3. **REPLACE BRICK HEADER**
4. **REPLACE BRICK MASONRY VENEER**
5. **REPLACE CEMENTATIOUS PANELS**
6. **REPLACE PLASTIC FACED PLYWOOD PANELS**
7. **REPLACE SEALANT**
8. **REPLACE LOUVERS**
9. **REPLACE ALUMINUM DOOR + FRAME**
10. **REPLACE ALUMINUM DOOR + FRAME + SIDELIGHT + TRANSOM**
11. **REPLACE SOFFIT W/ EXTERIOR CEMENT BOARD FINISH SYSTEM + CR METAL FRAMING**
12. **REPLACE ALUMINUM DOOR + FRAME + ENTRY**
13. **REPLACE ALUMINUM WINDOWS**
14. **REPLACE BROKEN BRICK**
15. **REPLACE BROKEN PRECAST CONCRETE CAPSTONE**
16. **REPLACE ALUMINUM STOREFRONT**
17. **REMOVE EFFLOURESCENCE**
18. **REPLACE STELL SECURITY SCREEN**
19. **REPOINT STONE STEPS**
20. **NEW LIGHT FIXTURE**
21. **REPLACE EXIT LIGHT**
22. **CLEAN TERRACOTTA MOLDINGS, CORNICES + TRIM**
23. **SCRAPE/ PREP/ PAINT STEEL LINTEL**
24. **REPLACE SHEETMETAL PANEL W/ TERRACOTTA**
25. **SCRAP/ PREP/ PAINT METAL CORNICE**
26. **REPOINT BRICK MASONARY**
27. **REPLACE OVERHEAD COILING DOOR**
28. **REPLACE WOOD DOOR + FRAME**
29. **REPLACE POLY-CARBONATE GLAZING**
30. **REPLACE BROKEN INSULATED GLASS UNIT**
31. **REPLACE BRIDGE SOFFIT W/ INSULATED ALUMINUM PANELS ON LIGHT GAGE METAL FRAMING**



NOTES

ELEVATIONS REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929

DRAWING A9

2B.01	Remove door(s) & frame(s)
2B.28	Remove gravity vent, roof structure(s)
2B.31	Remove brick chimney
2B.34	Remove wood infill
2B.37	Remove masonry partition
2B.45	Remove masonry infill
2B.59	Remove plywood paneling & frame
2B.61	Remove stair enclosure
2B.92	Remove brick transformer shed
2B.96	Remove steel angle frame structures
7B.37	Remove parapet wall cap and base flashing
7B.38	Remove copper fascia & gravelstop & wood nailers

AS-BUILT

HUPH ARCHITECTS, INC.
MOORE-HEDER ASSOCIATED ARCHITECTS
543 GREEN STREET
CAMBRIDGE, MASSACHUSETTS 02139
(617) 492-2200

REVISION NO. | DATE | REMARKS

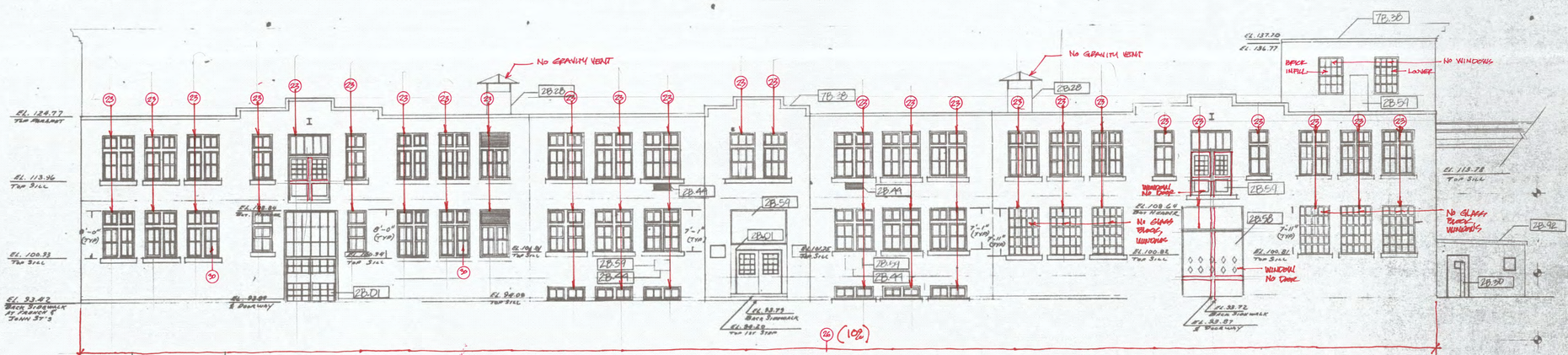
Renovations for
The Arts & City Schools
EXTERIOR ELEVATIONS-DEMOLITION
ARTS SCHOOL

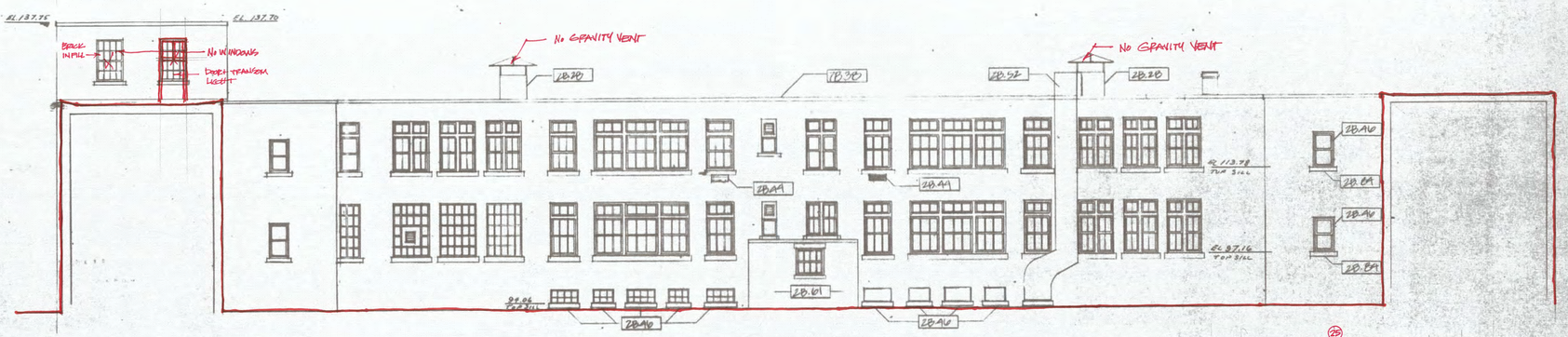
SCALE 1/8" = 1'-0" DATE 29 JULY 85 DRAWN DESIGNED

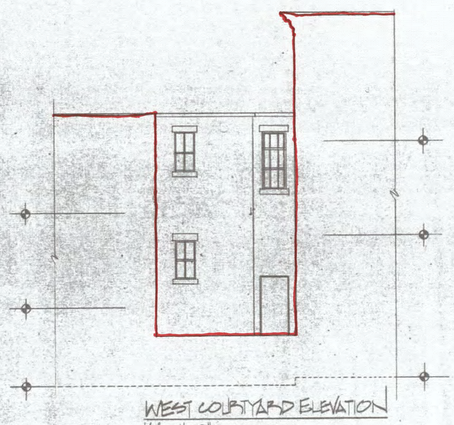
DRAWING NUMBER
A9

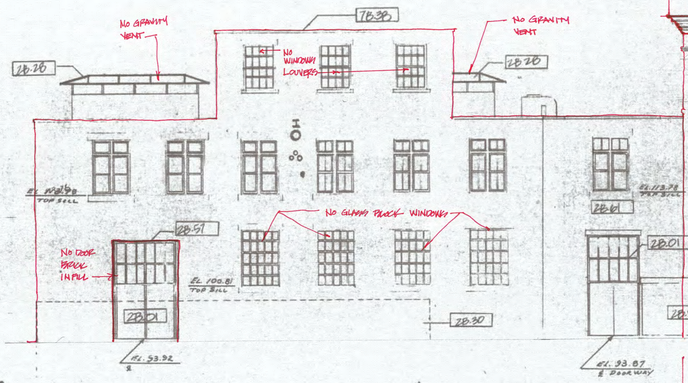
JOB NUMBER 48714

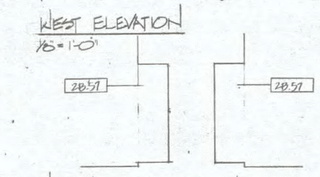
ALL ELE. BY F.L.M. 4/12/85

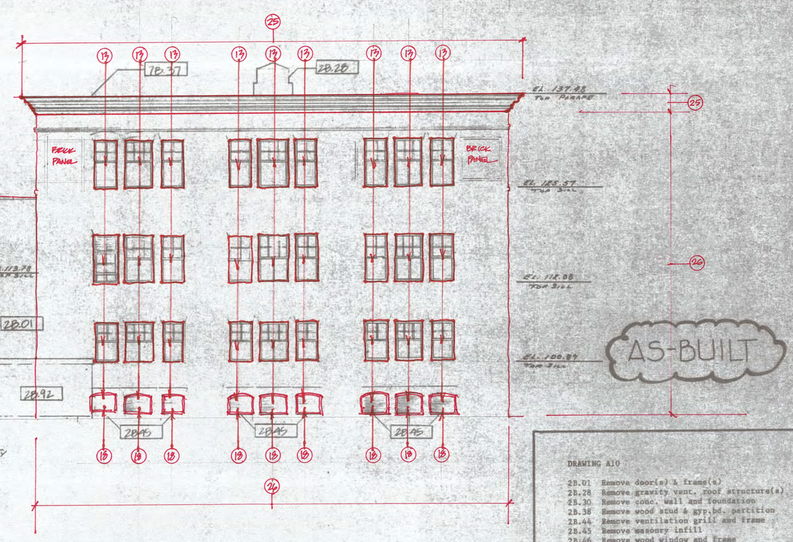












NOTE:
ELEVATION REFER TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929

DRAWING A10

28.01 Remove door(s) & frame(s)
28.28 Remove gravity vent, roof structure(s)
28.30 Remove conc. wall and foundation
28.38 Remove wood stud & gyp.bd. partition
28.44 Remove ventilation grill and frame
28.45 Remove masonry infill
28.46 Remove wood window and frame
28.52 Remove HVAC equip. & all assoc. piping
28.57 Remove door recess of masonry walls, conc. foundations, conc. slab, plaster soffit, doors, and frame
28.58 Remove overhead door & track
28.59 Remove plywood paneling & frame
28.61 Remove stair enclosure
28.84 Remove granite sill
28.92 Remove brick transferrer sided
28.37 Remove parapet wall cap and base flashing
28.38 Remove copper fascia & gravelstop & wood nailers

HOPE ARCHITECTS, INC
HOPE ROBERT ASSOCIATES ARCHITECTS
543 GREEN STREET
CAMBRIDGE, MASSACHUSETTS 02139
(617) 492-2300

Renovations for
The Arts & City Schools
EXTERIOR ELEVATIONS - DEMOLITION
CITY SCHOOL

DRAWING NUMBER
A10

DRAWN BY: [illegible]
CHECKED:
DATE: 9-11-87
SCALE: AS NOTED

REVISIONS
NO. DATE

JOB NUMBER 8728

PLOT DATE BY C.L.M. 11/8/85

SOUTH BUILDING

NORTH BUILDING

FRESHMEN ACADEMY

DRAWING KEY

TB.01 - 20 oz. standing seam copper wall cap and counter flashing
TB.05 Copper cracks at fascia/gravel stop
TB.11 20 oz. copper parapet cap
TB.34 24 oz. copper gutter & downspout
TB.15 Saw cut repair for cap flashing lead wedge and sealant
TB.21 Splashblock
TB.23 Reseal existing ornamental nails, typ.
TB.26 Stairs perp.
TB.36 Skylight
10A.05 Smoke vent - acrylic dome lid
10A.06 Roof access hatch, 3'-0" x 5'-6"
15A.05 Roof drain
15A.06 6" PIV
15A.07 Roof hydrant
15A.09 Roof fan or roof - see mechanical dwgs

AS-BUILT

Renovations for The Arts & City Schools
ROOF PLAN
DRAWING NUMBER
A16

TUNNEL UNDER KIRK
TO SCHOOL

REGENT'S BLDG
67 KIRK STREET
(SHOWN BELOW GRADE)

STEAM PLANT

EXISTING
RAILING

BOILER
002

CLERESTORY
ABOVE

ALIGN

LADDER

FIRE EXTINGUISHER

ENTRY
001

GENERATOR

GENERATOR
003

LOCATE DOOR ON LINE W/ GENERATOR.
COORDINATE WITH ELEC LAYOUT

11'-0" MIN
TO FIN OPENING

13'-0" OPENING

23'-3" TO BRICK

PTD. BEAM AB

A3 / A201 STEAM PLANT PLAN
1/8" = 1'-0"

LOWELL STEAM PLANT

50 FRENCH STREET
LOWELL, MASSACHUSETTS

Key Plan:

Scales:

0' 4' 8' 16'
1/8" = 1'-0"

Sverdrup Project No.: 021710

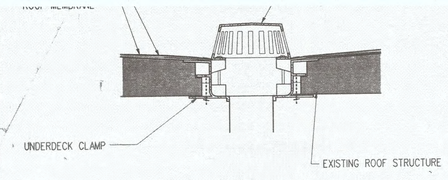
Drawing Title:

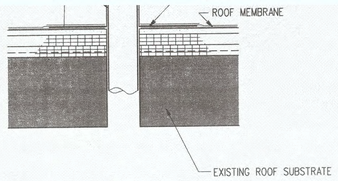
STEAM PLANT
GROUND FLOOR PLAN,
DETAILS, FINISH NOTES, &
DOOR SCHEDULE

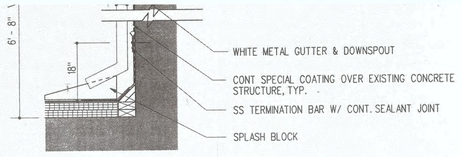
Date: APRIL 22, 1996

Designed By: G. WATSON
Drawn By: M. IRIARTE

Drawing Number:

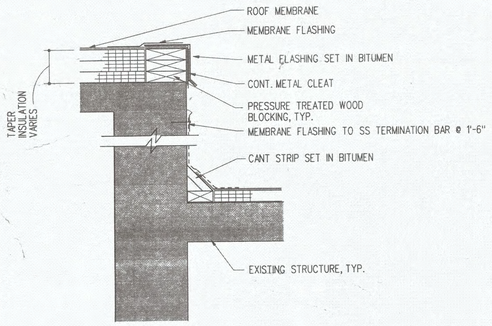




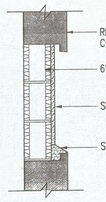




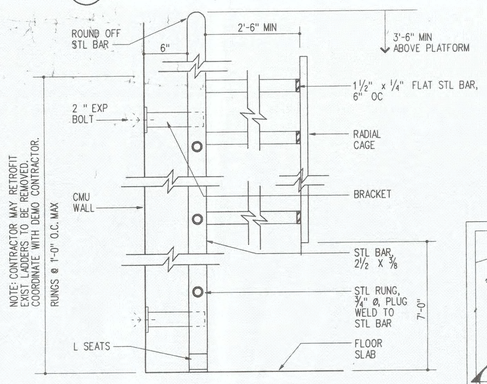
(D1) A101 ROOF DRAIN DETAIL
1½" = 1'-0"



(D2) A101 PIPE PENETRATION DETAIL
1½" = 1'-0"



(D3) A101 SECTION - BUILDING PARAPET
¾" = 1'-0"

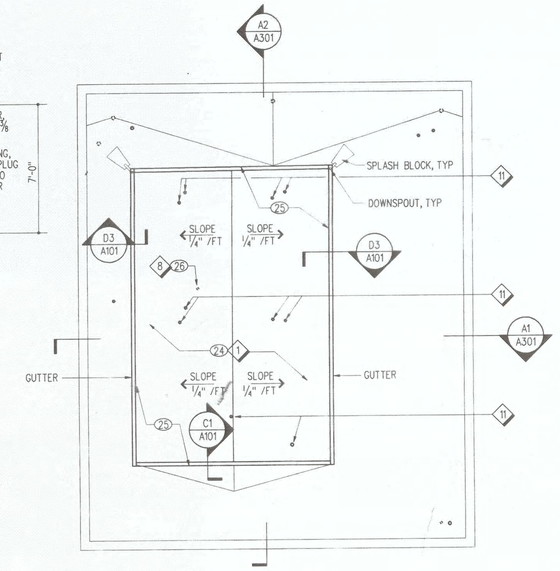


(D4) A101 SECTION - BUILDING PARAPET
¾" = 1'-0"

(C1) A101 UPPER ROOF STEP DETAIL
1½" = 1'-0"

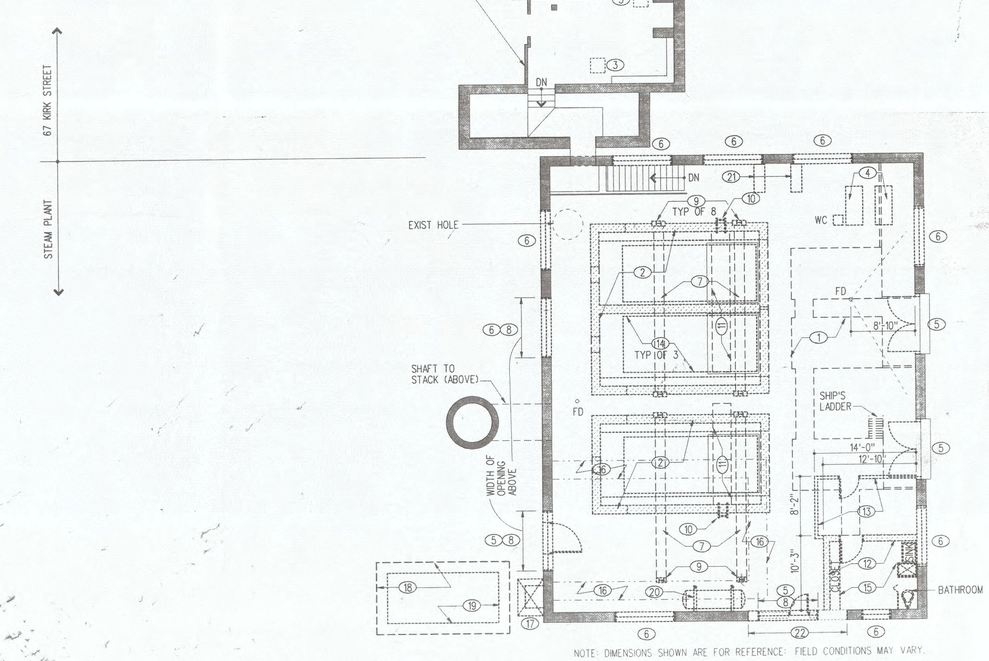
(C2) A101 SECTION - INFILL CLERESTORY OPENING
1½" = 1'-0"

(C3) A101 SECTION - ACCESS LADDER
¾" = 1'-0"



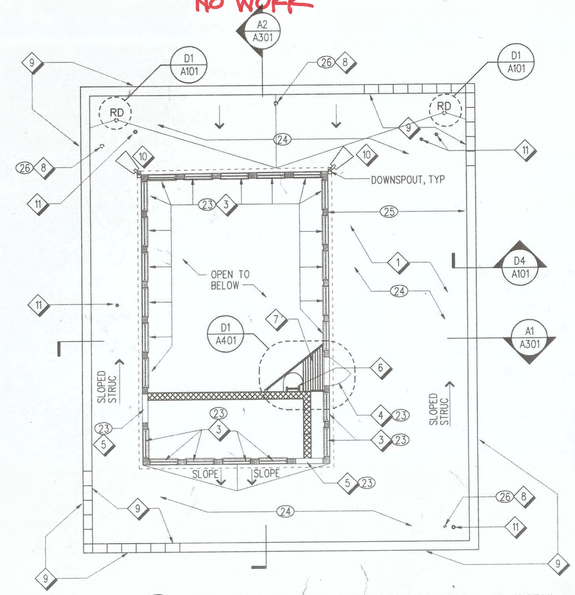
(B4) PLAN - UPPER ROOF (DEMO & NEW WORK)
1/8" = 1'-0"

NO WORK



NOTE: DIMENSIONS SHOWN ARE FOR REFERENCE. FIELD CONDITIONS MAY VARY.

(A2) A101 PLAN - GROUND FLOOR DEMOLITION
1/8" = 1'-0"



(A4) PLAN - LOW ROOF/ CLERESTORY (DEMO & NEW WORK)
1/8" = 1'-0"

NO WORK

(X) DEMOLITION NOTES

1. REMOVE CATWALK, SHIP'S LADDER ASSEMBLY AND SUPPORT SYSTEM ABOVE.
2. REMOVE BRICK ENCLOSURE (SIDES AND TOP) FROM BOILER UNIT.
3. REMOVE BRICK COLUMNS (APPROX 2'-0" x 2'-0" x 3'-0" HIGH) AND PIPE SUPPORT.
4. REMOVE CONCRETE PADS.
5. REMOVE DOORS AND FRAME. REMOVE WINDOW ASSEMBLY ABOVE.
6. REMOVE WINDOW ASSEMBLY AND BLOCKING TO ROUGH OPENING.
7. REMOVE MECH SUPPORT SYSTEM (STRUC STL BEAM ABOVE) TYPICAL.
8. REMOVE WALL FOR PROVISION OF LOUVER.
9. REMOVE BRICK COLUMN BASE AND STEEL STRUC COLUMN, TYPICAL OF 8.
10. REMOVE LADDER AND SUPPORT SYSTEM OF BOILER CATWALK. COORDINATE W/ METALS CONTRACTOR FOR REUSE.
11. REMOVE STEEL CATWALK AND SUPPORT SYSTEM ABOVE BOILERS.
12. REMOVE TWO-STORY BRICK WALL AND DECK ASSEMBLIES.
13. REMOVE WALL AND GLASS ASSEMBLY, AND DECK STRUCTURE.
14. REMOVE BOILER TANK. SEE MECHANICAL DEMOLITION FOR EXTENT OF WORK TO BE REMOVED.
15. REMOVE CLOSET AND TOILET ENCLOSURE. REFER TO PLUMBING/ MECH FOR EXTENT OF PLUMBING/ MECH DEMOLITION.
16. REMOVE BRICK FLOOR & SLAB AS REQUIRED FOR FOOTING. REFER TO DETAIL C4/ A201.
17. REMOVE 3'-0" HIGH BRICK SURROUND AND PLYWD TOP TO 6-INCHES BELOW FINAL GRADE.
18. REMOVE 6-FT HIGH CHAIN LINK FENCE AND GATE.
19. REMOVE CONCRETE UTILITIES PAD.
20. RELOCATE HOT WATER TANK AND RETROFIT SUPPORT AS INDICATED ON DETAIL D1/A301. COORDINATE LOCATION W/ OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECH/ PLUMB DEMO FOR EXTENT OF WORK.
21. REMOVE FLOOR FOR FOOTINGS AS INDICATED ON DETAIL B5/A301.
22. REMOVE PORTION OF WALL, REFER TO ELEV C1/ A201 FOR DIMENSIONS.
23. REMOVE EXISTING WINDOWS AND FRAMES, TYPICAL (26 TOTAL).
24. REMOVE ROOFING, PROTECTION MATS AND INSULATION TO STRUCTURAL DECK. REMOVE FLASHING. METAL COUNTERFLASHING AT PARAPETS AND CURBS TO REMAIN.
25. REMOVE FLASHING AT PERIMETER.
26. REMOVE FLASHING AND PIPE AT PENETRATION.

(X) SHEET NOTES

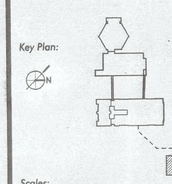
1. PREPARE SLAB, FILL OPENINGS W/ 4" CONC & PROVIDE ROOFING SYSTEM.
2. NOT USED.
3. PROVIDE LOUVER.
4. PROVIDE ACCESS DOOR.
5. FILL OPENING SEE DETAIL C2/ A101.
6. PROVIDE LADDER WITH SEMICIRCULAR CAGE. SEE DETAIL C3/A101.
7. PROVIDE ROOF ACCESS PLATFORM AND 42" HIGH PAINTED STEEL RAILING. 1½" Ø PIPE RAILING AS SHOWN IN SECTION A1/ A301.
8. FILL EXISTING PENETRATION WITH 4" CONC MINIMUM.
9. REPOINT COPING BLOCK AND PARAPET, TYPICAL.
10. PROVIDE SPLASH BLOCK PER DETAIL D3/A101.
11. PROVIDE FLASHING FOR PIPE. SEE DETAIL D2/ A101.

Revision:

LOWELL STEAM PLANT

50 FRENCH STREET
LOWELL, MASSACHUSETTS

Key Plan:



Scales:

0' 4' 8' 16'
1/8" = 1'-0"

Sverdrup Project No.: 021710

Drawing Title:

STEAM PLANT

DEMOLITION PLAN & ROOF PLANS

Date: APRIL 22, 1996

Designed By: G. WATSON
Drawn By: M. IRIARTE
Checked By: R. BOWMAN

Drawing Number: A101

DATE: 04/19/96 TIME: 08:44:43 USER: IPSPRF FILE: c:\proj\work\ls\a101.dgn

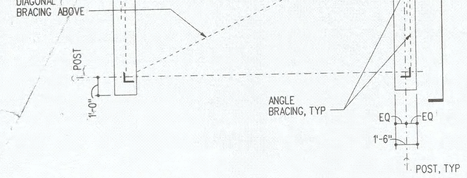
LOWELL HIGH SCHOOL
BASE REPAIR KEY NOTES
GENERAL NOTES FOR ELEVATIONS - ALL BUILDINGS

2/16/17

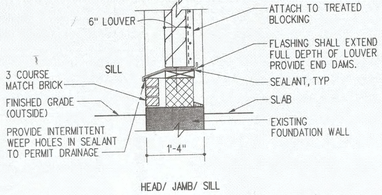
PE # 67150.00

GENERAL NOTES:

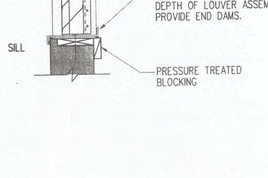
1. **CLEAN BRICK MASONRY VENEER**
2. **REPLACE BRICK MASONRY VENEER**
3. **REPLACE BRICK HEADER**
4. **REPLACE BRICK MASONRY VENEER**
5. **REPLACE CEMENTATIOUS PANELS**
6. **REPLACE PLASTIC FACED PLYWOOD PANELS**
7. **REPLACE SEALANT**
8. **REPLACE LOUVERS**
9. **REPLACE ALUMINUM DOOR + FRAME**
10. **REPLACE ALUMINUM DOOR + FRAME + SIDELIGHT + TRANSOM**
11. **REPLACE SOFFIT W/ EXTERIOR CEMENT BOARD FINISH SYSTEM + CR METAL FRAMING**
12. **REPLACE ALUMINUM DOOR + FRAME + ENTRY**
13. **REPLACE ALUMINUM WINDOWS**
14. **REPLACE BROKEN BRICK**
15. **REPLACE BROKEN PRECAST CONCRETE CAPSTONE**
16. **REPLACE ALUMINUM STOREFRONT**
17. **REMOVE EFFLOURESCENCE**
18. **REPLACE STELL SECURITY SCREEN**
19. **REPOINT STONE STEPS**
20. **NEW LIGHT FIXTURE**
21. **REPLACE EXIT LIGHT**
22. **CLEAN TERRACOTTA MOLDINGS, CORNICES + TRIM**
23. **SCRAPE/ PREP/ PAINT STEEL LINTEL**
24. **REPLACE SHEETMETAL PANEL W/ TERRACOTTA**
25. **SCRAP/ PREP/ PAINT METAL CORNICE**
26. **REPOINT BRICK MASONARY**
27. **REPLACE OVERHEAD COILING DOOR**
28. **REPLACE WOOD DOOR + FRAME**
29. **REPLACE POLY-CARBONATE GLAZING**
30. **REPLACE BROKEN INSULATED GLASS UNIT**
31. **REPLACE BRIDGE SOFFIT W/ INSULATED ALUMINUM PANELS ON LIGHT GAGE METAL FRAMING**



D1 A101 PLAN - HOT WATER SUPPORT
NTS

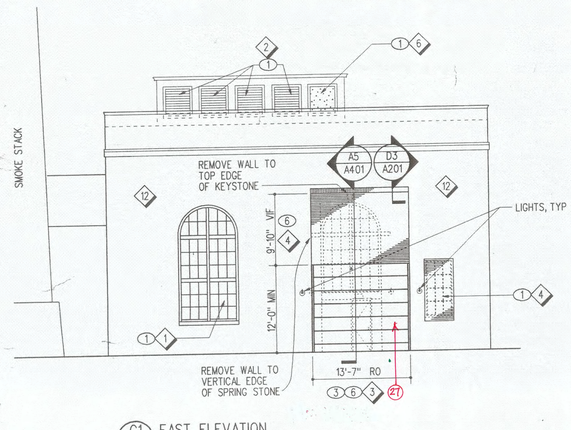


D2 A201 SECTION - LOUVER @ SOUTH ELEV
1½" = 1'-0"

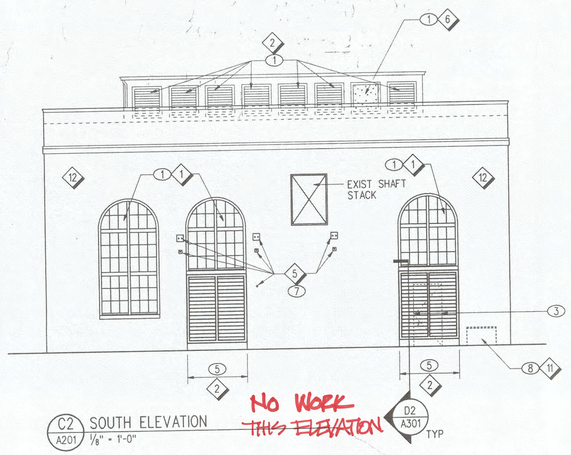


D3 A201 SECTION - LOUVER @ CLERESTORY
1½" = 1'-0"

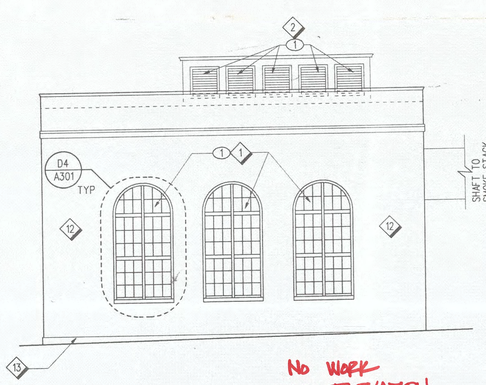
D4 A301 WINDOW ELEVATION
¼" = 1'-0"



C1 A201 EAST ELEVATION
⅛" = 1'-0"

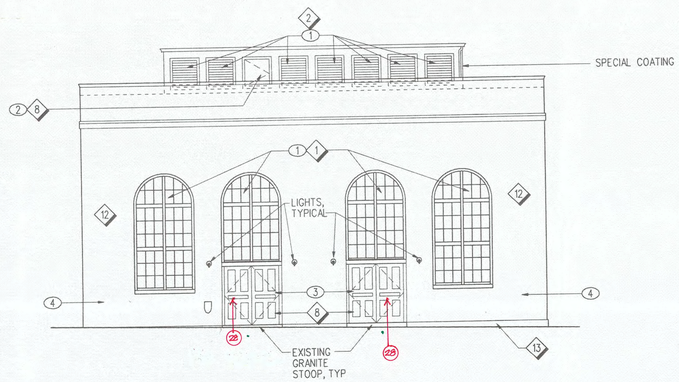


C2 A201 SOUTH ELEVATION
⅛" = 1'-0"

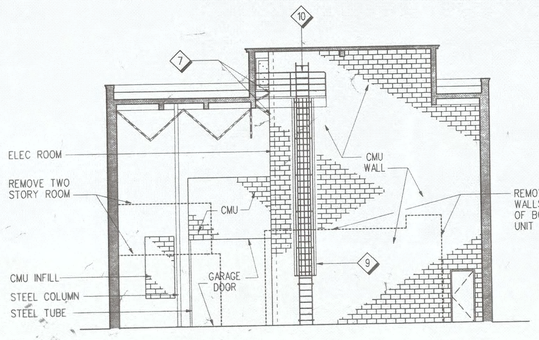


No Work This Elevation

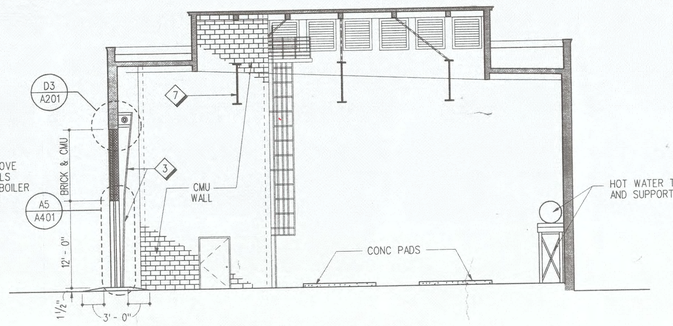
B1 A201 WEST ELEVATION
⅛" = 1'-0"



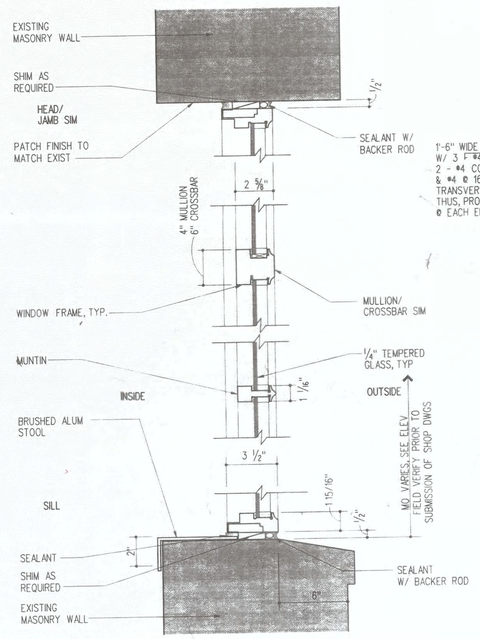
B2 A201 NORTH ELEVATION
⅛" = 1'-0"



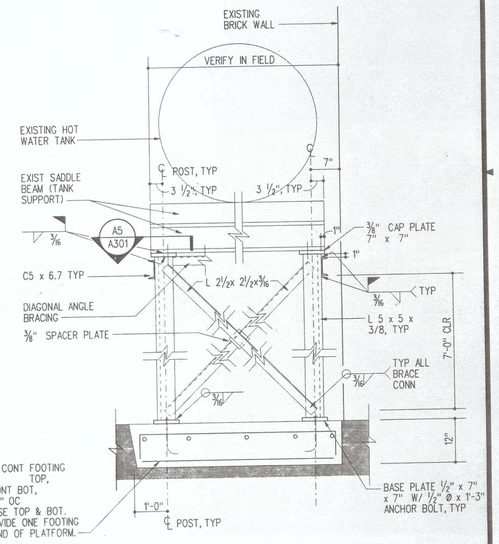
A1 A101 BUILDING SECTION
⅛" = 1'-0"



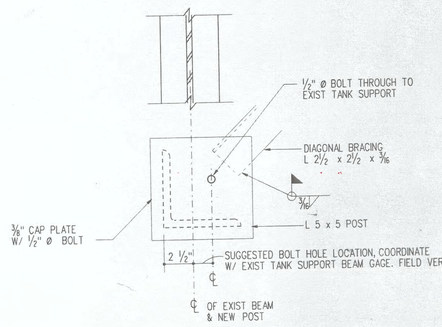
A2 A101 BUILDING SECTION
⅛" = 1'-0"



A4 A301 SECTION AT WINDOW
3" = 1'-0"



B5 A101 TANK SUPPORT PLATFORM DETAIL
NTS



A5 A301 CAP PLATE DETAIL
NTS

SHEET NOTES

1. PROVIDE REPLACEMENT WINDOW ASSEMBLY.
2. PROVIDE LOUVER IN OPENING. FIELD VERIFY DIMENSIONS. SEE DETAIL D3/ A301.
3. PROVIDE PANEL GARAGE DOOR ASSEMBLY.
4. INFILL WITH CMU AND BRICK, RECESSED 1" FROM EXT FACE OF WALL.
5. FILL OPENING WITH CONCRETE.
6. INFILL OPENING WITH CONCRETE.
7. FIRESTOP WALL PENETRATIONS
8. PROVIDE DOOR AND FRAME, VERIFY DIMENSIONS IN FIELD.
9. PROVIDE LADDER WITH SEMICIRCULAR CAGE. SEE DETAIL C3/A101.
10. PROVIDE ROOF ACCESS PLATFORM AND 42" HIGH PAINTED STEEL RAILING.
11. FILL TO GRADE W/ GRAVEL & 6" ASPHALT.
12. REPOINT BRICK.
13. FILL CRACKS OF CONCRETE WATER TABLE WITH MORTAR AND COVER WITH WATERPROOF SEALANT.

1. REMOVE EXISTING WINDOW.
2. NOT USED.
3. REMOVE EXISTING DOOR.
4. REMOVE GRAFFITI FROM WALL.
5. REMOVE CMU BLOCKS FOR INSTALLATION OF LOUVER.
6. REMOVE WINDOW AND PORTION OF WALL AS INDICATED TO PROVIDE GARAGE DOOR ASSEMBLY AND BRICK AND BLOCK INFILL.
7. REMOVE METAL WALL PLATE AND BOLTS.
8. REMOVE 3'-0" HIGH BRICK SURROUND AND PLYWD TOP TO 6" BELOW FINAL GRADE.

Revision:

LOWELL STEAM PLANT

50 FRENCH STREET
LOWELL, MASSACHUSETTS

Key Plan:

Scales:
0 3" 6"
3" = 1'-0"
0 4' 8' 16'
1/8" = 1'-0"

Sverdrup Project No.: 021710

Drawing Title:
STEAM PLANT
BUILDING ELEVATIONS & BUILDING SECTIONS

Date: APRIL 22, 1996
Designed By: G. WATSON
Drawn By: M. IRIARTE
Checked By: R. BOWMAN
Drawing Number: A301

Plotted: 19-Apr-1996 08:46:37 X:\PLOTS\JOB\HYM8649F.V.dgn X:\PLOTS\MWEM-V1E\5930301.PRF

LOWELL HIGH SCHOOL EXISTING BUILDING ASSESSMENT - STEAMED PLANT

GENERAL NOTES

*

Room #	Room Name	Wall 1	Wall 2	Wall 3	Wall 4	Add. Wall Comments	Floor	Base	Add. Floor/Base Comments	WB/TB	Projector	Ceiling	Ceiling Hgt.	Windows	Windows/ Ceiling Comm	D1	D1 Comments	H1	D2	D2 Comments	H2	D3	D3 Comments	H3	Add. Door Comments
						• TO BE DISCUSSED TO EITHER PAINTED			• CONCR, BRICK, METAL PLATE: REPAIR CONC. NEAR W4				• 29'-10" TO DECK.		•							REPLACE METAL VERTICAL DOOR			• D1 & D2: PAIR OF 3'-9"X 8'-5"
002	BOILER	BRICK CMU	BRICK CMU	BRICK CMU	BRICK	•	EXP.	--	•	--	--	EXP.	•	• (EXTERIOR EVAL TO BE DETERMINED FOR WD REPLACEMENT)	•	REPLACE WOOD DOORS	PAIR	H101	REPLACE WOOD DOORS	PAIR	H101				• D3: ROLLER OVERHEAD DOOR 14' W
						• TO BE DISCUSSED TO EITHER PAINTED			• CONCR.				• 29'-10" TO CONCRETE DECK.		•										• D4: 2'8x 6'6"
003	GENERATOR	CMU	CMU	BRICK	CMU	•	EXP.	--	•	--	--	EXP.	• 19'-1" TO B.O. STL		•	D104, D208	PAIR	H101							• D1: 3-HR FIRE RATED, PAIR 2'-6", NEW TACTILE HARDWARE
						•			•				•		•										•
	TUNNEL					•			•						•										•
						•			•						•										•
						•			•						•										•
						•			remove existing conc stair, and rebuild with code compliance thread risers and railings						•									D4 needs replacement to code compliance door
						•			•						•										•
						•			•						•										•
						•			•						•										D5 needs replacement to code compliance door
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October 21, 2016

Ms. Alicia Caritano
Perkins Eastman
50 Franklin Street, Suite 203
BOSTON, MA 02110

SUBJECT: Lowell High School, Lowell, MA (Perkins Eastman Project #67150.00)
Existing Conditions Report - Acoustics

Dear Ms. Caritano,

On August 26 Cavanaugh Tocci toured the buildings at Lowell High School in order to assess the overall acoustical designs in place, in the areas of room acoustical treatments, sound isolation constructions, and HVAC (background) sound. Allowances for detailed acoustical measurements in these areas were not included in our scope, though we made visual observations in larger volume spaces and typical classrooms, and also measured background (HVAC) noise levels in rooms of interest with a hand-held sound level meter. Our observations and comments are presented herein. Observations were made in the Kouloheras Building, the Lord Building (including the Field House), and the Freshman Academy. Further detailed acoustical recommendations (such as sq. ft. areas of acoustic treatments, specific types, etc.) will be provided in the feasibility study acoustical report.

Design Criteria:

We understand that the project will be designed to meet either the LEED v4 or NE-CHPS design standard for educational buildings. These standards are based to a significant extent on the ANSI S12.60 acoustical standard for schools, requiring the following:

- Reverberation limits in core learning spaces: Spaces used for teaching purposes must have sufficient sound absorption treatments in place to result in low mid-frequency sound reverberation levels. Depending on the room volume, core learning spaces are to be designed such that the mid-frequency reverberation time does not exceed 0.60 to 0.70 seconds.

- Specific criteria for sound and impact isolation constructions is required, to control unwanted sound intrusion into core learning spaces. For instance, demising partitions between a core learning space and an adjacent core learning space must be designed to achieve an airborne sound isolation rating of no less than STC-50 (inclusive of any pass doors). Other specific STC ratings are required for specific room adjacencies.

- Low background sound levels from HVAC equipment is required in core learning spaces, to provide good listening conditions (high signal-to-noise ratio, such that voice levels significantly exceed background sound levels). Depending on the design standard, background sound levels in core learning spaces are not to exceed 35 dBA or 40 dBA (approximately NC-30 to NC-35). The following lists recommended Noise Criterion (NC) maximum levels based on current design standards for educational buildings:

TV Studio:	NC-25
Core Learning Spaces:	NC-30
Auditorium:	NC-30
Theater:	NC-30
Music Suite:	NC-30
Cafeteria:	NC-35
Private Offices:	NC-35
Gymnasium/Pool:	NC-40

- The City of Lowell noise ordinance lists maximum allowable levels resulting from operation of mechanical equipment serving the school buildings (sound to neighboring property lines).

Summary of Findings:

The attached tables present our observations and notes for each room visited during our survey. In general, we found the following:

Room Treatments, Sound Isolation, and HVAC Background Sound:

In general, most areas of the various buildings had reasonable amounts and locations of room acoustic treatments, with the following exceptions:

- One of the Classrooms visited (Room 223 in the Kouloheras building) had a wood floor, sound reflective wall surfaces, and an exposed hard ceiling. For this and any other classroom with similar treatments, additional sound absorption would be needed to result in target reverberation limits. For rooms with hard floors and hard wall surfaces, with ceilings approximately 10-ft. AFF or lower, acoustical ceiling tile (approximately 100% of the ceiling area) with minimum NRC of 0.70 will be sufficient for reverberation control. For ceilings higher than approximately 10-ft. AFF, additional wall sound absorption treatment may be required to meet reverberation limits. Further review would take place in the feasibility study phase, with specific recommendations.

- In the Cafeteria spaces, additional wall sound absorption treatment will be recommended to provide improved control of reverberation and noisiness during use, in addition to acoustical ceiling tile with NRC rating of 0.70 or higher (we will provide more specific recommendations in the feasibility report).

- The Auditorium, Theatre, Little Theatre, TV Studio, Library, Gymnasium, Pool were generally well-designed for room acoustic treatment scope. During the feasibility phase, we will provide further review and additional comment/recommendations.

- The Band and Choral rooms had significantly greater areas of sound absorption treatment than needed to meet reverberation targets (the spaces are expected to sound significantly “dry” during rehearsal, etc.). Typically, a hard floor is recommended, ceiling height should be maximized as possible, and areas of hard wall, wall sound diffusion panels, and wall sound

absorption panels are recommended for these types of rooms. During the feasibility phase, we will provide further review and additional comment/recommendations.

- Some of the classrooms used demountable partitions (those which meet the underside of acoustical tile ceilings). The sound isolation (STC rating) provided by this design is limited to that of the CAC rating of acoustical tile ceilings (where used). The resulting STC rating is expected to be significantly less than STC-50 as required for core learning space to core learning space, and STC-45 for core learning space to corridor. To meet the required ratings, partitions would need to continue to the underside of deck, with sealant at the partition/deck connections.

- Of the spaces visited during our visit, we did not find door gaskets (acoustical seals) installed. To meet the acoustical enhanced acoustical performance level for LEED v4 (not required for the pre-requisite level), and both the pre-requisite and enhanced acoustical performance levels of the NE-CHPS standard, acoustical door gaskets (perimeter seals and active door drop seals) and acoustically rated door panels are required for the following:

  - All entry doors from corridor to core learning space (STC-30 door).

  - All entry doors to music rehearsal or performance spaces (STC-40 door).

  - All connecting doors between core learning spaces (STC-47 acoustically-rated assembly with STC 53 fixed partition).

- A number of the spaces visited, where background sound measurements were performed, showed higher than recommended HVAC background sound levels. The following spaces (those measured during our visit) have existing HVAC sound levels higher than recommended criteria (there may be other rooms which exceed recommended maximum levels, though these are a sampling showing that additional noise control measures would be required to meet target limits).

  - Classroom 652 (Lord) NC-39
  - Keyboard Classroom (Kouloheras) NC-45
  - Pool (Lord) NC-50
  - Gymnasium (Lord) NC-55
  - Library (Lord) NC-45
  - Little Theater (Lord) NC-41
  - Auditorium (Kouloheras) NC-34
  - Theater (Freshman) NC-42

  - We performed daytime site sound measurements for a brief period along building facades facing Father Morissette Blvd. We measured an Leq (approximately average) sound level of 68 dBA during that period. This exceeds the 60 dBA Leq level used by LEED to determine a “quiet site” (those 60 dBA Leq or below). We will review measurements further to determine if any exterior building shell design (mostly glazing)

will need to be upgraded to result interior core learning space levels to conform to the LEED v4 or NE-CHPS requirements.

We look forward to additional review and recommendations during the feasibility study phase.

Sincerely,
CAVANAUGH TOCCI

Daniel M. Horan

Lincoln B. Berry

DMH/LBB/dh/16185

Lowell High School

Existing Conditions Evaluation /Base Repair- Audiovisual and Theatrical Systems

P.E. Proj.# 6715.00

I. Kouloheras Building

A. Irish Auditorium

1. Existing Conditions

- The Irish Auditorium is an approximately 1,600 seat auditorium within the Kouloheras building. The audio system in the auditorium dates from the 1990's. The primary control location is on the main seating level in front of the cross-aisle. The system was designed to be controlled from the control booth in the back of the balcony, necessitating some unsightly cable runs down the to the main level and in the seating rows in front of the control position. There is no physical security for equipment located within the seating area.



Figure 1 – Cabling from balcony and lighting position

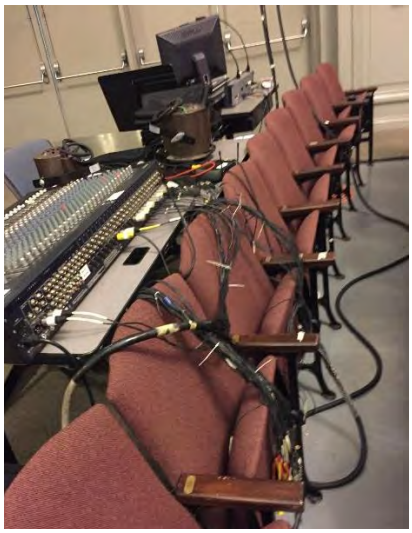

Figure 2 - Loose cables

- The loudspeaker system consists of a three-loudspeaker center cluster and two under-balcony fill loudspeakers. While the loudspeakers are high-quality, they are insufficient for an auditorium of this size.
- Audio system inputs and power outlets in the stage apron are in poor repair and, in some cases, unsafe.
- There is no permanently installed provision for the use of video presentation in the auditorium. When the school wants to show a video in the auditorium they use a portable projector on a cart, likely blocking the center aisle of the auditorium in the process.
- The audio system has input/output boxes on stage right and stage left. Many of the jacks have been taped over as non-functional.

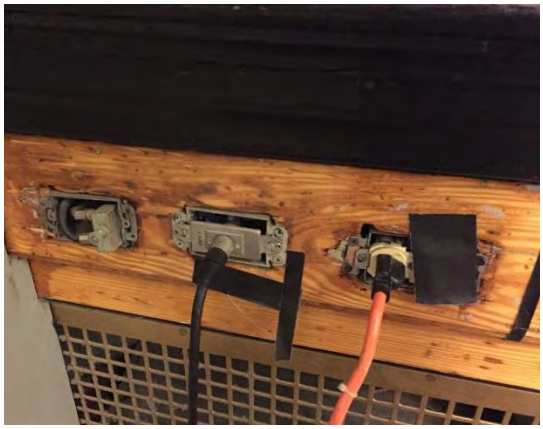

Figure 3 - Stage Apron Devices



Figure 4 - Stage Right AV Connection Box

- The main audio rack in the booth is poorly positioned, reducing valuable usable space toward the front of the booth.
- There is no dedicated scenery construction space, which has led to the creation of a shop space under the balcony seating area in what appears to be an exit pathway.



Figure 5 - Balcony Center Exit



Figure 6 - Under Balcony "Shop"

- The counterweight rigging system appears to be original to the building, with some periodic replacement and upgrades of elements within the system, such as the operating lines and the fire safety curtain. The system is in reasonable shape, but the primary components, such as the head and loft blocks, are past the end of their lifespan and do not meet current safety guidelines for those components. The support steel for the counterweight system appears undersized for modern loading criteria and safety factors.
- The fire safety curtain's counterweight arbor is chained off. This would prevent the fire curtain from operating as code requires in the event of a fire.

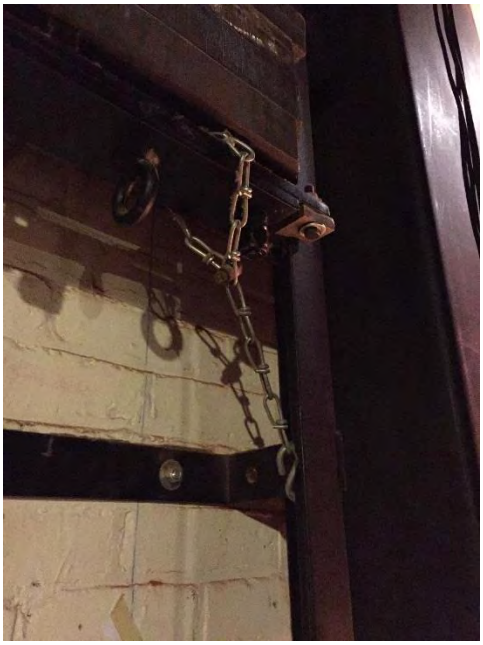

Figure 7 - Fire Curtain



Figure 8 - Rigging Head Blocks

- The theatrical lighting system consists of an older pair of Strand CD-80 dimmer racks on stage right. The dimmer racks have noisy fans in them, creating unwanted background noise on stage and for the audience. The lighting system is controlled by a more recent, but still older, lighting console adjacent to the audio mixing console. It suffers from the same cabling and physical security issues as the audio console.
- The primary front lighting position is a truss suspended over the seating area. While a reasonable way to suspend light fixtures, it does not allow for access to the light fixtures for focus. Lowering the truss for service access to the fixtures is a slow process.

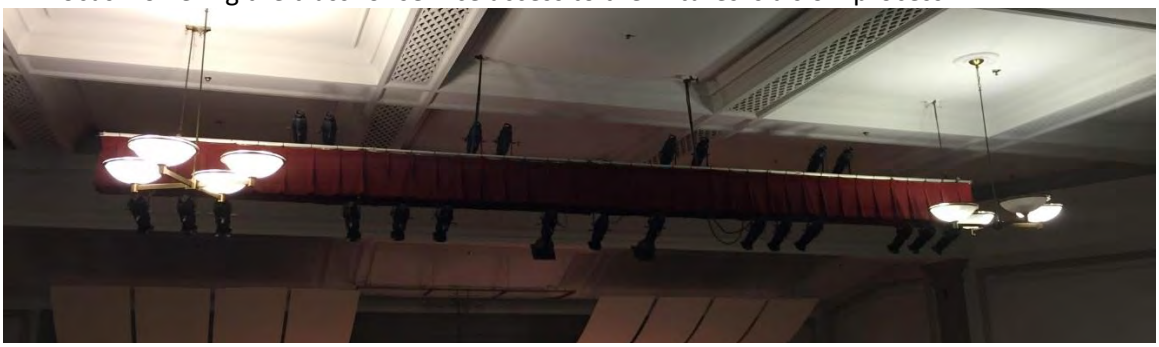

Figure 9 - Front of House Lighting Truss

- The balcony lighting positions are supported from the balcony. They leave the fixtures exposed to audience member interference and are at a lower angle than ideal for lighting the stage.
- Lighting fixtures over the stage are supported by four flown electric battens, each with a connector strip fed from the dimmer racks.
- The lighting fixture inventory consists entirely of tungsten-based theatrical fixtures. They are mostly in good repair.

- The architectural house lighting has been recently replaced to be more energy efficient, but does not dim to zero smoothly, as house lights in a performance venue should.
- The only wheelchair seating locations are at un-enclosed flattened areas in front of the cross-aisle.

2. Base Repair

- Replace non-functioning fire curtain.
- Repair non-functional audiovisual connections.
- Repair unsafe electrical outlets.
- Wheelchair seating should be improved to create enclosed areas with loose chairs at the cross aisle. Additional locations should be created at the front of the seating area, with companion seats, as well as at the balcony level.
- The theatrical lighting system, which is beyond its useful life, should be completely replaced with a new LED-based system. This will reduce energy consumption, reduce the heating load and reduce maintenance costs associated with lamp replacement. It will also remove the dimmer racks as a source of noise from the stage.
- The theatrical rigging system should be completely replaced. The steel structure supporting the rigging system should be assessed with current design and loading standards. The system should be replaced with a new counterweight rigging system, based on the informed desire of the school.
- The control booth at the back of the balcony should be widened and made ADA-accessible. It does not need to be as deep as it is now.

3. Future Recommendations for Feasibility Study Options

- The audiovisual system should be completely replaced. The system should include a new loudspeaker system, video presentation capability, touch panel control, production intercom, digital audio mixing console, and audio recording.
- Physical security for equipment located in the seating area, in the form of a roll-top desk or similar millwork construction, should be included in the auditorium work.
- A catwalk system over the seating area should be explored as a safer way for students and staff to access lighting fixtures.
- New wall lighting positions, ideally with better and safer access, and less possibility of audience interference, should be explored.
- Architectural house lighting should be improved to allow for more control zones and smooth dimming to 0%.

B. <u>Choral and Band Classrooms</u>

1. Existing Conditions

- The sound systems in the Band and Choral rooms are old and appear to be cobbled together from donated parts. They are well past their useful life expectancy.
- There is no ability for video presentation in these rooms, except via CRT televisions on portable carts.

2. Base Repair

- A new audio playback and recording system should be provided in each music classroom. These systems should work in conjunction with a standard classroom video presentation system. The

audio systems will allow for playback of pre-recording material through high-quality loudspeakers as well as audio recording of classes and rehearsals.



Figure 10 - Music Room Loudspeaker

C. Dance Studio

1. Existing Conditions

- There is no permanent audio system in the Dance Studio.
- The floor of the Dance Studio is a thin marley-type floor laid over concrete. It does not provide any resiliency for dancers.

2. Base Repair

- Each dance studio should be equipped with a permanent audio playback system as well as a standard classroom video presentation system.

3. Future Recommendations for Feasibility Study Options

- Two dance studios should be provided, either through renovation or in a new building. The studios should have resilient floor construction to prevent injury to dancers.

II. Lord Building

A. Field House

1. Existing Conditions

- The Field House is part of the 1980's addition to the high school. The audio system is original to the building and does not work. The school makes due with a portable system, stored in another building, for games and smaller playback devices for other uses. The cheerleaders use a dorm-room grade stereo in a plywood crate.



Figure 11 - Cheerleader Sound System



Figure 12 - Main Cluster

1. Base Repair

   - Replace entire, non-functional, audio system with new audio system.

2. Future Recommendations for Feasibility Study Options

   - In addition to the new audio system, a projection screen should be included in either the renovation or the new construction to allow for use of a portable video projector in the field house for presentations.

B. Little Theater

1. Existing Conditions

   - The Little Theater is part of the 1980's addition to the high school. The room is not used as a performance space, but as a meeting space for committees and test-taking space. The original audio system is still present, but has been supplanted in operation by a recently installed video presentation system. The projector, projection screen and touch panel controller are of recent vintage and usable.
   - The original lighting system is also still present, and used to control some lights. Some newer directional lights have been installed to make the room more suitable for video recording. Those newer lights are controlled by stand-alone dimmer modules.
   - The room was built with a dividing center partition. The partition is no longer used. A temporary plug has been installed in the seating bank and a projection screen now blocks the terminating end of the partition. The partition does not provide sufficient acoustic isolation between the two sides of the room to be usable.

2. Base Repair - Current Usage

   - The theatrical lighting system in the Little Theater should be removed. Based on the current usage, the room does not require a theatrical lighting system. The lighting should be improved to provide better lighting for the presentations, meetings and video capture events that are occurring in the room.
   - Wheelchair access to the lower presentation level should be added.

3. Base Repair – Performance Usage

   - A pipe grid should be placed over the performance and seating area to allow for theatrical lighting fixtures and scenic elements to be suspended from above.
   - A new LED-based theatrical lighting system should be installed.

- A new audiovisual system should be installed that integrated the presentation demands of the space with the audiovisual requirements of live performance.

4. Future Recommendations for Feasibility Study Options

- The audiovisual system in the Little Theater should be replaced. While the existing system is functional and recent, it is extremely basic and will not integrate with new systems in other rooms. A new audiovisual system should be designed with any renovations or improvements to the room in mind.

C. Television Studio

1. Existing Conditions

- The physical environment of the television studio suite of rooms is in good condition from a renovation in the late 1990's. The majority of the equipment in use in the production studio is original to the fit-out. The studio is using an analog, standard-definition workflow. The current industry standard is digital high-definition.
- The studio lighting is mostly tungsten-based, with a dimmer pack mounted in a nearby electrical room. While the system is currently functional, the dimmer pack is reaching the end of its useful life and studio lighting has gone over to LED fixtures in recent years. This provides for a savings both in electrical consumption, cooling costs and lamp replacement.
- The school serves as the head end for a local public access television channel. The head-end equipment associated with this is located in part of a large storage room. Typically, this kind of equipment gets a room of its own to isolate the noise and for physical security.

2. Base Repair

- The lighting system in the Television Studio should be upgraded to an LED-based system. This will reduce energy consumption, reduce the heating load in the studio and reduce maintenance costs associated with lamp replacement.

3. Future Recommendations for Feasibility Study Options

- All the equipment associated with the Television Studio should be replaced and upgraded to use at a minimum, digital high-definition, or 4K resolutions. This equipment can be placed into existing control desks, racks and the studio. The equipment should be purchases in close consultation with the school's staff.

D. TV Production Classroom

1. Existing Conditions

- TV Production and Media classes are taught in a converted standard classroom. The classroom has more than a dozen computers ringing the wall. Students work together in small groups on video projects.
- There is no built-in capability to show the entire classroom an image.

2. Base Repair

- Add two large flat-panel monitors with associated audiovisual switching system to allow for instructional use.
- Provide software to allow instructor to select any student workstation for routing to wall displays.

3. Future Recommendations for Feasibility Study Options

- Link classroom with video production studio.

E. Media Center/Library

1. Existing Conditions

- The Library has a quasi-portable video presentation system consisting of a short-throw projector mounted to a white board on a rolling stand. The system is recent, and usable, but not a good substitute for a permanently installed system.

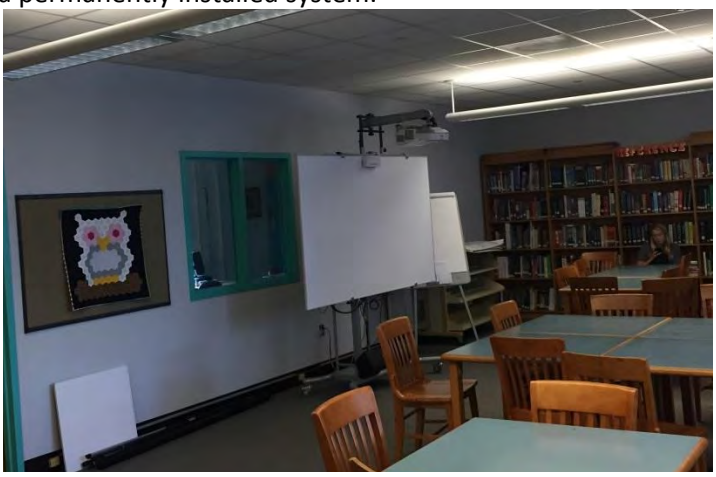

Figure 13 - Library Presentation Area

- A second portable presentation system is used for smaller group meetings in other parts of the Library.

2. Future Recommendations for Feasibility Study Options

- The audiovisual system in the Media Center, while functional, is not well integrated into the space. If the space is to be renovated, consideration should be given to integrating a video presentation system into a defined area within a new Media Center.
- A secondary portable video presentation system, consisting of a large flat panel monitor on a rolling cart, should be considered as part of the technology package for the school.

III. Freshman Academy

A. Burgoyne Theater

1. Existing Conditions

- The Burgoyne Theater has recently had its theatrical systems improved.

2. Base Repair

- Replace loudspeakers identified in Hazardous Materials report.

IV. All Buildings

A. Typical Classroom

1. Future Recommendations for Feasibility Study Options

- All classrooms should be equipment with a visual presentation system.
- Basic Visual Presentation System
  - Manual pull-down screen in front of a white board with a short-throw projector fixed to the ceiling.
  - Laptop input plate at teaching station.
  - Ceiling loudspeakers
  - AppleTV or similar for wireless presentation

- Upgraded Visual Presentation System
  - Upgraded whiteboard to include projection surface without separate screen.
  - Ultra-short throw projector at teach wall
  - Laptop input plate at teaching station.
  - Ceiling loudspeakers
  - AppleTV or similar for wireless presentation

- Touch-Sensitive Visual Presentation System
  - Large touch-sensitive flat panel display.
  - Laptop input plate at teaching station.
  - Ceiling loudspeakers
  - AppleTV or similar for wireless presentation

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Lowell High School Existing Conditions Evaluation/ Civil/Environmental Permitting Report
Perkins Eastman Project #67150.00

October 21, 2016

Nitsch Engineering has performed research of the existing site conditions and anticipated site permitting requirements for the Lowell High School located at 50 Father Morissette Boulevard in Lowell, Massachusetts. Nitsch Engineering's research included an initial site visit/walk and discussions with various facilities personnel. Information included in this report is also based on record plans and compiled documents from Perkins Eastman, survey from Nitsch Engineering and Lowell Regional Wastewater Utility. Nitsch Engineering reviewed the record plans and documents in preparing this document, and discussed the nature of the infrastructure with City representatives.

A summary of our observations and findings are listed below.

EXISTING SITE UTILITIES

Lowell High School consists of five (5) buildings: Kouloheras Building, Lord/Fieldhouse Buildings, Freshman Academy and the Steam Plant. The buildings were constructed and have undergone renovations and additions from dates that range between 1892 and 1997. Based on record documents, site observations, and conversations with school officials, the summary descriptions below represent the site utility conditions/assumptions as we understand them at this time.

STORM DRAINAGE

Kouloheras Building

Based on information gathered on the site visits and existing design plans, there are several catch basins located on the westerly side of the building that connect to the existing 12-inch combined sewer line near the Merrimack Canal.



There is a 6-inch storm drain line that discharges from the approximate southerly center of the building at the alley that then discharges to an existing catch basin and then drains via an 8-inch storm drain line to the existing combined sewer system at a sewer manhole located in the sidewalk of Kirk Street.

An 8-inch storm drain line discharges from the northwest corner of the building and connects to an existing storm drain line located on the westerly side of the building near the Merrimack Canal.

There is a 4-inch foundation drain on the northerly side of the building that extends approximately 100 feet southerly on the easterly side (Kirk Street) and the westerly side (Merrimack Canal) that connects to the 12-inch combined sewer line. It appears that the current drainage system is not in compliance with the current Department of Environmental Protection (DEP) Stormwater Regulations (2008) with combined sanitary sewer and storm drain discharges from the building to combined sewer lines and should be separated out.

There are a total of four (4) downspouts that discharge on the southerly side of the building (2) and on the westerly side of the building (2). The downspouts discharge to the ground surface.

Lord/Fieldhouse Buildings

Based on information gathered on the site visits and existing design plans, the Lord Building's roof run-off is routed internally into the building and eventually into the Father Morissette Boulevard storm drain system. There is a 15-inch reinforced concrete pipe (RCP) storm drain line that appears to drain roof water from the northerly side of the Lord Building to an 18-inch RCP storm drain line located in Father Morissette Boulevard.

A 6-inch vitrified clay (VC) drain pipe appears to drain roof water from the of the Fieldhouse Building from the westerly side of the Building to combined sewer manhole located in the intersection of Father Morissette Boulevard. It appears that the current drainage system is not in compliance with the current Department of Environmental Protection (DEP) Stormwater Regulations (2008).

A third closed drainage system composed of catch basins, drain manholes and reinforced concrete pipe (RCP) collects surface stormwater from the driveway to the loading dock discharging to a manhole and then into a 12-inch storm drain line that discharges to a combined sewer system in Arnand Drive. It appears that the current drainage system is not in compliance with the current Department of Environmental Protection (DEP) Stormwater Regulations (2008).

Freshman Academy

According to the existing site documents provided by Perkins Eastman, the original building roof run-off is routed internally into the building and eventually through a single X-inch storm drain service lateral (Size to be confirmed) serves the school. The storm drain service exits the school near at the middle of the northerly side of the building and connects to an existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main at a manhole located in French Street.

Steam Plant

Based on information gathered on the existing design plans, the original steam plant roof run-off is routed internally into the building and appears to discharge via two (2) 4-inch roof drain pipes into an 18-inch combined sewer line located in French Street.

WATER

Lowell High School and its makeup of five [5] buildings (Kouloheras Building, Lord/Fieldhouse Buildings, Freshman Academy and Steam Plant) is connected to the Lowell Regional Water Utility (LRWU) water system.

Kouloheras Building

There are two (2) existing 4-inch water services under the sidewalk on the easterly side of the building and connected to an existing 6-inch water main located in Kirk Street near Paige Street.

There is an existing 6-inch fire service with a post indicator valve (PIV) that connects to the southerly side of the building. The fire service connects to an existing 6-inch water main located between the Kouloheras Building and the Merrimack Canal. The fire service enters the building at a storage room near the intersection of the two wings.



There is a fire department siamese connection on the face of the building.



Currently, there are no indications from school personnel that there are issues with the domestic water and fire services for the site.

Two (2) fire hydrants were observed to be within 500 feet of the westerly side of Kouloheras Building and the Merrimack Canal.



There is a hydrant located at the corner of Kirk and Lee Streets.



Lord/Fieldhouse Buildings

There is a single 8-inch cement-lined ductile iron water service that provides both domestic and fire service to the Lord/Fieldhouse Buildings. The existing water service is installed under the sidewalk and connected to an existing 20-inch water main in French Street near its intersection with Arnand Street. The is a post indicator valve (PIV) on the existing 8-inch water service. Prior to entering the building, the 8-inch water service splits into a 6-inch fire service and a separate 6-inch domestic water service.

Currently, there are no indications from school personnel that there are issues with the domestic and fire water services for the site.

There is a fire department siamese connection observed on the face of the northwest corner of the Fieldhouse Building.

One fire hydrant was observed to be approximately 150 from the water services on French Street between the Lord/Fieldhouse Buildings.

Freshman Academy

There is an existing 4-inch domestic water service under the sidewalk and connected to an existing 6-inch water main located in Paige Street. The water line enters the building at a storage room near the intersection of the two wings.

Currently, there are no indications from school personnel that there are issues with the domestic water for the site.

There is an existing 8-inch fire service under the sidewalk and connected to an existing 6-inch water main located in Paige Street. The fire service enters the building at a storage room near the intersection of the two wings.

There is a fire department siamese connection on the face of the southerly side building on Paige Street.



One fire hydrant was observed to be greater than 300 feet on John Street located between Paige Street and French Street.

Steam Plant

Based on information gathered on the site visits and existing design plans, there is a 2-inch domestic water service located on the westerly side of the building that is connected to the existing 6-inch water main via a tunnel to the Kouloheras Building and a 4-inch fire service that is connected to the existing 6-inch water main via a tunnel to the Kouloheras Building with a double check backflow preventer in Kirk Street. The existing water service is a 6-inch diameter (type unknown) pipe installed under the entry drive and sidewalk to a 10-inch main in South Frankli

There was a fire department siamese connection observed on the face of the northwest corner of the building on French Street.



One fire hydrant was observed to be within 100 feet of the building near the intersection of French Street and Kirk Street.

SEWER

Lowell High School and its makeup of four [4] buildings (Kouloheras Building, Lord/Fieldhouse Buildings, Freshman Academy and Steam Plant) is serviced by the Lowell Regional Wastewater Utility (LRWWU) sewer system.

No exterior pumps were described or discovered during the site walk. There are internal grease traps located in the kitchen.

Kouloheras Building

According to the existing site documents, one (1) 8-inch sewer service lateral and two 6-inch sewer service laterals that serve the school. The 8-inch sewer service lateral (near the northwest corner of the building) and a 6-inch sewer service lateral (near the southwest building corner) exits on the westerly side of the building and connects to the existing 12-inch combined sewer main near the Merrimack Canal. The second 6-inch sewer service lateral exits the school on the easterly side of the building and connects to an existing 12-inch combined sewer main near Lee Street.

Lord/Fieldhouse Buildings

According to the existing site documents, there are a total four (4) sewer service laterals that serve the buildings. The first sewer service is a 6-inch vitrified clay (VC) pipe that exits the westerly side of the Fieldhouse Building and connects to a sewer manhole located in the intersection of Arnand Street and French Street. The second sewer service is a 6-inch VC pipe that exits on the northeasterly side of the Fieldhouse Building and connects to a 15-inch sewer main at an existing sewer manhole located in French

Street. The third sewer service is an 8-inch VC that exits on the northeasterly side of the Lord Building, and the fourth sewer service is a 4-inch VC pipe that exits the Lord Building approximately 10 feet from the third service. The 4-inch sewer service connects to an acid neutralization manhole that then connects to the 8-inch sewer service and connects to a 15-inch sewer main at a sewer manhole located in French Street.

Freshman Academy

According to the existing site documents provided by Perkins Eastman, a single 6-inch sewer service lateral serves the school. The sewer service exits the school near at the middle of the northerly side of the building and connects to an existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main at a manhole located in French Street.

Steam Plant

According to the existing site documents provided by Perkins Eastman, a single 8-inch sewer service lateral serves the building. The sewer service exits the school and connects to the existing 18-inch combined sewer (storm drainage and sanitary sewer flows) main in French Street.

SITE CONDITIONS AND OPERATIONS

SNOW REMOVAL

Snow is plowed and stored on site where applicable.

DUMPSTERS/RECYCLING

Kouloheras Building

Dumpsters for trash and recycling were not observed at the Kouloheras Building.

Lord/Fieldhouse Buildings

Dumpsters for trash and recycling are located on the southerly side of the Lord Building at the loading dock. There are no enclosures around the dumpsters. The dumpsters are situated on a concrete slab that makes up the entire loading dock area.



Steam Plant

Trash dumpsters were observed on the northeasterly side of the Steam Plant.



Freshman Academy

Trash and recycling bins were observed at the northeast corner of the building and may be shared by Steam Plant personnel.



PRELIMINARY PERMITTING CONSIDERATIONS

WETLANDS PROTECTION ACT (310 CMR 10.00)

The Wetlands Protection Act ensures the protection of Massachusetts' inland and coastal wetlands, tidelands, great ponds, rivers, and floodplains. It regulates activities in coastal and wetlands areas, and contributes to the protection of ground and surface water quality, the prevention of flooding and storm damage, and the protection of wildlife and aquatic habitat.

A review of the Massachusetts Department of Environmental Protection (DEP) wetland layers available on the Massachusetts Geographic Information System (MassGIS), dated April 2009 indicates a wetland resource area located along the Merrimack Canal, (and more specifically located between the Kouloheras Building and Lord/Fieldhouse Buildings).

Work performed within resource areas or buffer zones will require a filing of a Notice of Intent (NOI) with the Lowell Conservation Commission and the Massachusetts Department of Environmental Protection.

It appears that any proposed work within the vicinity of the Merrimack Canal may require the filing of a Notice of Intent filing with the DEP and the Lowell Conservation Commission.

FLOOD PLAIN

Based on the Flood Insurance Rate Map (FIRM), Community Panel Numbers 25017C0139F and 25017C0143F and both dated July 7, 2014, the Merrimack Canal is in Zone A (No base flood elevations determined). The remainder of the school building sites are located in Zone X (Areas determined to be outside the 0.2% annual chance floodplain).

SURFACE WATER SUPPLY PROTECTION (310 CMR 22.20)

The Massachusetts Department of Environmental Protection (DEP) ensures the protection of surface waters used as sources of drinking water supply from contamination by regulating land use and activities within critical areas of surface water sources and tributaries and associated surface water bodies to these surface water sources.

The only water supply for the Lowell Regional Water Utility (LRWU) is the surface water from the Merrimack River, which has its source in the White Mountains of New Hampshire. The Intake Station is situated on the riverbank north of the city and water is pumped one half mile to the treatment plant. A review of the Massachusetts DEP resource layers available on the MassGIS indicates the High School is not located within a Water Supply Protection Zone, and appears to not require permitting under 310 CMR 22.20.

NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM

A review of the 13th Edition of the Massachusetts Natural Heritage Atlas prepared by the Natural Heritage and Endangered Species Program (NHESP), dated October 1, 2008, indicates that the High School site is NOT located within a Priority Habitat of Rare Species or an Estimated Habitat of Rare Wildlife and that there are no vernal pools on or adjacent to the site. It does not appear that the project will require NHESP review.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

A review of the Massachusetts Geographic Information System (MassGIS) dated April 2009, indicates that the site is NOT located within any Area of Critical Environmental Concern.

US EPA NPDES

Construction activities that disturb more than one acre are regulated under the United States Environmental Protection Agency's (EPA) National Pollution Discharge Elimination System (NPDES) Program. In Massachusetts, the USEPA issues NPDES permits to operators of regulated construction sites. Regulated projects are required to develop and implement stormwater pollution prevention plans in order to obtain permit coverage. The permitting requirement will need to be determined based upon future design options.

SEWER CONNECTION PERMIT (314 CMR 7.00)

New connections to sanitary sewers, increases in flow to existing sanitary sewers, and discharges from businesses that are not considered to be "industrial wastewater" are subject to state requirements based on their expected discharge volume:

- Discharges ≤ 15,000 gallons per day (gpd) will need only local approvals (no approvals by MassDEP)
- Discharges >15,000 gpd but ≤ 50,000 gpd must file a one-time certification statement with MassDEP within 60 days after the connection starts to be used
- Discharges of > 50,000 gpd must obtain a MassDEP permit before construction

Due to the existing sewer flows from the buildings to be maintained or to increase slightly, no permitting is expected to occur. Any new sewer services may require permitting (street opening, sewer connection fee) from the City of Lowell.

PERMITTING TABLE TIMELINE

Permit	Permitting Authority	Anticipated Filing Date	Anticipated Approval Date
Notice of Intent (Order of Conditions)	MassDEP & City of Lowell Conservation Commission	After 100% DD	Approval in 3 to 6 months
Planning Board Site Plan Review (If Required)	City of Lowell Planning Board	From SD to DD	Up to 6 months+
National Pollutant Discharge Elimination System (NPDES) with EPA Notice of Intent (NOI)	Environmental Protection Agency (EPA)	After 100% CD	Once Submitted; Close NOI at end of Construction

RECOMMENDATIONS

SUSTAINABLE SITE POSSIBILITIES

A new or reconstructed building provides opportunities to incorporate sustainable features which may help achieve LEED for Schools points for funding.

Bio-Swales are grassed channels that capture runoff from parking lot and walkway that remove sediment from stormwater. Bio-swales can be used throughout the site, primarily along parking lot edges and access roads.

Rain Gardens use soils, plants, and microbes to treat stormwater before it is infiltrated and or discharged. Rain gardens are shallow depressions filled with sandy soil topped with a thick layer of mulch and planted with dense vegetation. Rain gardens can be utilized in parking islands and within the site to treat pavement run-off.


Rain Garden


Porous Pavement and Porous Concrete

Porous Pavement is a paved surface with a higher than normal percentage of air voids to allow water to pass through it and infiltrate in the subsoil. Porous pavement, like all drainage systems, requires maintenance at least twice per year.

Subsurface Structures are underground systems that capture run-off (usually rooftop) and gradually infiltrate it into the groundwater. This method of infiltrating stormwater saves space by placing the system under parking lots or fields.

Based on the Natural Resources Conservation Service (NRCS) Web Soil Survey (2011) and record information, it appears that the site will have challenges providing a cost effective solution for stormwater infiltration into the ground.

Opportunities for rainwater reuse are possible at a renovated or expanded Lowell High School. However, the initial capital required for tanks, pumps and dual plumbing may be prohibitive in providing payback for water reuse.

SANITARY SEWER

Section 15.230 (1) of the State Environmental Code (310 CMR 15.000) [Title V] states, “Grease traps shall be provided for kitchen flows at restaurants, nursing homes, schools, hospitals and other facilities from which grease can be expected to be discharged.” Nitsch Engineering understands that there are only internal grease traps in the cafeterias. Exterior grease traps conforming to 310 CMR 15.000 should be installed where there are cafeterias.

The existing combined sewer (sanitary sewer and storm drainage) lines that discharge from the sites that include catch basins and roof drains from the site and building should be separated into sanitary sewer and storm drain lines.

Appendix A – Maps

USGS Locus Map

DEP Wetlands

Flood Insurance Rate Maps

National Flood Hazard Layer Map

Natural Heritage and Endangered Species Program Map

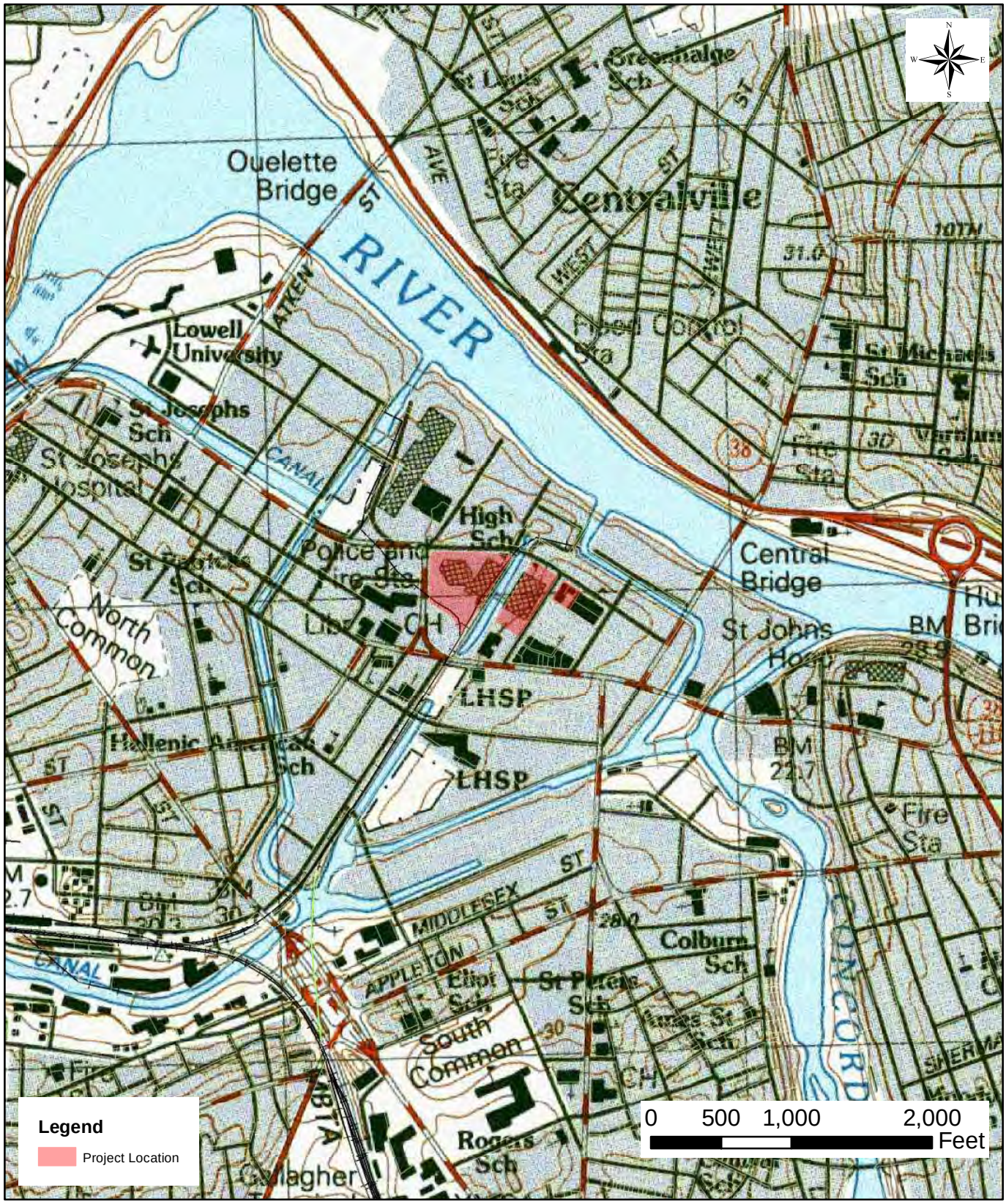

Figure X: USGS Locus
Lowell High School
Lowell, Massachusetts

Data Source: MassGIS
Nitsch Project #11601

Nitsch Engineering

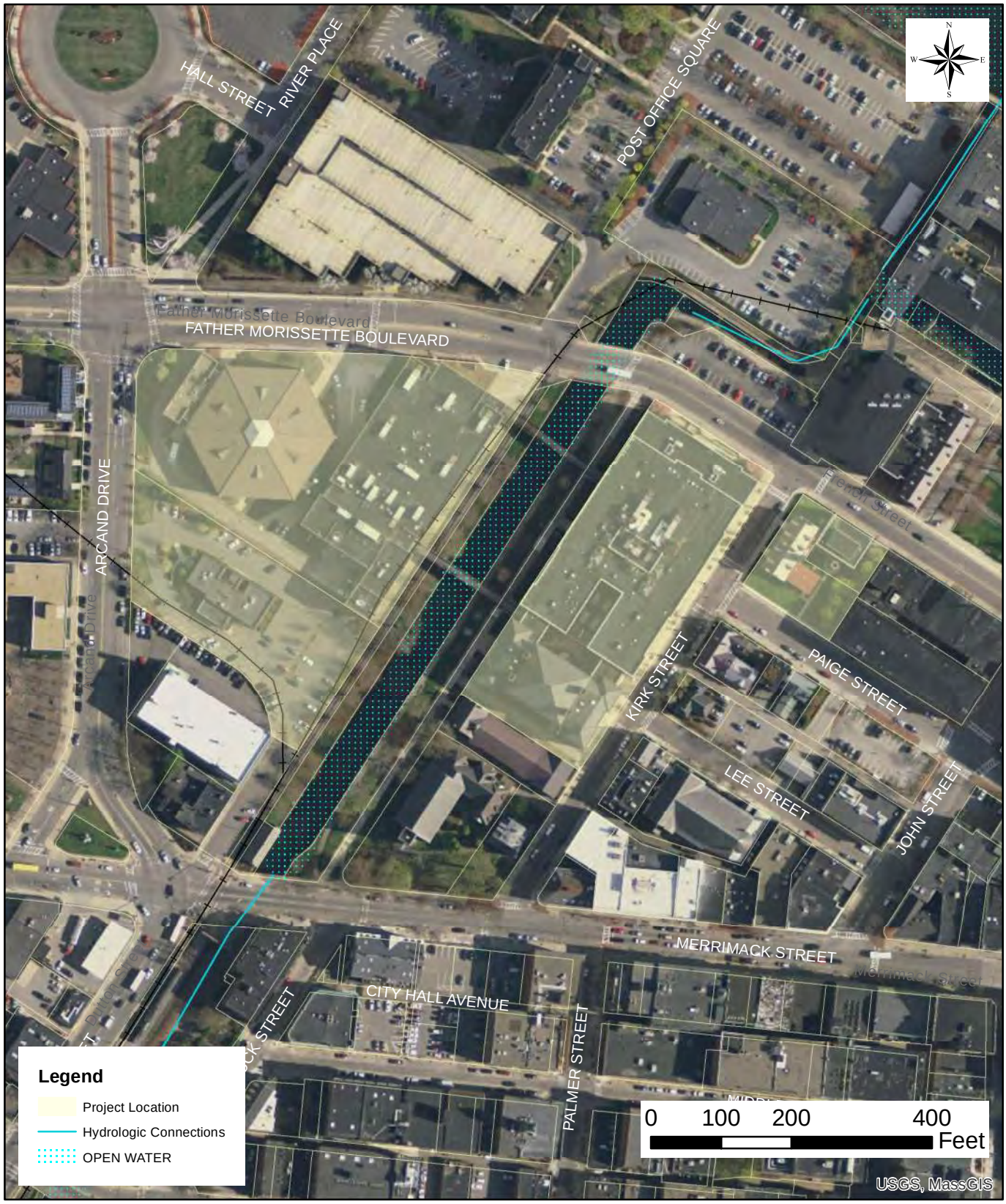

Figure X: DEP Wetlands

Lowell High School
Lowell, Massachusetts

Data Source: MassGIS
Nitsch Project #11601

Nitsch Engineering

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

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Boundaries of the **floodways** were computed at cross-sections and interpolated between cross-sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Massachusetts State Plane Mainland Zone (FIPS zone 2001). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

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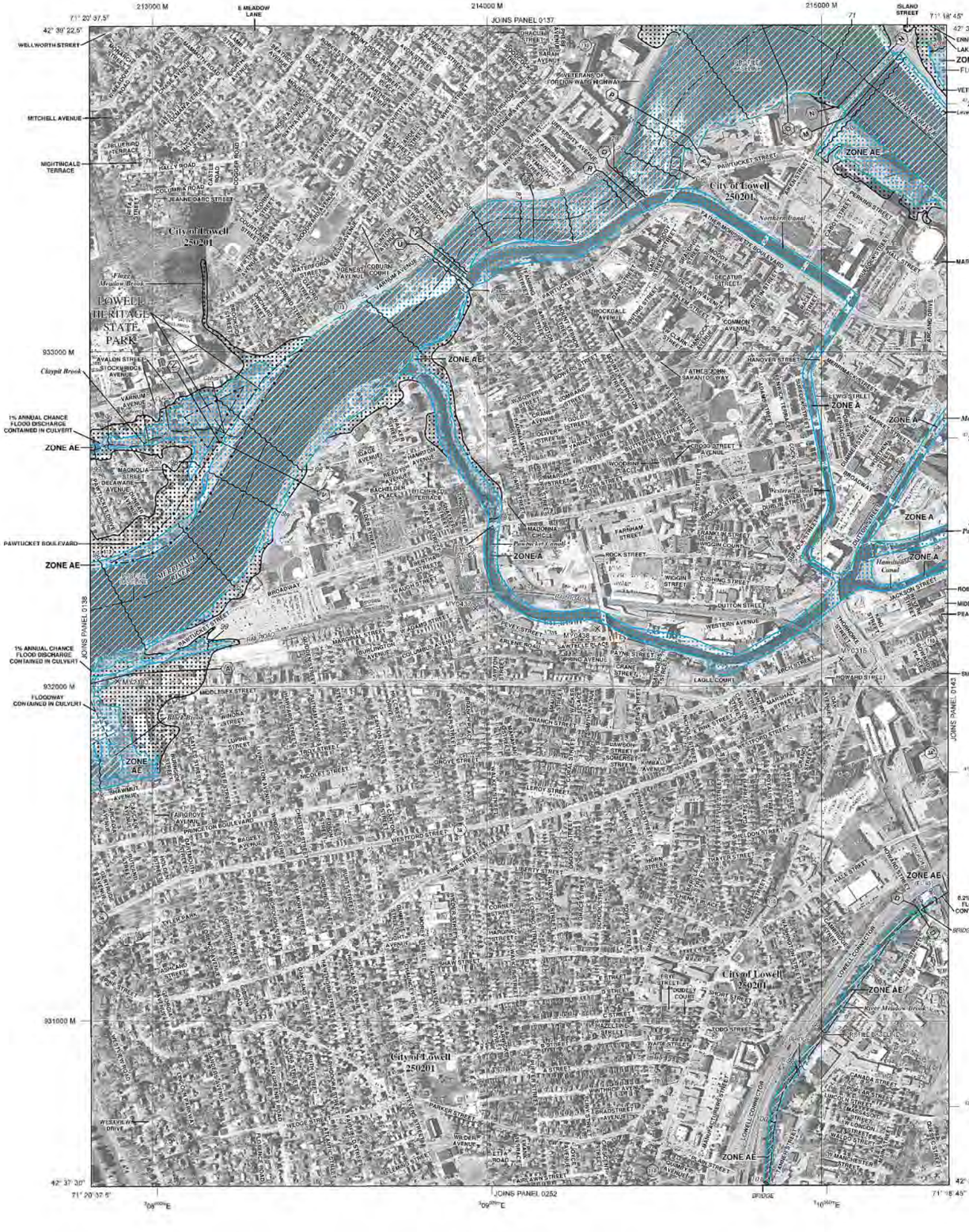

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4688000 M — 1000-meter ticks: Massachusetts State Plane Mainland Zone (FIPS Zone 2001), Lambert Conformal Conic projection
- 1000-meter Universal Transverse Mercator grid values, zone 19
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 4, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

July 7, 2014 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to add roads and road names, and to incorporate previously issued Letters of Map Revision.

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To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0139F

FIRM

FLOOD INSURANCE RATE MAP

MIDDLESEX COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 139 OF 656
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LOWELL, CITY OF	250201	0139	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
25017C0139F
MAP REVISED
JULY 7, 2014

Federal Emergency Management Agency

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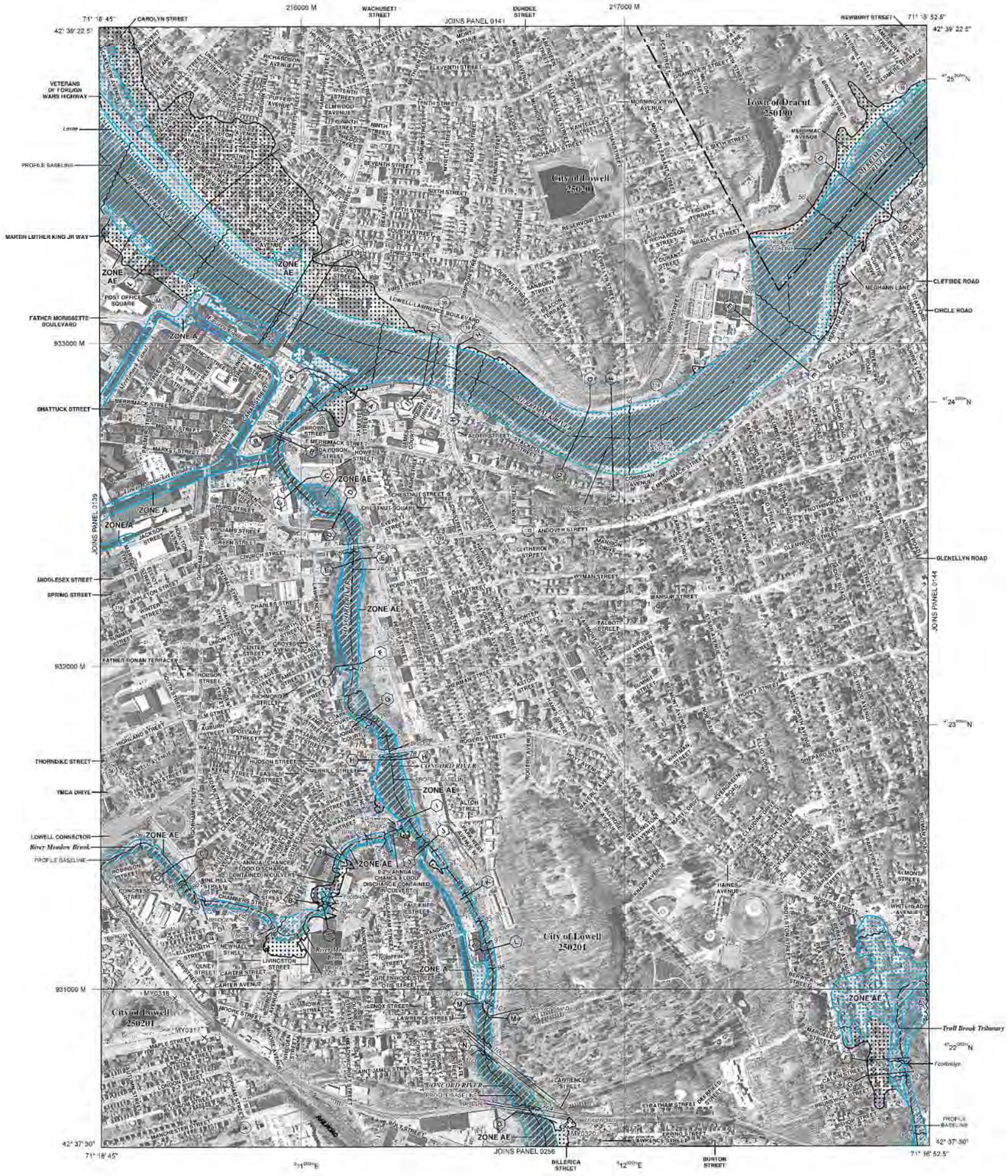

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- 5000000 N — 1000-meter Universal Transverse Mercator grid values, zone 19
- DX5510 — Bench mark (see explanation in Panel to Users section of this FIRM panel)
- M1.6 — Elevation reference mark

MAP REPOSITORIES
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EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 4, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0143F

FIRM

FLOOD INSURANCE RATE MAP

MIDDLESEX COUNTY, MASSACHUSETTS (ALL JURISDICTIONS)

PANEL 143 OF 656
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
DRACUT, TOWN OF	250190	0143	F
LOWELL, CITY OF	250201	0143	F

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MAP NUMBER
25017C0143F
MAP REVISED
JULY 7, 2014

Federal Emergency Management Agency

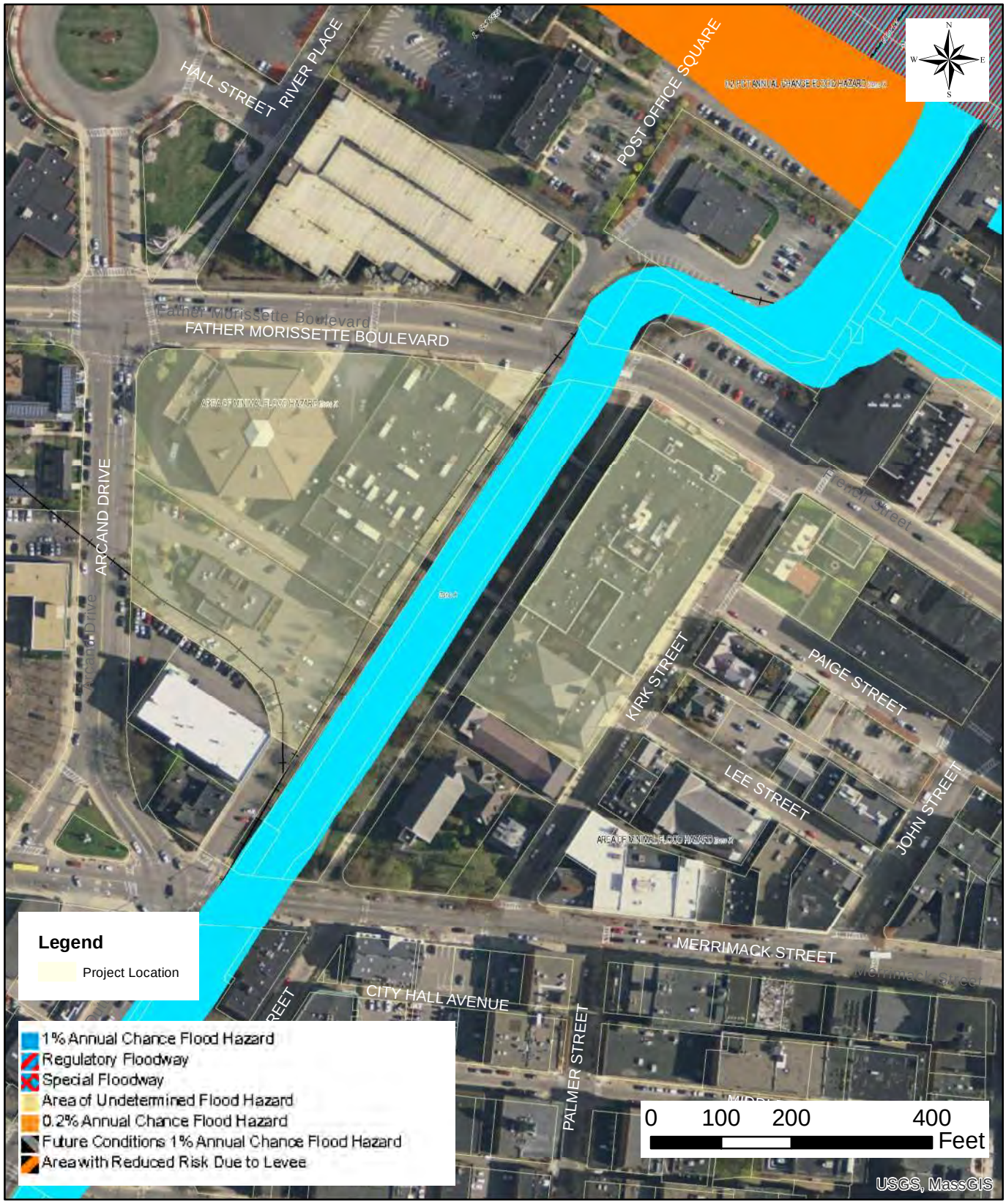

Figure X: National Flood Hazard Layer
Lowell High School
Lowell, Massachusetts

Data Source: MassGIS
Nitsch Project #11601

Nitsch Engineering

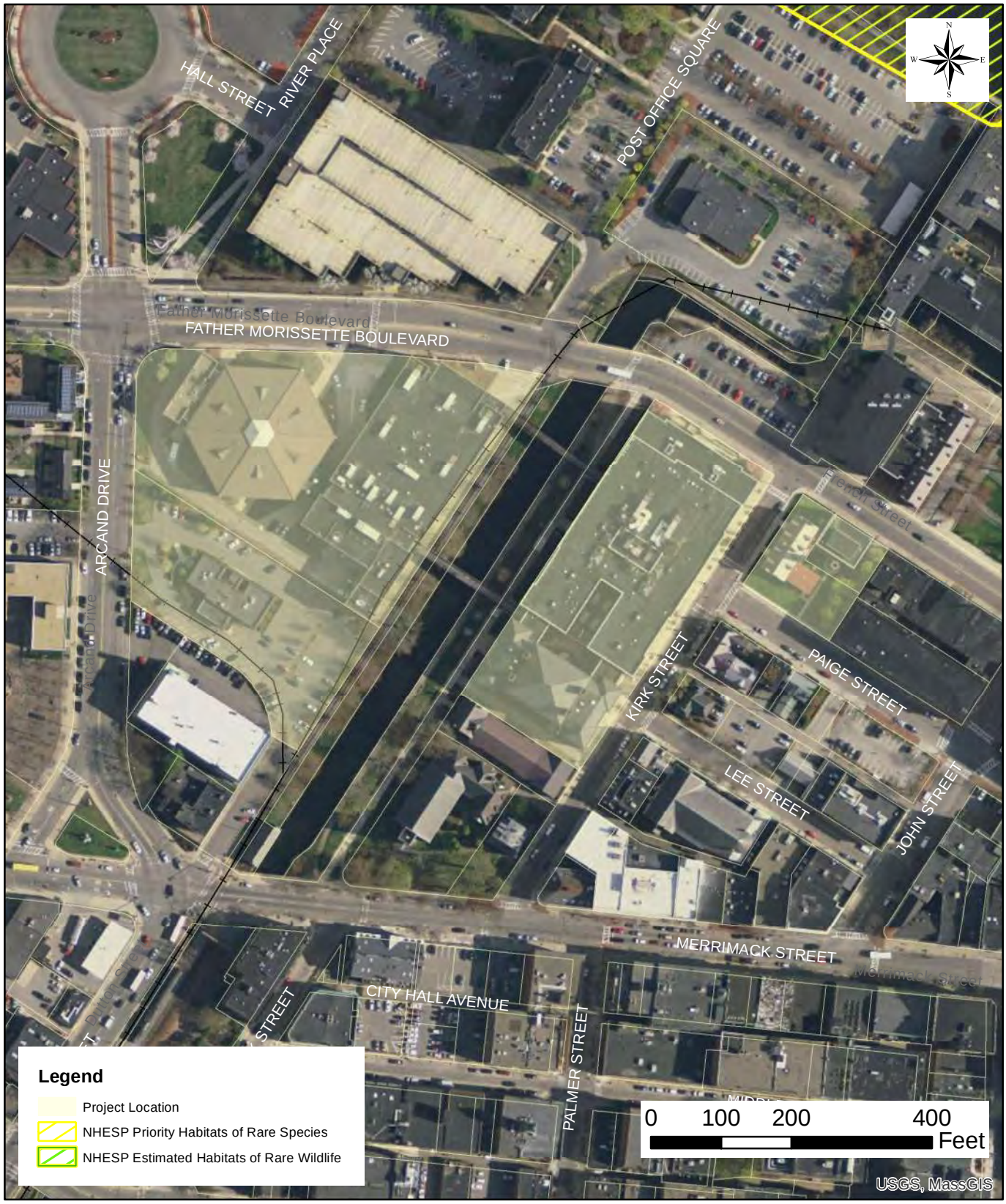

Figure X: Natural Heritage and Endangered Species Program
Lowell High School
Lowell, Massachusetts

Data Source: MassGIS
Nitsch Project #11601

Nitsch Engineering

RWS

Code

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HVAC

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Electrical

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Plumbing

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Fire Protection

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Commissioning

Lowell High School

Lowell, Massachusetts

Existing Conditions Code Report



October 13, 2016

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Introduction

The existing Lowell High School is a campus style high school located at 50 Father Morissette Boulevard in Lowell, Massachusetts. The campus includes the following buildings:

- Field House
- Lord Building
- Kouloheras Building
- Freshman Academy Building
- Steam Plant Building

The Freshman Academy and Steam Plant Buildings are separate, stand-alone buildings. The Field House, Lord and Kouloheras Buildings are connected.

The buildings currently contains classrooms, labs, cafeteria, auditorium, and a library for students in grades 9-12. This code summary is based on existing architectural drawings received August 16 & 17, 2016 and a site visit conducted August 24, 2016. Following is a list of applicable codes:

Code Type	Applicable Code (Model Code Basis)
Building	780 CMR: Massachusetts State Building Code, 8th Edition[1] (2009 International Building Code) (2009 International Existing Building Code)
Fire Prevention	527 CMR: Massachusetts Fire Prevention Regulations (2012 NFPA 1)
Accessibility	521 CMR: Massachusetts Architectural Access Board Regulations
Electrical	527 CMR 12.00: Massachusetts Electrical Code (2014 National Electrical Code)[2]
Elevators	524 CMR: Massachusetts Elevator Code (2004 ASME A17.1)
Mechanical	2009 International Mechanical Code (IMC)
Plumbing	248 CMR: Massachusetts Plumbing Code
Energy Conservation	2012 International Energy Conservation Code[3]

1 The 9th edition of 780 CMR based on the 2015 International Codes is expected to go into effect in mid-2017.
2 The 2017 NEC is expected to take effect in January 2017 and is based on the date the electrical permit is issued, not the building permit.
3 The 2015 IECC has been adopted and will be required to be met January 1, 2017.

International Existing Building Code

The 2009 International Existing Building Code with Massachusetts amendments allows for 3 separate compliance methods, the Prescriptive Method (in general, altered areas must comply with the code for new construction), Work Area Method (level of compliance is based on the classification of work), and Performance Compliance Method (numerical method that allows tradeoffs for deficiencies). This report is based on the Work Area Method.

1. Work Area and Classification of Work:

It is our understanding that the proposed work will likely include renovations throughout the entire interior of the buildings, installation of new MEP systems throughout, as well as the potential for an addition to the building(s). For the purposes of this report it has been assumed that the scope of work is likely to be classified as Level 3 (the highest level of renovation). This level includes the reconfiguration of spaces, the addition or elimination of doors and windows, the reconfiguration or extension of systems, and/or the installation of additional equipment in more than 50% of the aggregate area of the building. The work must comply with the following IEBC Chapters based on the level of work in each building:

Level 2 Alteration: IEBC Chapters 6 & 7
Level 3 Alternation: IEBC Chapters 6, 7 & 8
Addition: IEBC Chapter 10

2. Occupancy Classification:

Field House:

Non-Separated Mixed Uses:
- A-3 (Exercise Areas and Locker Rooms)
- A-4 (Gymnasium and Pool with Spectator Seating)

Lord Building:

Non-Separated Mixed Uses:
- E (Secondary Education)
- A-2 (Cafeteria)
- A-3 (Library and Assembly Areas)

Kouloheras Building:

Non-Separated Mixed Uses:
- E (Secondary Education)
- A-1 (Auditorium)

Freshman Academy Building:

Non-Separated Mixed Uses:
- E (Secondary Education)
- A-3 (Multipurpose Spaces)

Steam Plant Building:

- U (Utility Building)

3. Construction Type:

Field House:

Based on conditions observed during our site visit, the Field House building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire-resistance rating).

Lord Building:

Based on conditions observed during our site visit, the Lord building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire-resistance rating).

Kouloheras Building:

Based on conditions observed during our site visit, the Kouloheras building appears to be constructed with various construction materials including concrete, wood and steel structure and masonry exterior wall resulting in a minimum of Type IIIB construction (combustible interior- no fire-resistance rating; 2-hour noncombustible exterior wall). The addition at the front of the building had spray-on fireproofing on the structure, therefore the construction type could potentially be Type IIIA (combustible interior- 1-hour fire-resistance rating; 2-hour noncombustible exterior wall),

Freshman Academy Building:

Based on conditions observed during our site visit, the Freshman Academy building appears to be constructed with various construction materials including concrete, wood and steel structure and masonry exterior wall resulting in a minimum of Type IIIB construction (combustible interior- no fire-resistance rating; 2-hour noncombustible exterior wall).

Steam Plant Building:

Based on conditions observed during our site visit, the Steam Plant building appears to be constructed with CMU walls and unprotected structural steel members resulting in Type IIB construction (noncombustible, no fire-resistance rating).

If the project includes expanding footprint, the project would include an addition and need to comply with the area limitations for new construction (IEBC 1002.2). Compliance with the height limits would not be required unless the height of the building is increased (IEBC 1002.1).

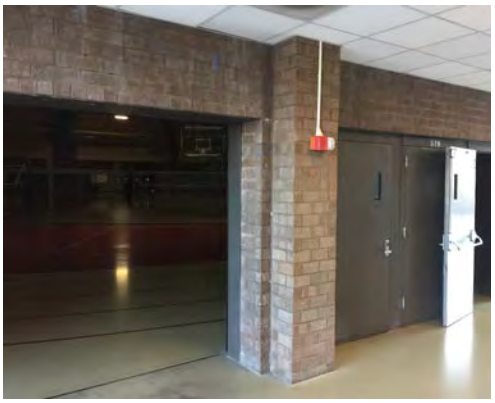
1002.1 Height limitations. No *addition* shall increase the height of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings.

1002.2 Area limitations. No *addition* shall increase the area of an *existing building* beyond that permitted under the applicable provisions of Chapter 5 of the *International Building Code* for new buildings unless fire separation as required by the *International Building Code* is provided.

Due to the size, use and construction type of the Field House, Lord, Kouloheras and Freshman Academy Buildings, an addition cannot be added unless it is separated by a firewall creating two separate buildings. The Steam Plant Building is permitted to have an addition built. If an addition is planned for the Steam Plant Building, the height and area limitations must be reviewed based on frontage and sprinkler system area increases.

Building Separation:

The Field House and Lord Building are connected but appear to have a rated wall separating them and could be considered separate buildings. The Kouloheras and Lord Buildings are connected via a pedestrian walkway and could be considered as separate building if needed (if addition is built to one building) but would require additional smoke rated doors at the end of the walkway. The Freshman Academy and Steam Plant buildings are stand-alone buildings.



Fire Doors and Shutter at Field House

4. Fire Resistance Ratings:

The following table summarizes the required fire resistance ratings for the building elements of Type IIIB & IIB construction, based on 780 CMR Table 601 and other applicable code provisions:

Building Element	Fire Resistance Rating (Hrs)	Fire Resistance Rating (Hrs)
	Type IIIB	Type IIB
Primary Structural Frame[A]	0	0
Exterior Bearing Walls including columns along the exterior wall	2	0

Exterior Non-Bearing Walls	Based on FSD	
Interior Bearing Walls	0	0
Floor Construction	0	0
Roof Construction	0	0

A. Includes beams, trusses, floor members, etc. having a direct connection to the columns (780 CMR 202).

Building Element	**Fire Resistance Rating (Hrs)**	**Opening Protectives (Hrs)**
Exit Access Corridors (780 CMR 1018.1)	0	0
Existing 3 stories or less Stair, Mechanical, and Elevator Shafts (IEBC 703.2.1 Exc. 6)	Maintain Existing	Maintain Existing
Existing 4 story Stair, Mechanical, and Elevator Shafts (IEBC 703.2.1)	1	1
New shafts: (780 CMR 708.4) 3 stories or less: 4 stories:	 1[A] 2	 ¾ 1½
Building Separation (780 CMR Table 706.4) (Between Field House and Lord Building)	2	1½
Emergency Electrical Room (527 CMR 12.00 700-9(D)(1))	2	1½

A. In lieu of rated shaft enclosure, if the duct connects not more than two stories, the annular space around the penetrating duct may be protected by approved noncombustible material that resists the passage of flames and smoke. If the duct connects not more than three stories, the duct also needs to have fire dampers installed at each floor line (780 CMR 716.6.1).

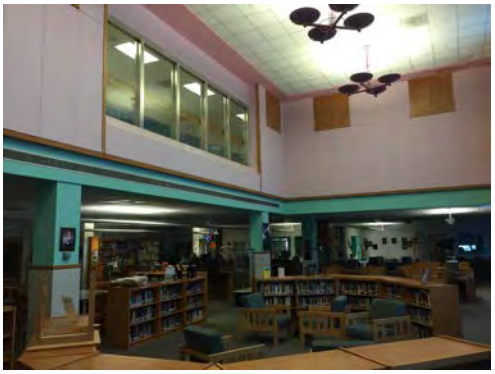
5. Vertical Openings:

Based on the plans reviewed and observations from the site visit, all vertical openings appear to be unenclosed with a shaft enclosure. Where the building contains unprotected floor opening they must be brought into compliance with IEBC 703.2.1 if they are included in the work area. The floor openings would be considered part of the work area if the project includes reconfiguration of any of these spaces per the following definition:

WORK AREA. That portion or portions of a building consisting of all reconfigured spaces as indicated on the construction documents. Work area excludes other portions of the building where incidental work entailed by the intended work must be performed and portions of the building where work not initially intended by the owner is specifically required by this code.

Existing floor openings connecting 3 stories or less are permitted to remain unenclosed if contained within a fully sprinklered building (IEBC 703.2.1 Exc. 6). The following vertical openings were observed:

- The library in the Lord Building contains a 2-story space connecting the 2nd and 3rd levels. However the 3rd story appears to be separated from the library and the 2nd floor by fire-rated glass. The rating of the glass should be reviewed if this area is included within the work area.



Rated Glass at Upper Level of Lib.

- The teacher's center is located on a mezzanine level on the 3rd level of the Kouloheras Building and contains a 2-story opening. This opening is permitted to be unenclosed if it meets all the requirements of a mezzanine since 780 CMR 708.2 Exception 9 allows mezzanines to be open to the floor below. For new construction mezzanines cannot exceed 1/3 of the area of the "room below", however in past building codes mezzanines were permitted to be up to 1/3 of the area of the story below. Although in this case the mezzanine may not be less than 1/3 the area of the room below, in the past typically building officials have allowed existing mezzanines to continue to be considered as a mezzanine under the prior area limitation based on the story below. Although it is subject to interpretation by the building official if this area is renovated, in our opinion it is likely the current configuration of a single-exit mezzanine would be permitted to remain.

- The unenclosed stair connecting the 1st and 2nd levels of the Lord Building by the main entrance is permitted to remain as an open exit access stair in accordance with 780 CMR Section 1016.1 Exception 4.

6. Interior Finishes:

The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 703.4, 803.3). All newly installed wall and ceiling finishes, and interior trim materials must also comply with 780 CMR Table 803.9 (IEBC 602.1, 602.2, 602.3). The requirements are summarized below:

Walls & Ceilings (IBC Table 803.9) – Fully Sprinklered

Use Group:	E	A
Exit Enclosures	Class B	Class B
Exit Access Corridors	Class C	Class B
Rooms & Enclosed Spaces	Class C	Class C

Walls & Ceilings (IBC Table 803.9) – Not Sprinklered (Field House)

Use Group:	A
Exit Enclosures	Class A
Exit Access Corridors	Class A
Rooms & Enclosed Spaces	Class C

Note that where exit stairs and exit access corridors serve more than one use group, the most restrictive interior finish is required. Based on our site visit, the existing interior finishes appeared to comply for all buildings.

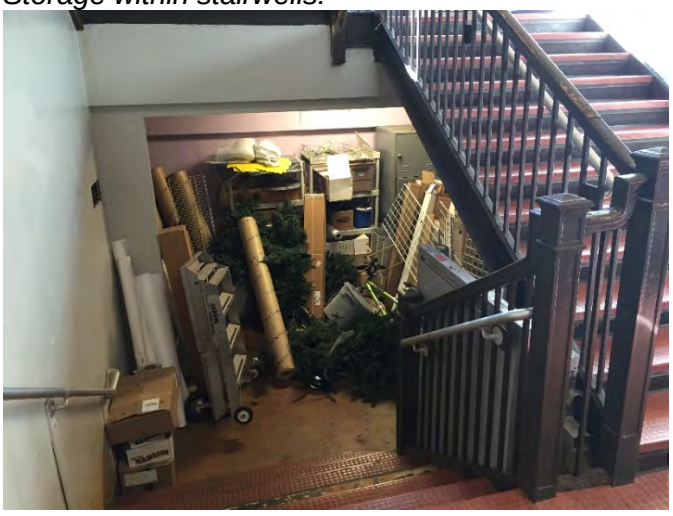
7. Means of Egress:

The means of egress including the number of exits and egress capacity must be sufficient for the number of occupants on all floors (780 CMR 102.6.4). All means of egress are required to be maintained.

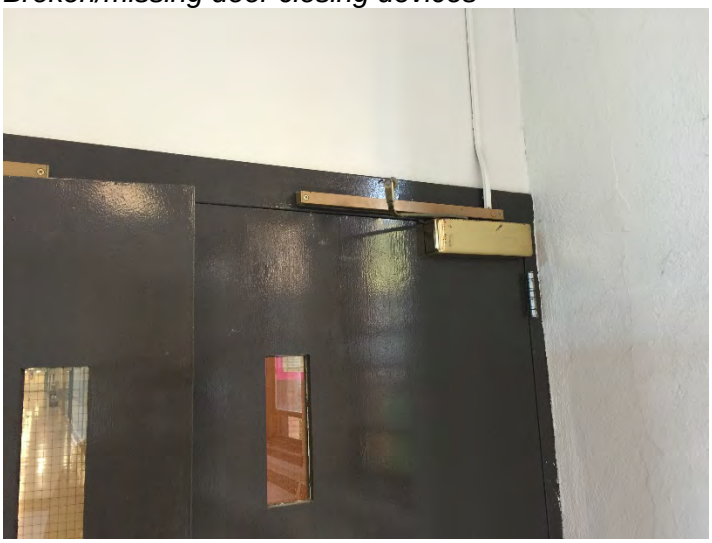
The means of egress for the existing buildings appears sufficient for the current occupant load of the buildings. However, once renovation plans have been developed, the means of egress within the building can be further evaluated based on the calculated occupant load.

Based on observations during our site visit, there were areas of the means of egress that were not properly maintained including the following conditions that occurred throughout the buildings:

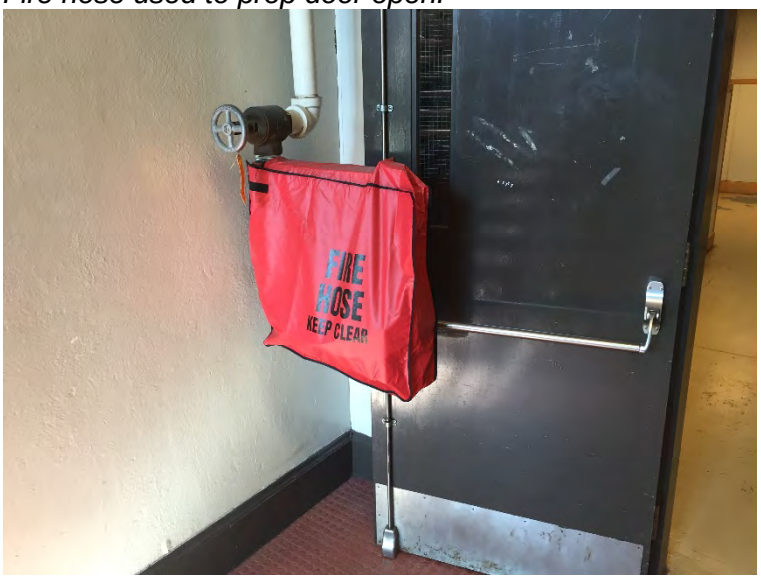
- *Storage within stairwells:*



- *Broken/missing door closing devices*



- *Fire hose used to prop door open.*



General Egress Requirements

Since the buildings are a single-tenant occupancy the means of egress provisions in the IEBC do not apply, however the building must maintain or improve their current level of egress (IEBC 604.1 & 705.1). As long as they are adequately maintained, existing means of egress stairs (including guardrails) and other elements can continue to serve as required egress regardless of their level of compliance with the code for new construction and regardless of the level of renovation (although see below for access code requirements for stair handrails and nosings). The only additional egress requirements are for lighting and exit signs based on the following sections from 780 CMR:

7.1 Illuminated exit signs and means-of-egress lighting must be provided throughout the building regardless of work area limitations (780 CMR 102.6.4).

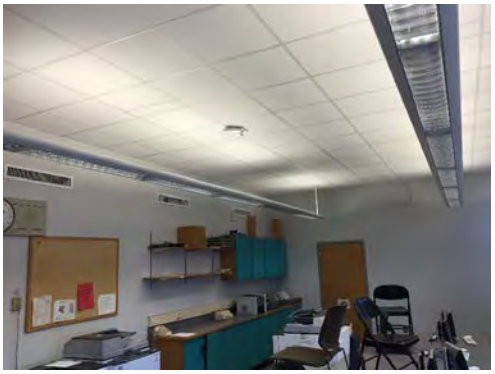
7.2 All means of egress lighting and exit signs must be provided with an emergency power supply to assure continued illumination for not less than 1.5 hours in case of primary power loss (780 CMR 102.6.4, 1006.1 & 1011.1).

All of the buildings appeared to be provided with fairly good exit sign coverage. The emergency lighting was no evaluated. When the building is renovated the exit sign and egress lighting must be upgraded to accommodate any future layouts.

8. Required Fire Protection Systems:

The following fire protection systems are required to maintained and provided:

- Automatic sprinkler system (IEBC 704.2.2 & MGL c. 148 s. 26G). *The Lord, Kouloheras and Freshman Academy buildings appear to be fully sprinklered. The Field House is not provided with sprinklers. The presence of sprinklers could not be confirmed in the Steam Plant building however a sprinkler system would not be required even for new construction due to the use of the building. A sprinkler system must be installed throughout the Field House if the work area exceeds 50% of the floor area. Full sprinkler protection could also be required by MGL c. 148 s. 26G (see below). A portion of the third floor of the Kouloheras building where the mezzanine (teacher center) was built above is not provided with sprinklers. The sprinkler system is required to be altered as the configuration of the building changes.*



Unsprinklered Teachers Work Room Space in Kouloheras

- Fire Alarm (IEBC 704.4.1 & 804.2) – the IEBC allows existing previously approved fire alarm systems to remain regardless of the level of renovation. However full compliance with the MA Architectural Access Board's Regulations (see below) will require a compliant fire alarm system. *The existing buildings currently contain a fire alarm system with deficient notification device coverage (no strobes in classrooms). Note that the fire alarm system must also be altered as necessary in the new construction areas to reflect the new configuration and comply with NFPA 72.*

- Fire extinguishers (527 CMR 1 Section 13.6) *Fire extinguishers must be located throughout the building so that the maximum travel distance to an extinguisher is less than 75 feet (527 CMR 1, Table 13.6.2(a)). All buildings were provided with fire extinguishers with the exception of possibly the Steam Plant Building, however a comprehensive survey of the fire extinguishers was not conducted. Use Group U buildings are not required to be provided with fire extinguishers.*

M.G.L. Chapter 148 Section 26G
Since the Field House building is over 7,500 gross square feet in area, it is subject to the requirements of M.G.L. Chapter 148 Section 26G. These amendments require the entire building to be provided with sprinkler protection if the renovations are considered "major". Note that since the Steam Plant Building is less than 7,500 square feet, M.G.L. Chapter 148 Section 26G is not applicable.

Renovations are considered major depending on the type of work and the scope / cost of work. The following are general guidelines established by the board to be used to determine if the scope or the cost of the planned alterations are major:

1. *Major alterations are reasonably considered major in scope when such work over a 5 year period affects **33% or more of the total gross square footage of the building** (measured from the outside walls, regardless of firewalls).*

2. *Major alterations are reasonably considered major in scope or expenditure, when the total cost of the work over a 5 year period, excluding costs relating to sprinkler installation, is equal to or greater than **33% of the assessed value of the building**, as of the date of permit application.*

Major alterations would include work such as the demolition or reconstruction of existing ceilings, sub flooring, walls, stairways, doors, or the removal or relocation of a significant portion of the building's HVAC, plumbing, or electrical systems. Cosmetic work such as painting or installing / replacing carpeting would be considered minor and would not trigger compliance with this law.

9. Energy Code Provisions for Existing Buildings

The buildings are subject to the International Energy Conservation Code (IECC) including the amendments contained in 780 CMR Chapter 13. Level 2 and 3 alterations to existing buildings are permitted without requiring the entire building to comply with the energy requirements of the International Energy Conservation Code (IECC). The alterations (new elements) shall conform to the energy requirements of the IECC as they relate to new construction only (IEBC 711.1 & 808.1).

10. Ventilation Requirements

All reconfigured spaces must provide existing mechanical ventilation not less than 5cfm of outdoor air per person and not less than 15 cfm of ventilation air per person, or natural ventilation as required by the International Mechanical Code (i.e. exterior openings equal to 4% of floor area) (IEBC Section 709).

11. Structural Provisions for Existing Buildings

Structural alterations to existing buildings must be evaluated by a registered structural engineer to determine compliance with the IEBC.

12. Accessibility for Persons with Disabilities

Massachusetts Architectural Access Board Regulations

Alterations to the building must comply with the requirements of the Massachusetts Architectural Access Board Regulations (521 CMR). For existing building alterations the requirements of 521 CMR are based on the cost of the proposed work:

A. If the cost of the proposed work is **less than $100,000,** only the new work must comply.

B. If the cost of the proposed work is **greater than $100,000** then all new work must comply and the existing building must include an accessible public entrance, toilet room, telephone and drinking fountain (if public phones and drinking fountains are provided) (521 CMR Section 3.3.1(b)). Exempt work when calculating the cost of work includes roof repair or replacement, window repair or replacement, and repointing and masonry repair work unless the exempt work exceeds $500,000.

C. If the cost of the proposed work is **greater than 30% of the full and fair cash value** of the existing building, the entire building is required to comply with 521 CMR (521 CMR Section 3.3.2). There is no exempt work, i.e. the entire project costs apply to determining the 30% criteria.

The cost of all work performed on a building in any 36 month period must be added together in determining the applicability of 521 CMR (521 CMR Section 3.5). The full and fair cash value of the existing building is determined by using the 100% equalized assessed value of the building on record with the city assessor's office. The following table summarizes the assessed value of each building and the 30% trigger. Note that the Field House and the Lord Building are considered a single building per the City of Lowell assessor's database:

Building	Assessed Value (Building Only)	30% Threshold
Field House & Lord Building	$23,345,900	$7,003,770
Kouloheras Building	$26,830,600	$8,049,180
Freshman Academy	$8,272,300	$2,481,690
Steam Plant	$214,400	$64,320

If the renovation triggers the 30% threshold in any individual building, all portions of the building open to the general public of that building (students, visitors, etc) must be upgraded to comply in full with the current requirements of 521 CMR. Any employee-only areas such as staff lounges, staff bathrooms, and staff work areas are not required to comply with 521 CMR, as long as student and public access is not permitted. It should be noted that the Access Board expects to extend their jurisdiction to employee areas. Major upgrades required to meet full compliance with the provisions of 521 CMR will likely include the following building features (note a full comprehensive accessibility survey was not conducted, but should be conducted if 30% trigger is reached in any building):

- All public entrances must be accessible (521 CMR 25.1)

  It is our understanding due to security reasons, the only entrances used are the main entrance located between the Field House and Lord Building and the entrance into the Kouloheras Building used for access to the auditorium, both located along Father Morissette Boulevard. All other exterior doors are exit-only. The two main entrances appear generally accessible. However the ramp provided at the entrance into the Kouloheras Building is not provided with compliant handrails. The handrail is not provided with a high and a low rail as required by 521 CMR 24.5.



Kouloheras Aud. Entrance

  The main entrance into the Freshman Academy Building is not accessible since there is a step-up at the exterior door. There is an accessible entrance along the side of the building, however if full compliance is triggered all entrances are required to be made accessible.



Freshman Academy Main Entrance

- Accessible routes throughout the building (521 CMR 20.1)

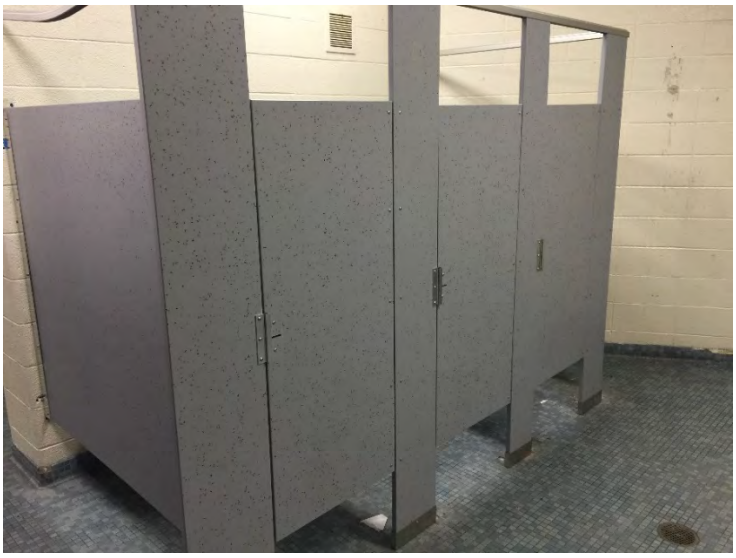
  Most areas of the buildings were generally accessible and along an accessible route via elevators. The existing elevator sizes appeared to meet the minimum threshold (4' x 4'), however the controls would need to be updated to comply with MAAB (Braille, height, etc.). Note that a stretcher-sized elevator is not required in existing buildings regardless of the level of renovation (524 CMR). The auditorium in the Freshman Academy Building had a raised platform with no accessible route.



Freshman Academy Stage

- Accessible toilet rooms (521 CMR 30)

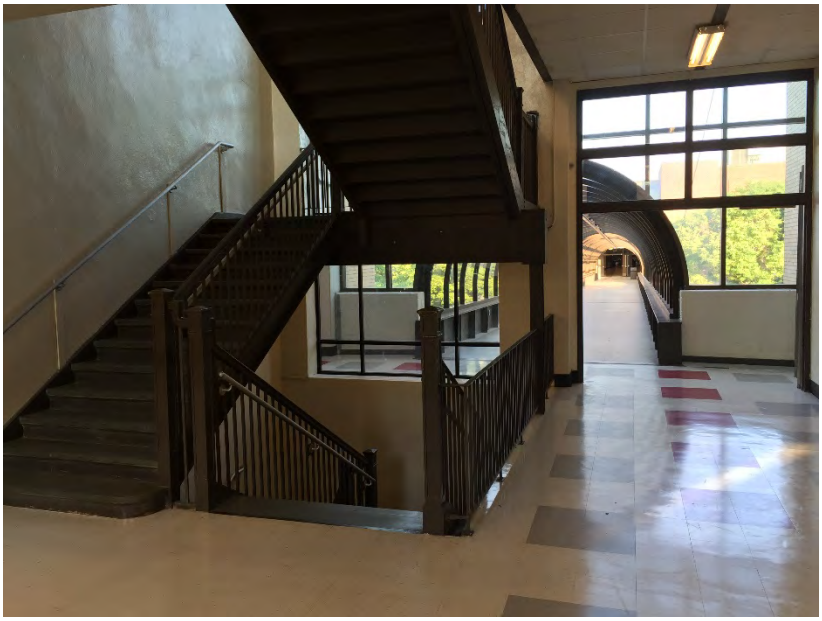
  Some of the existing restrooms are not accessible due to dimensional and clear space issues. The bathrooms observed in the Kouloheras and Lord Buildings appeared to be generally accessible but would need some slight modifications to meet the MAAB. The bathrooms and showers in the Field House were not accessible. The Freshman Academy was provided with a set of toilet rooms on the first level that appeared to be accessible however the other bathrooms located throughout the building appeared to be inaccessible. If the 30% threshold is triggered all toilet rooms must be brought into compliance with the MAAB.



Example Non-Compliant Toilet Stalls

- Accessible Handrails & Stair Nosings (521 CMR 27.4)

  Some handrails throughout the buildings were not compliant with the MAAB due to improper extensions at the top and bottom or handrails were only provided on one side of the stair. Stairs must be provided with handrails on each side and must extend at least 12 inches beyond the top riser and parallel with the floor. At the bottom, handrails must extend at least 12 inches plus the width of one tread beyond the bottom riser. The handrail shall continue to slope for a distance of the width of one tread from the bottom riser; the remainder of the extension shall be horizontal. The ramp located in the basement of the Kouloheras Building is not provided with handrails. The majority of stairs throughout the Kouloheras and Lord Buildings were provided with a compliant handrail on one side, however the handrail on the other side were typically not compliant with the extension requirements. The central stair in the Field House is only provided with a handrail on one side. Some stairs also included abrupt nosings that would have to be altered to comply.



Example Stair Handrails

- Accessible Wheelchair Seating (521 CMR 14.4)

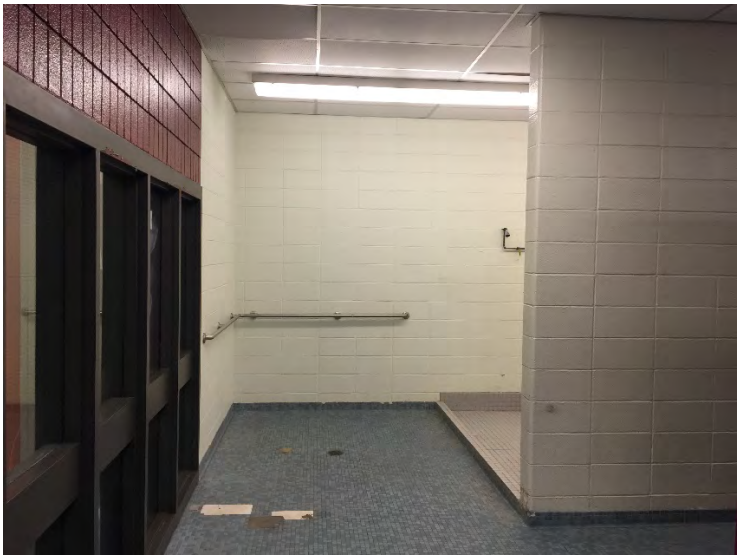
  Designated wheelchair spaces are required to be provided based on the total number of seats in the assembly space. The auditorium in the Kouloheras Building was not provided with wheelchair spaces on the balcony level and they were not clearly designated on the main level. Additionally there were not integrated wheelchair seating into the bleachers in the gym or pool in the Field House.



Auditorium Balcony Seating

- Accessible Locker Rooms (521 CMR 19)

  The locker rooms in the Field House were generally not accessible. The showers were not accessible due to a curb prohibiting wheelchairs from entering the shower areas.



Example Curb At Showers

- Accessible Door Hardware (521 CMR 26.11)

  In the Kouloheras Building is was observed that some doors are provided with knobs for opening devices. Doors must have operating devices that have a shape that is easy to operate with one hand and that does not require tight grasping (521 CMR 26.11.1). Lever operated mechanisms are required.



Example Door Hardware

- Accessible Lab Benches (521 CMR 12.4)

  The science classrooms in the Kouloheras Building were not provided with accessible lab benches. At least 5% of each type of sink, counter or other work areas in classrooms and labs must be made accessible.



Example Lab Bench

Americans with Disabilities Act Guidelines

The ADA Guidelines are not enforced by the Commonwealth of Massachusetts, they can only be enforced through a civil lawsuit or complaint filed with the U.S. Department of Justice. Compliance with the ADA Guidelines is triggered by renovations to an existing building. All renovations to the building must be made to ensure that, to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities (28 CFR Part 36 Section 36.402(a)). Alterations made to provide an accessible path of travel to altered areas and accessible facilities (i.e. provide accessible toilet facilities) are not required if the cost exceeds 20% of the total cost of the alteration (28 CFR Part 36 Section 36.403(f)). However, if the cost to meet these accessibility requirements does exceed 20%, alterations are still required to the maximum extent that the area can be made accessible without exceeding the 20% criteria (28 CFR Part 36 Section 36.403(g)). The ADA also contains less stringent dimensional requirements for some building elements in an existing building where it is infeasible to meet the requirements for new construction (ADA Section 4.1.6).

13. Minimum Number of Toilet Room Fixtures

248 CMR: The Massachusetts State Plumbing Code

The Massachusetts Plumbing Code (248 CMR) regulates the number of plumbing fixtures required throughout buildings. The minimum number of plumbing fixtures is established by 248 CMR 10.10(18) Table 1 based on the building use and the expected population as determined by the local Plumbing Inspector per 248 CMR 10.10 (18)(2).

The Plumbing Inspector must approve the building population, however, the building population can generally be based on the designer's determination of the actual number of people expected within the building. The Plumbing Code expects that the building population will be divided evenly between male and female for the purpose of determining fixture counts. Any distribution other than 50/50 must be justified to the Plumbing Inspector.

If the existing number of toilet room fixtures are altered (i.e. to make existing toilet rooms accessible) the number provided is subject to the minimum requirements of 248 CMR. The following analysis was completed using the maximum expected population of the buildings provided by the architect.

Kouloheras & Lord Buildings

Classification		Water Closets		Male Urinals [A]	Lavatories (each sex)	Drinking Fountains	Service Sink
		Female	Male				
Staff	170 Females 170 Males	1 per 20	1 per 25	33%	1 per 40	N/R	1 per Floor
	Required fixtures	8.5	6.8		4.25	0	
	Total Required Fixtures	9	5	2	5	0	
Students	1,320 Females 1,320 Males	1 per 30	1 per 90	1 per 90	1 per 90	1 per 75	1 Per Floor
	Required fixtures	44	14.67	14.67	14.67	35.2	
	Total Required Fixtures	44	15	15	15	36	

[A] Urinals may be substituted for toilets up to the percentage shown of the required number.

Freshman Academy

Classification		Water Closets		Male Urinals [A]	Lavatories (each sex)	Drinking Fountains	Service Sink
		Female	Male				
Staff	56 Females 56 Males	1 per 20	1 per 25	33%	1 per 40	N/R	1 per Floor
	Required fixtures	2.8	2.24		1.4	0	
	Total Required Fixtures	3	2	1	2	0	
Students	440 Females 440 Males	1 per 30	1 per 90	1 per 90	1 per 90	1 per 75	1 Per Floor
	Required fixtures	14.67	4.89	4.89	4.89	11.73	
	Total Required Fixtures	15	5	5	5	12	

[A] Urinals may be substituted for toilets up to the percentage shown of the required number.

Lowell High School Existing Conditions Evaluation / Base Repair Electrical Report
Lowell, MA
Project No. 67150.00
L#53797/Page 1/October 21, 2016

Introduction:

In general, the electrical systems have reached their life expectancy and are in poor condition. Life safety lighting and exit signs are fed from generators, with the exception to the Freshman Academy Building, and are not compliant with today's codes.

The fire alarm system is in fair condition but will require replacement due to voice evacuation requirements of present code.

Lighting systems in general have been upgraded with lamps and ballasts to conserve energy. T8 lamps have been installed in most spaces. Light fixtures, however, are in poor/fair condition in the majority of the building.

The power for the facility is in poor condition, a new power distribution system should be provided. Multiple services will be required.

The communications system wiring infrastructure for tel/data has been upgraded to accommodate desired use but is not up to present standards. A classroom intercom/paging system is not up to present standards. The central clock system is not operational. There is a dedicated headend room and remote IDF closets with a fiber optic back bone that is in fair condition.

Kouloheras (1892, 1922 & 1997 Addition) Building:

Electrical Service:

The Kouloheras Building service equipment was installed in the 1990s and is in fair condition. The switchboard prior to the 1990s, is back-fed through a 500 kVA dry type transformer. The second switchboard is manufactured by FPE and is in need of replacement. The second switchboard is rated at 1,600 amps, 120/208 volt, 3 phase.



Kouloheras Building Service

Distribution System:

There are a mixture of panels and feeders from various dates in all sections of the buildings. The panelboards prior to the 1990s renovations are in poor condition. All panels located in the corridors should be relocated to dedicated electric rooms. Panels are not separated by load type. Panels for computer equipment have been added over time.



Typical Pre-1990's Panelboard



Typical Corridor Panelboard w/ Padlock

Branch Circuits:

The branch circuits appear to be in fair condition throughout the building. The School has had upgrades for computer labs and also individual classrooms however, extension cords are being used which indicates lack of receptacles. The wiring includes conduit, wiremold, and armored cable. The code issue presently is that neutral conductors appear to be shared. Present code requires multi-wire branch circuits to have common trip.

Interior Lighting:

The interior lighting throughout generally has T8 fluorescent lamps and electronic ballasts. The school has gone through an energy conservation program in which lamps and ballasts have been replaced. The general assessment of the fixtures is that they are in fair condition. Pendant lighting fixtures are present in classrooms and Kouloheras Building.



Classroom Pendant Lighting

Exterior Lighting System:

The site lighting is generally from the street. There are building mounted fixtures at exit discharge. There is no onsite parking.

Emergency Power:

The Kouloheras Building is served by the generator at the power plant. There is an Olympian transfer switch present in the emergency electric room. The transfer switch feeds emergency and optional standby loads. There is only one switch present. The equipment not being used should be removed.



Kouloheras Building

Life Safety (Lighting & Fire Alarm):

The building is served by an emergency generator for emergency lighting and exit signs. The system appears to have limited capacity to serve loads other than life safety. The lighting is normal/emergency configuration in which light fixtures are used for the same purpose (it is code compliant). Exit signs appear to be adequate and well maintained.

The Building has been updated with Simplex 4120 addressable fire alarm panels. The system has ADA horn/strobes in some classrooms but not all locations.



Simplex Addressable Fire Alarm Panel

Security System:

Refer to TSG Solutions report.

Communication/Clock System:

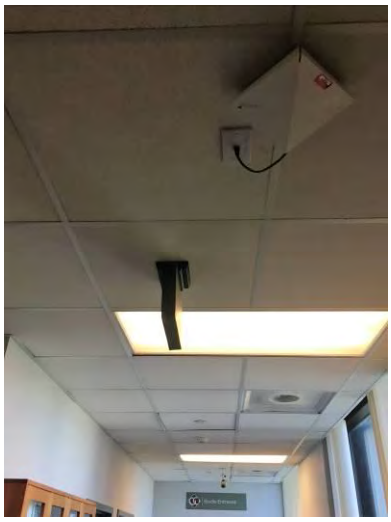
The clock speaker systems should be updated. There is a mixture of battery clocks and system clocks. Classrooms have analog handsets for communications with administration. Paging system: Refer to TSG Solutions report.



Typical Clock/Speakers

Data Systems:

The data cabling has been updated at several stages. The system appears to have been updated to serve various needs. There are IDF closets throughout the facility, as well as, cable tray in the corridors. There is also wireless access being added throughout the school. A/V wiring and interactive white boards are present in selective classrooms. Some classrooms have been equipped with a display post with 3 monitors at 120 degrees apart.



Wireless Access Point



Typical Work Station

Lord/Fieldhouse 1980 Building:

Electrical Service:

The Lord Building and Field House are served by a 3,000 amp, 277/480 volt, 3 phase Switchboard located in the receiving area main electric room. The equipment is manufactured by FPE and is in poor condition. A second switchboard has been tapped off the main bus due to space limitations. The second switchboard is in fair condition. The original switchboard needs replacement.



Lord Bldg. & Field House Service

Distribution System:

There are a mixture of panels and feeders from various dates in all sections of the buildings. The panelboards prior to the 1990s renovations are in poor condition. All panels located in the corridors should be relocated to dedicated electric rooms. Panels are not separated by load type. Panels for computer equipment have been added over time.



Typical Panelboard

Branch Circuits:

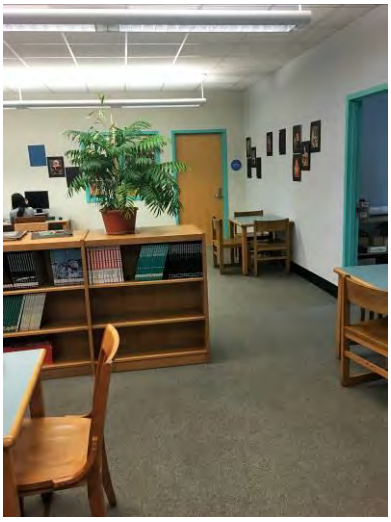
The branch circuits appear to be in fair condition throughout the Lord Building and Field House Building. The School has had upgrades for computer labs and also individual classrooms however, extension cords are being used which indicates lack of receptacles. The wiring includes conduit, wiremold, and armored cable. The code issue presently is that neutral conductors appear to be shared. Present code requires multi-wire branch circuits to have common trip.



Typical Multi-Wire Branch Circuit

Interior Lighting:

The interior lighting throughout generally has T8 fluorescent lamps and electronic ballasts. The school has gone through an energy conservation program in which lamps and ballasts have been replaced. The general assessment of the fixtures is that they are in fair condition. Pendant lighting fixtures are present in classrooms.



Library Pendant Fixtures

Exterior Lighting System:

The site lighting is generally from the street. There are building mounted fixtures at exit discharge. There is no onsite parking.

Emergency Power:

The Lord Building and Field House are served by a 100 kW generator located adjacent to 750 KVA transformer. The generator serves emergency lighting throughout and walking kitchen refrigeration transformers. There is no separation between the generator and transformer. The automatic transfer switch is located in the main electric room.



Lord Building

Life Safety (Lighting & Fire Alarm):

The Lord Building and Field House are served by an emergency generator for emergency lighting and exit signs. The system appears to have limited capacity to serve loads other than life safety. The lighting is normal/emergency configuration in which light fixtures are used for the same purpose (it is code compliant). Exit signs appear to be adequate and well maintained.

The Buildings have been updated with Simplex 4120 addressable fire alarm panels. The system has ADA horn/strobes in some classrooms but not all locations. There is a local master box present near the main entrance on receiving side.



Simplex 4120 Fire Alarm Panel

Security System:

Refer to TSG Solutions report.

Communication/Clock System:

The clock speaker systems should be updated. There is a mixture of battery clocks and system clocks. Classrooms have analog handsets for communications with administration. Paging system: Refer to TSG Solutions report.



Typical Clock

Data Systems:

The data cabling has been updated at several stages. The system appears to have been updated to serve various needs. There are IDF closets throughout the facility, as well as, cable tray in the corridors. The only IDF that appeared to be in need of replacement is at the Field House. There are IDF closets throughout the facility, as well as, cable tray in the corridors. There is also wireless access being added throughout the school. A/V wiring and interactive white boards are present in selective classrooms. Some classrooms have been equipped with a display post with 3 monitors at 120 degrees apart.



Typcial Data Wiring

Steam Plant:

Electrical Service:

The Steam Plant main service consists of two switches and meters. The services are rated at 1,000 amp, 277/480 volt, 3 phase and 2,500 amp, 277/480 volt, 3 phase. The service equipment is in good condition.



Steam Plant Service

Distribution System:

The panelboards are in fair condition.



Motor Control Center

Branch Circuits:

The branch circuits appear to be in fair condition throughout the Steam Plant. The wiring includes conduit and armored cable.

Interior Lighting:

The interior lighting generally has T8 industrial fluorescent lamps and electronic ballasts. The school has gone through an energy conservation program in which lamps and ballasts have been replaced. The general assessment of the fixtures is that they are in fair condition.

Exterior Lighting System:

The site lighting is generally from the street. There are building mounted fixtures at exit discharge. There is no onsite parking.

Emergency Power:

The Steam Plant has a 105 kW natural gas emergency generator. The generator is in good condition. There are emergency battery units throughout as well, which are in poor condition.



Steam Plant Generator

Life Safety (Lighting & Fire Alarm):

A Mircom fire alarm panel is located in the Steam Plant with a rav key stuck trouble. Exit signs appear to be adequate and well maintained. The FireLite panel is in good condition but is in trouble condition.



Fire Alarm Panel

Security System:

Refer to TSG Solutions report.

Communication/Clock System:

The clock speaker systems should be updated. There is a mixture of battery clocks and system clocks. Paging system: Refer to TSG Solutions report.

Freshman Academy Building:

Electrical Service:

In the Freshman Academy Building, the main service is rated at 1,200 amp, 277/480 volt, 3 phase which feeds a 300 kVA dry type transformer with a 1,000 amp, 120/208 volt, 3 phase distribution panel. The equipment is in poor condition. There is a 400 amp fire pump breaker in the main switchgear.



Freshman Academy Service



Fire Pump Controller

Distribution System:

There is a mixture of panels and feeders from various dates in all sections of the buildings. The panelboards prior to the 1990s renovations are in poor condition. All panels located in the corridors should be relocated to dedicated electric rooms. Panels are not separated by load type. Panels for computer equipment have been added over time.



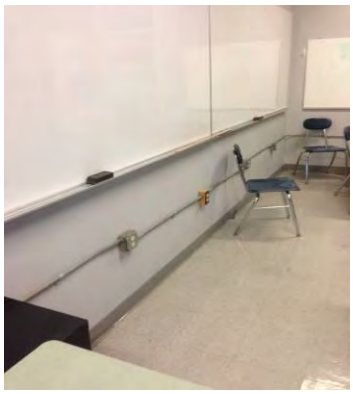
Typical Pre-1990's Panelboard



Typical Corridor Panelboard w/ Padlock

Branch Circuits:

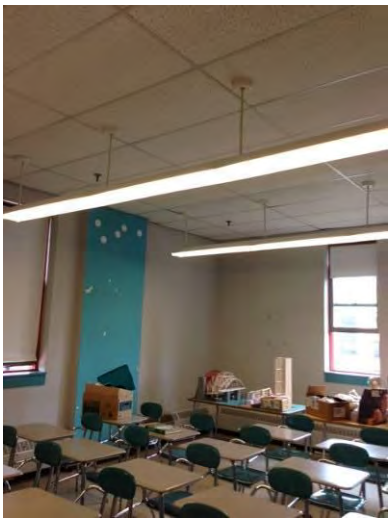
The branch circuits appear to be in fair condition. The School has had upgrades for computer labs and also individual classrooms however, extension cords are being used which indicates lack of receptacles. The wiring includes conduit, wiremold, and armored cable. The code issue presently is that neutral conductors appear to be shared. Present code requires multi-wire branch circuits to have common trip. The Freshman Academy Building has outlets near sinks which are not GFCI protected.



Surface Conduit Branch Circuit

Interior Lighting:

The interior lighting throughout generally has T8 fluorescent lamps and electronic ballasts. The school has gone through an energy conservation program in which lamps and ballasts have been replaced. The general assessment of the fixtures is that they are in fair condition. The Freshman Academy has a number of broken fixtures that need replacement.



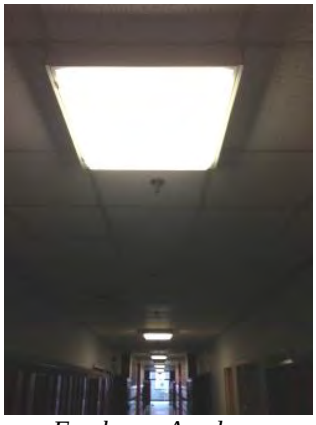
Classroom Pendant Lighting

Exterior Lighting System:

The site lighting is generally from the street. There are building mounted fixtures at exit discharge. There is no onsite parking.

Emergency Power:

The Freshman Academy does not have an emergency generator. All emergency lighting is done through Bodine ballasts and battery units.



Freshman Academy

Life Safety (Lighting & Fire Alarm):

The building is served by an emergency generator for emergency lighting and exit signs. The system appears to have limited capacity to serve loads other than life safety. The lighting is normal/emergency configuration in which light fixtures are used for the same purpose (it is code compliant). Exit signs appear to be adequate and well maintained.

The coverage of devices appears to be adequate except for the pool area. There are no sprinklers or automatic detection in the pool area. The system has ADA horn/strobes in some classrooms but not all locations. The Freshman Academy Building fire alarm system is in poor condition and needs complete replacement of the Zans 400 conventional panel. Fire pump controller is not on a generator.



Fire Alarm Control Panel

Security System:

Refer to TSG Solutions report.

Communication/Clock System:

The clock speaker systems\ should be updated. There is a mixture of battery clocks and system clocks. Classrooms have analog handsets for communications with administration. Paging system: Refer to TSG Solutions report.



Typical Clock/Speakers

Data Systems:

The data cabling has been updated at several stages. The system appears to have been updated to serve various needs. There are IDF closets throughout the facility, as well as, cable tray in the corridors. There are IDF closets throughout the facility, as well as, cable tray in the corridors. There is also wireless access being added throughout the school. A/V wiring and interactive white boards are present in selective classrooms. Some classrooms have been equipped with a display post with 3 monitors at 120 degrees apart.



Typcial IDF Room

Recommendations:

- The Kouloheras Building service is only at 50% life, however, the second switchboard used for distribution at 120/208 volt, 3 phase needs replacement. The Lord Building and Field House services should be updated from a pad mounted transformer to new switchgear. Equipment installed in the 1990s can be back-fed. The Freshman Academy Building electrical service equipment is in poor condition and should be replaced. The Steam Plant service is only at 50% life including distribution equipment.

- All FPE panelboards and feeders should be replaced as they appear to be the oldest vintage.

- We recommend separating neutral conductors for branch circuits and adding breaker ties for multi-wire branch circuits. Replace GFCI outlets within 6ft. of sinks in classrooms.

- The interior lighting fixtures are in fair condition. Replacement of fixtures should be done as areas are reconfigured or renovated. Also, we recommend installing LED fixtures on exterior of building perimeter for energy savings.

- In the Kouloheras Building, the 115 kW generator is no longer in service and should be removed. The emergency distribution system should be separated between life safety and optional standby. The existing transfer switch and non-life safety feeders can remain. New 2-hour rated closets and feeders should be installed to serve life safety loads only. The Lord Building and Field House generator should be separated from the transformer by 20 feet or a concrete masonry wall should be installed. Due to the size of the building, the generator appears small and does not have the capacity to add the heating system in the event of an outage. The emergency system needs to be installed in dedicated 2-hour rated rooms. An emergency generator should be provided for the Freshman Academy Building. The Steam Plant emergency battery units should be upgraded.

- A test of the life safety lighting system is recommended at night-time for coverage. During the walkthrough, the coverage did appear adequate.

- The Simplex panel 4120 is obsolete and should be replaced by a 4100ES. The system appears to have been updated in the 1990s and has reached its life expectancy. The life expectancy of a fire alarm system is 20 years.

- The security system for all buildings should be updated to include an integration of Intrusion CCTV and Access Control. Refer to TSG Solutions report for additional Security system information.

- A new wireless clock and VOIP system should be installed to replace the present system.

- The data system should be updated as a continuing operations program. It appears that it is presently in a continuous updating stage. Continue upgrading wireless access for sufficient data access.

Crabtree McGrath Associates, Inc.

LOWELL HIGH SCHOOL EXISTING CONDITIONS EVALUATION

PERKINS EASTMAN PROJECT # 67150.00
FOODSERVICE EQUIPMENT ASSESSMENT

KOULOHERAS BUILDING – CULINARY ARTS KITCHEN AND CAFE

The Lowell High School Culinary Arts kitchen, known as the Hospitality Academy, is a typical program offering two tracks of Culinary Arts instruction. There is a baking program and an Ala-Carte program with both programs supporting the Daniel P. Kane Courtyard Café. The café serves a daily breakfast bar that is offered to the teaching staff and the general public. Additionally, the program offers lunch three days per week, hosting the general public and various local groups. The culinary arts program is located on the lower level of the Kouloheras Building is difficult for the public to accessed without going through the school. As a result, many groups inquire about having the program host events, but some must seek other venues due to a lack of direct street access. In speaking to the Culinary Arts director, this does happen with some regularity. It is clear that with a street presence and improved access, the local community will better utilize this program and it would provide a richer educational program for the students.

Programmatically, the culinary arts system is set and on a solid footing; however, the physical facilities present tremendous challenges to the program, with countless safety concerns, and the lack of space needed to effectively bring it to the next level. Below are highlights of the challenges we observed.

KITCHEN FINISHES –CULINARY ARTS

The kitchen finishes are original to the school construction in many cases. In other cases some finished seem to go back to a least 1985. In any even, there I no clear separation between the baking and ala-carte teaching programs.

Specific Issues	***Recommendations***
The floor within the kitchen is a painted concrete. In many cases the paint is chipping. The floor is uneven and pitted. The junctions where the floors meet the walls are missing the required coving needed to assist in keeping the floor clean (image 1).	We recommend replacing the floor with a more durable quarry tile floor with an integral coved base. *Base repair requirement.*
The walls leave much to be desired. They are comprised of a painted block, which is adequate, but because this space was not originally designed to be a commercial kitchen, piping and electrical conduits are exposed and surface mounted to the walls (image2).	All piping and conduit must be concealed in walls. Walls must be free of obstructions and be smooth, easily cleanable, and durable. *Base repair requirement.*

161 West Main Street, Georgetown, Massachusetts 01833 phone: 978.352.8500 mail@crabtree-mcgrath.com

The health code mandates that ceiling material be a smooth, non-porous, and easily cleaned surface. The current ceiling is choked with piping and conduit. (image3).	Conceal piping and conduit above a drop ceiling of code compliant material. *Base Repair requirement.*



Image 1

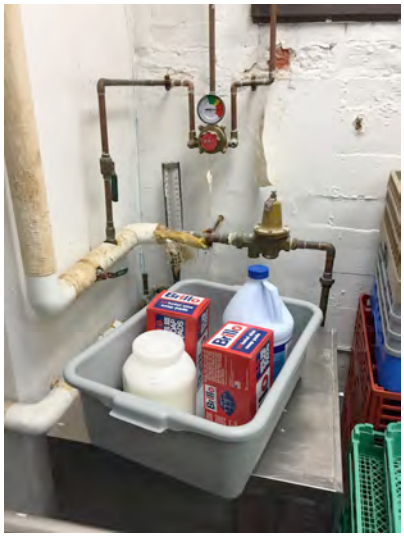


Image 2



Image 3

EQUIPMENT NEEDS – CULINARY ARTS

The Culinary Arts Director indicated that the kitchen is too small and not well equipped. We agree, and feel that the current conditions can be unsafe, difficult to manage, and not appropriate in the long term. There is no clear separation between Baking and Ala Carte cooking. The two programs are forced to use the single food preparation sink within the facility. This is problematic in that one group may be dealing with raw meats and poultry at the sink, and the baking group comes along to utilize the sink for baking needs that may or may not be cooked, resulting in cross contamination. The teaching staff is managing this risk well, but with a clear distinction between both programs and adequate equipment, the staff can devote more focus to teaching and less to managing sanitation.

SPECIFIC ISSUES	***RECOMMENDATIONS***
The steam kettles and oven that are present do not have a hood above them to exhaust the cooking fumes. Additionally, they are located in the baking side of the kitchen (Image 4)	With more space, each program can be better equipped, and properly protected with fire suppression systems and exhaust hoods. *Base Repair requirement.*
The range is rather large and unsafe. In Image 5 the students are learning to prepare stock. This should be done in stationary floor mounted kettles. The facility would benefit from additional ovens rather than the present range top. (Image 5).	Replace the six-burner range with multiple rages to facilitate smaller groups. Provide floor-mounted kettle for stock and sauces. Provide additional ovens and update the balance of the cooking equipment.

The single deck of oven capacity is insufficient to support the current population.	
The walk-in refrigerator and freezer are undersized for the current needs. They are also remotely located many hundreds of feet away from the kitchen. Having this storage is better than nothing but inconvenient. (Image 7 to 9). Note the floor and ceiling finishes.	Replace the existing units with larger units and locate them within the teaching kitchen. Two sets of coolers and freezers are required. One for baking and one for ala carte cooking.
Overall the equipment is out of date and in need of replacement (image 6). There have been a few investments in equipment. The convection oven, kettles, dishwasher, and miscellaneous small equipment have been added.	These recent equipment investments are great and of good quality. The assumption is that they can be transferred should a new facility be built; however, exhaust hoods, worktables, and sinks will be needed to supplement what is transferred.



Image 4



Image 5



Image 6



Image 7



Image 8

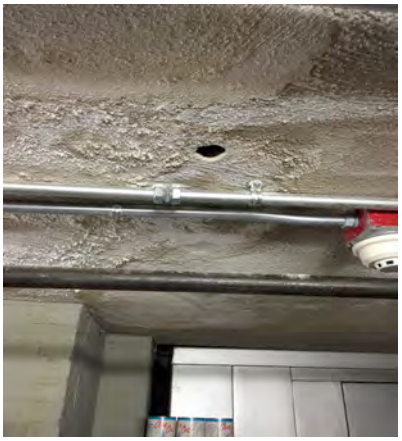


Image 9

LORD/FIELD HOUSE BUILDINGS – HIGH SCHOOL KITCHEN AND SERVERY

The Lowell High School Kitchen and Servery prepares approximately 2,000 meals per day for the high school and Freshman Academy. In addition, it prepares 500 dinner portions and another 600 meals that are shipped to various lower schools within the city. This kitchen serves as the central hub of receiving, production, and distribution. Adding to the complexity, the program prepares many meals from scratch, meaning food is prepared on site with care, avoiding when possible frozen and highly processed ingredients. It is very much a source of pride to the staff to be able to prepare healthy nutritious meals.

The high school servery is remotely located from the kitchen. Logistically, this is not desirable and diminishes available labor hours for production by relegating it to distribution. Any future renovation must address this issue and have the servery directly adjacent to the production floor. The servery was recently renovated to give it a refreshed appearance and to better display the food and create more serving points. The servery refresh also took aim at being able to move students through the facility efficiently. The renovation was effective, but it could only go so far. The renovation was limited in scope so it could not address queuing, and certain travel paths still conflict with one another.

Lastly, the kitchen also prepares and ships meals to the Freshman Academy, which is remotely located. We will address the freshman academy later on in this report.

KITCHEN FINISHES - LORD/FIELD HOUSE

The kitchen finishes are original to the school construction. As the kitchen program and foodservice needs have changed, the finishes and equipment within those spaces have not; resulting in instances where the finishes and placement of equipment are not appropriate to the function of the space. Below are specific observations and recommendations.

SPECIFIC ISSUES	***RECOMMENDATIONS***
A walk-in cooler was added to what was once a break room. As a result, the finishes are not appropriate for the function (image 10).	New coolers and freezer of sufficient size are needed. *Base repair requirement.*
The added walk-in cooler is not sealed to the finished ceiling above. The compressor for the added cooler is located indoors above the box. Its placement was convenient but not appropriate (image 11).	Sealing off horizontal surfaces prevents dust accumulation. Locating the compressor outdoors allows heat and noise to be removed from the kitchen environment. *Base repair requirement.*
The rear door to the kitchen must have a screen or some type of air door to prevent flying insects form entering the kitchen (image 12).	The addition of an air door or screen is needed. *Base repair requirement.*
The dry goods storage finishes are worn. Missing floor tiles and damaged celling tiles do not meet the criteria for sanitation (image 13). The floor	Quarry tile flooring and a new ceiling will provide a more durable surfaces and better sanitation. *Base repair requirement.*

tiles are missing in various locations due to heavy pallet truck traffic (image 14).	
The storage equipment is in need of replenishment. Mobile carts should be used to transport goods (image 15).	Dunnage platforms are needed for bulk storage along walls. Wood pallets storage is fine in the short term only. The need for additional carts is evident.



Image 10



Image 11

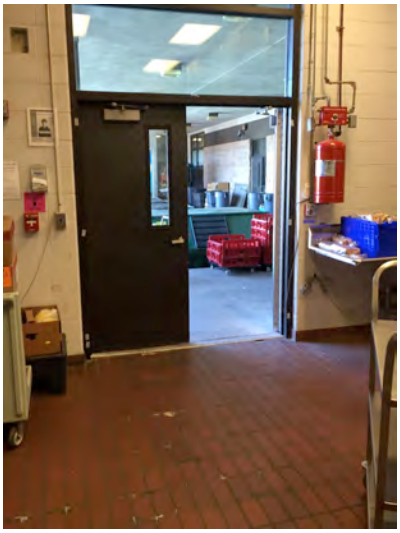


Image 12

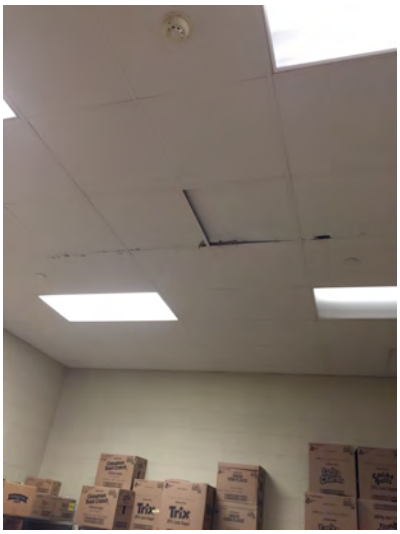


Image 13



Image 14



Image 15

Other finishes associated with equipment have also suffered from many years of hard use. For example, the original walk-in cooler and freezer are showing signs of failure. In addition, they are undersized given the growth of the program.

SPECIFIC ISSUES	***RECOMMENDATIONS***
The original walk–in freezer floor is a very slippery diamond pattern metal floor (image 16). The metal floor system weakens over time. As the gaskets between the panels age, moisture works its way into the insulation reducing the effectives of the insulation and corroding the floor.	Modern floor systems carry the quarry tile finish into the refrigerated rooms. This provides for better slip resistance and sanitation as the floor system will be monolithic and seal moisture from working its way into the insulated floor panels.
The freezer floor is failing. In fact, the frozen temperature is likely the only way it has maintained its integrity. Moisture that had worked into the panels can be seen heaving out to the gaps in the floor (image 17).	This can only be resolved with a new unit or costly floor replacement.
The piping covers serving the cooking equipment has failed (image 18). All the piping is exposed making proper cleaning of this area impossible. The insulation on the piping is absorbent of liquids and is not considered a cleanable surface.	In a modern installation these pipes will be enclosed within a stainless steel chase assembly. Proper cleaning and future equipment changes are made easier by utilizing a stainless steel enclosure system to convey utilities.



Image 16

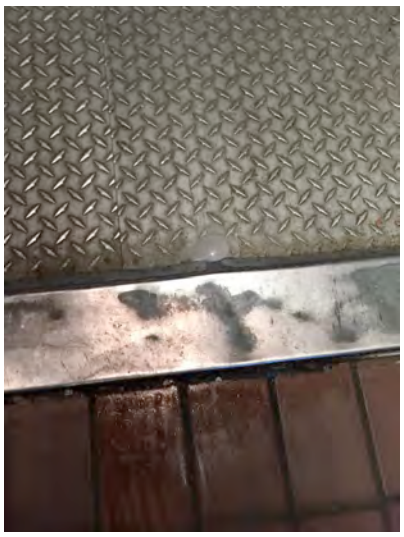


Image 17



Image 18

EQUIPMENT NEEDS - LORD/FIELD HOUSE

The kitchen facility has grown since the original construction. As a result, equipment has been added were possible and not necessarily where it will be most effective. Large rotary ovens were added to the program due to the volume of cooking that takes place. As described by the foodservice director, the rotary oven is the backbone of the operation. When the unit goes down and is in need of repair, the program is left severely under capacity. The future equipment compliment must consider redundancy with key pieces of equipment.

SPECIFIC ISSUES	***RECOMMENDATIONS***
The need for preparation work surface is evident. There is an abundance of sinks but not enough flat working surfaces. The staff has taken to covering the sinks with a vinyl work boards to rectify this need. (Image 19).	Work sinks and tables must be redesigned to better serve a modern foodservice program. The current assembly is not ergonomically correct.
Simple things like transport carts will dramatically improve efficiency. The staff has taken to using whatever is an available to transport items to the remote serving areas (image 20).	The TV cart is a clever solution but a stainless steel cart that is easily cleaned and equipped with suitable food grade finish is needed.
The rotary oven seen here is the backbone of the operation (image 21). The unit works well but does need to be greased and repaired on occasion. The entire right side of the unit has had the side panel removed. Gears and sprockets are visible.	Multiple rotating rack ovens with smaller footprints are needed. Multiple units provided for redundancy and flexibility by being able to cook at varying temperatures.

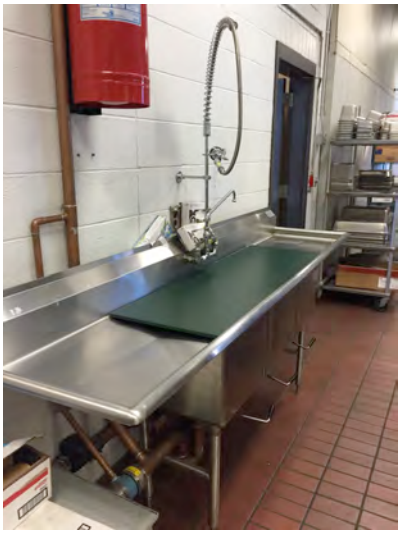


Image 19



Image 20



Image 21

Overall we feel the footprint area of the kitchen is sufficient; but organizationally, improvements are needed. There is not doubt a future renovation is needed. The kitchen redesign will need to reflect how the operation currently operates and offer future flexibility. The trend in foodservice is to move away from frozen highly processed foods in place of more flavorful nutritious and healthier foods. To some extent this has already taken effect, but much of the equipment and the flow through of the production floor has not been updated.

FRESHMAN ACADEMY BUILDING – SERVING AREA

The Freshman Academy is composed of only one serving line and two small storage rooms. This venue does not have the capability to prepare meals of any kind or to cook and reheat food. It relies on the High School kitchen for all meal preparation.

The facility serves approximately 520 meals per day in four lunch waves. The location of the serving line is within what was once a storage closet attached to a large gymnasium type space. As a result, all that can fit is a single serving line. A facility serving 520 meals per day should have at minimum two serving lines. Due to the lack of space, a significant portion of the serving line has spilled out into the seating area.

We observed the serving line during mealtime and noticed that the students were waiting in a line that wrapped around three quarters of the seating area. This is problematic, as the extended serving time observed resulted in the last students only having a few minutes to eat and rest.

SPECIFIC ISSUES	***RECOMMENDATIONS***
The storage associated with the servery is inadequate. The wall, floor and ceiling finishes are not code compliant (image 22).	Walls must be sealed; floor should be durable and easy to clean with coving at the walls. The ceiling should be a lay in washable tile concealing the structure above.
The storage equipment within the storage room is made of standard metal shelving. This material is not code compliant (image 23)	Proper NSF approved shelving in needed.
Another small storage area seen in image 24 is located in what was once a mop closet. Note the wood shelving.	A proper storage room with proper equipment is needed. There should also be a mop closet available for cleaning. NSF approved and code complaint shelving in required.



Image 22



Image 23



Image 24

The Freshman Academy servery is compressed into one serving line. This causes all students to queue into one line regardless of what selection they intend to make.

SPECIFIC ISSUES	***RECOMMENDATIONS***
The serving line spills out into the seating area. There is not enough space in either storage room or the serving room to secure these items when not in use (image 25).	Adequate area to house two separate serving lines is required.
The prep sink seen in Image 26 is now used as a hand sink. The health code requires both a hand washing sink and a food preparation sink in this configuration.	The proper compliment of sinks is required to promote adequate sanitation practices.

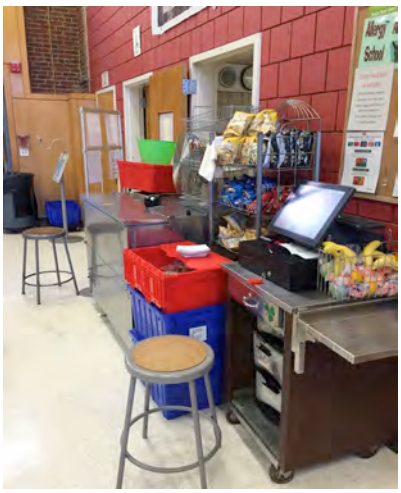


Image 25



Image 26

CONCLUSION

KOULOHERAS BUILDING – CULINARY ARTS KITCHEN AND CAFE

The culinary program will benefit from additional kitchen space. That space must be divided into two distinct spaces: one side for baking, and one side for Ala-carte cooking and instruction. Dry goods storage, refrigerated storage, and pot and pan washing will support both spaces. Linking both programs to share a common set of support space makes the most sense and is the most efficient use of space. Also, by providing higher visibility and making the site accessible for community use, the students will gain real working experience and the community with benefit from having a quality small event venue available that is reasonably priced. Lastly, this in turn educates the community as to what the students can accomplish.

Base repair needs and estimate:

- Supplement existing shelving with NSF complain shelving
- Add additional work tables
- Replace exhaust hoods and add hood where missing (this may not be possible given the existing head height conditions)
- Replace the exhaust hoods and add UD system to neaten the piping assemblies between the hoods.
- Update all finishes to comply with current code requirements
- Provide adequate employee support areas such as lockers, toilets, and office space
- Provide changing space for students to change into whites and place personal belongings
- Replace broken and failing equipment
- Add a chefs line to the ala carte foo preparation area

Base repair foodservice equipment budget – $280,000

Future Recommendations for Feasibility Study:

- Culinary Arts instructional Area – 4,800 square feet
- Seating area and retail – 3,100 square feet
- Separate the baking and ala carte programs by function
- Add support areas such as refrigerated storage and dry goods storage.

Foodservice equipment budget – $700,000

LORD/FIELD HOUSE

The school foodservice program will benefit from a complete reorganization. The priority must be to link the high school kitchen and servery into a contiguous space. Doing this will improve the delivery of food and allow for better distribution of labor resources. The kitchen must be reorganized to update the workflow to better reflect the current food program and to meet modern kitchen requirements. Improvements to the servery must address flow so that the various serving lines can flow freely and quickly without crossing travel paths.

Base repair needs and estimate:

- Supplement existing shelving with NSF complain shelving
- Add additional work tables
- Replace or repair walk-in rooms.
- Relocate walk-in cooler and freezer compressor to the outdoors.

- Replace the exhaust hoods and add UD system to neaten the piping assemblies between the hoods.
- Add rotating rack ovens for redundancy adequate cooking capacity
- Add air screen to back door
- Replace defunct reach-in point of use refrigerators
- Provide adequate support table for the pot and pan washing area
- Provide adequate employee support areas such as lockers, toilets, and office space

Base repair foodservice equipment budget – $380,000

Future Recommendations for Feasibility Study:

- Relocate the servery so that is adjacent to the kitchen
- Provide all new equipment and storage facilities
- Organize the kitchen function and flow to better serve the modern foodservice program

New kitchen and servery budget – $680,000

FRESHMAN ACADEMY BUILDING – SERVING AREA

The freshman Academy is in need of two serving lines and appropriate support spaces for storage and limited food preparation. The ability to re-heat food if need is also major benefit to the remote serving area. Adequate storage, clean up space, and security is also required.

Base repair needs and estimate:

- Replace wood shelving with NSF complain shelving
- Add a dedicated hand washing sink
- Provide adequate service counter and racks better secure the area outside the serving area.

Base repair foodservice equipment budget – $10,000

Future Recommendations for Feasibility Study:

- New serving area – 900 to 1,000 square feet
- Combine all serving within a common are that can be secured when not in use.
- Provide hand mean to reheat food if temperatures are outside acceptable limits

New foodservice equipment budget – $160,000

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MEMORANDUM

To:	Alicia Caritano Perkins Eastman Architects
From:	Alicia Svenson
Date:	October 6, 2016
Project:	Lowell High School Existing Conditions Evaluation / Base Repair Historic Preservation Regulatory Review

Building Conservation Associates, Inc. (BCA) was contracted to research the historic status of four existing buildings as part of the feasibility study for Lowell High School for the Massachusetts School Building Authority (MSBA). The goal of the research was to determine which state, local or national inventories of historic properties or historic districts the buildings are located within and identify issues that should be taken into account during the project planning process. The following properties were researched:

- Kouloheras Building
- Lord/Fieldhouse Buildings
- Freshman Academy
- Steam Plant

BUILDING HISTORY SUMMARIES

Kouloheras Building

The original portion of the Kouloheras Building was constructed as the Lowell High School in 1892, designed by the architectural firm Stickney & Austin who had offices in Lowell and Boston. The building was built in the Renaissance Revival style and was notable for its use of yellow brick, which was uncommon in Lowell at the time, and granite and terra cotta trim. The building has been extensively added to and altered since its construction. In 1922 a three-story addition was added to the north side of the school. The addition, designed by architect H. L. Rourke of Lowell, connects to the original school building via passages on the east and west. It was also built in yellow brick with granite and terra cotta trim, but is much simpler in style than the original school building. Arched windows are located periodically across the east and west elevations, echoing the arched windows at the original building. A small interior courtyard is located between the two buildings. The windows of both buildings have been replaced with windows that are not in keeping with the historic character of the building. In 1997 a further addition was added to the north end of the 1922 addition. The design of the new addition is similar to the 1922 addition although cast stone was used for trim.

Lord/Fieldhouse Buildings
The Lord/Fieldhouse buildings were added to the High School complex on the west side of the Western Canal in 1980. They are red brick structures with cast stone trim designed by Sverdrup Facilities Inc. and HMFH Architects. The design included two passageways at the second floor level that cross over the canal and connect these buildings to the Kouloheras building's 1922 addition.

Freshman Academy
The building now known as Freshman Academy consists of the former Lowell High School Commercial and Manual Training Department (Trade High School), constructed in 1900-1901 and the High School Annex building, constructed in 1939. Both buildings were designed by architect Harry Prescott Graves, of Lowell, in red brick with granite trim. The Annex building, on French Street, was a Federal Works Agency project.

Steam Plant
Date of construction for the red brick steam plant building is not on file at the Massachusetts Historical Commission, but photographs show that the steam plant building was likely constructed at the same time as the High School addition in 1922.

REGULATORY RESEARCH SUMMARY

The Lowell National Historical Park and Preservation District was authorized by Congress in 1978. The Downtown Lowell Historic District (DLHD) was created by Special Act of the Massachusetts Legislature in 1983 (and was expanded in 1986 and 2004). The National Historical Park boundaries include the power canal system, a portion of the central business district, and three major mill complexes – areas intended for intensive visitor use and interpretation of the history of Lowell. The Preservation District and DLHD includes these areas, but also extends to the remaining portion of the central business district and other historic mill sites and smaller factories. Air rights over the canals are owned by the State Department of Conservation and Recreation (DCR).

All of the properties associated with the Lowell High School study, including the 1980 Lord/Fieldhouse buildings are located within the Lowell National Historical Park and Preservation District, putting them on the National Register of Historic Places and the State Register of Historic Places. In addition, all of the buildings are located within the Downtown Lowell Historic District. Work on these properties will be subject to review by the Massachusetts Historical Commission (MHC), the Lowell Historic Board, and the National Park Service. Once a Project Notification Form is submitted to the MHC for review the MHC will reach out to the Lowell Historic Board and National Park Service for assistance with the design review process.

The scope of review of the Lowell Historic Board includes:

> The erection, demolition, reconstruction, or alteration of any exterior feature (and interior when work affects the exterior appearance) of any building, structure, or parcel including, but not limited to, alteration of the site topography or general architectural arrangement of such portion of the exterior as designed to be open to view from any street, canal, or way open to public or private vehicular or pedestrian travel.[1]

The work will be reviewed by the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and by the Lowell Historic Board's *Downtown Historic District Design Review Standards*. These two publications are similar, and provide recommendations for work rather than listing requirements to allow for flexibility within projects. The *Downtown Historic District Design Review Standards* are specific to Lowell, and are likely to be most applicable to any project contemplated for the High School complex. It should be noted that the DCR might also be involved with the review process if alterations are made to the passageways crossing the canals between the buildings of the High School complex that trigger air rights review.

HISTORIC PRESERVATION GUIDELINES

While all of the buildings are located within Lowell's national and local historic districts and are thus subject to design review, there will be different levels of review for the different structures based on age and level of architectural and historic significance.

Kouloheras Building
Work at the Kouloheras Building, especially the 1882 portion of the building, will be the most scrutinized. Alterations to this building that change its exterior appearance or character are not likely to be approved. Alterations that improve accessibility or have other tangible benefits to the school that are designed to be compatible with the historic structure are more likely to be approved. Alterations that help bring the structure closer to its original appearance, for instance, replacing the existing aluminum windows with new aluminum windows with profiles and glazing patterns that match original window profiles are encouraged.

Lord/Fieldhouse Buildings
While in the historic district, these buildings are less than fifty years old. Character-changing alterations are likely to be more acceptable for these buildings. It is also possible that demolition or partial demolition might be considered.

Freshman Academy and Steam Plant
While not as significant as the Kouloheras Building, these buildings are important to the fabric of the historic district. Guidelines for alterations are similar to those noted for the Kouloheras building above, although there may be more flexibility, particularly at less prominent elevations.

[1] Downtown Lowell Historic District Permitting Process Fact Sheet
http://www.lowellma.gov/dpd/devservices/historic/Documents/DLHD%20Process%20Factsheet.pdf

Downtown Lowell Historic District (DLHD) Design Review Standards

The current Design Review Standards, dated January 9, 2012 (attached) provide guidelines for any project considered during the feasibility study. Important elements from the standards that should be considered early in the feasibility study include:

2.0 EXISTING STRUCTURES

2.1 Removal of Structures

2.10 Demolition

2.101 There shall be a presumption toward retaining all existing buildings except those rated "D" in the Index of the document entitled "Details of the Preservation Plan," published by the Lowell Historic Preservation Commission (available from the Historic Board Administrator).[2]

2.102 Demolition shall be allowed only when the new construction relates better to the Historic District than does the existing building, and when all the other requirements below are satisfied.

2.3 Changes to Structures

2.30 General Principles

2.301 Historic Architectural Character

2.3011 The historic architectural character of each building shall be maintained or restored. Buildings shall be rehabilitated to reveal their historic materials and details. Missing architectural elements shall be recreated wherever feasible. Significant existing materials shall be retained wherever possible, by stabilizing, repairing or matching them with compatible new materials as required.

3.0 NEW CONSTRUCTION

3.1 General Principles

3.10 Character: New construction on currently vacant sites shall be encouraged to create a tightly-knit urban environment reflecting Lowell's traditional character, embodied in the compactness and richness of its building types.

3.11 Continuity: New buildings should not be designed as free-standing objects, but instead shall generally conform with the tradition of continuous structures holding the lines of streets, canals and riverfronts. The creation of interior courtyard spaces is encouraged.

3.14 Contemporary Approaches: New buildings shall generally utilize contemporary design ideas, but shall also respect and reflect the traditional scale, proportions, rhythms, and mood of historic structures. These traditional architectural values should be interpreted into

[2] Despite their relatively recent date of construction, the Lord/Fieldhouse building are rated "C" in this plan. Rating C is defined as "Properties that do not meet criteria, but which do not have a negative impact." The Kouloheras, Freshman Academy, and steam plant buildings are all in the "A" (nationally significant) and "B" (locally significant) categories.

contemporary building design, but the use of imitation historic building details and ornaments is discouraged. Building design must also be internally consistent, and amalgamations of historically unrelated stylistic elements shall generally be prohibited.

5.0 OTHER DEVELOPMENTS

5.4 Open Space

5.40 Canal and River Banks

5.401 The historic character and the environments associated with canal and river banks shall be protected.

5.402 Public pedestrian access, safety, and enjoyment shall be considered when construction is proposed adjacent to a canal or river.

5.41 Urban Parks

5.411 Existing parks shall be preserved and enhanced.

5.6 Canalway Development

5.60 New structures shall be oriented toward the Canals not only visually, but also functionally wherever practicable. Two "fronts," one facing the Canal, should be designed for every new building constructed along the Canalway.

5.61 An urban edge (line of buildings) shall be maintained along Canal banks except in landscaped areas developed for private or public space.

PROCESS

While the review process will begin at the MHC, most of the design review itself will be performed by the Lowell Historic Board. It is recommended that the Board be involved early in the design process to allow for discussion and incorporation of comments into design.

Lowell High School Existing Conditions Evaluation / Base Repair HVAC Report
Lowell, MA
Project No. 67150.00
L#53830/Page 1/October 21, 2016

Introduction:

In general, the majority of the heating, cooling, ventilation, and automatic temperature controls and building management systems have reached or exceeded their expected useful service life and are generally in poor condition. The existing heating, ventilation and air conditioning system appears to have been well maintained, and various portions of the HVAC system have been repaired, upgraded or replaced over the years in order to keep the system functional. However, due to the age and general poor condition of the majority of the HVAC equipment, distribution systems, and system components, we recommend that the building HVAC equipment be replaced in its entirety.

The majority of building HVAC systems lack adequate temperature control due to the antiquated pneumatic control system and multiple failures in recent years of the of the system including: thermostat, control damper and steam and hot water valve failures; rooftop unit, rooftop boiler heater, compressor and fan failures, and air handling unit fan and coil failures.

Many of existing systems appear to have lower ventilation capacities and energy efficiency than required by current codes. Therefore, the existing HVAC system should also be upgraded to meet current code requirements for ventilation and energy efficiency, and energy conservation measures (such as energy recovery, variable speed drives for fans and pumps, low pressure ductwork and piping distribution system design, and state of the art direct digital controls and building energy management system) should be designed as part of a new replacement HVAC system.

The following existing conditions report and recommendations summary provides additional information pertaining to the HVAC system.

Kouloheras (1892, 1922 & 1997 Addition) Building:

Heating and Air Conditioning Systems:

The mechanical rooms within this building are equipped with shell and tube steam to hot water heat exchangers that utilize steam from the Steam Plant to provide hot water to the Kouloheras building. Steam and condensate piping is routed from the mechanical room to the Steam Plant via an underground tunnel. Steam condensate is returned to the Steam Plant by a condensate pump. Hot water is circulated throughout the building with the use of (2) end suction base mounted Bell & Gossett pumps (model 1510 pumps, equipped with 25 HP motors). VFD drives have been installed in recent years for the pumps. The pumps, heat exchanger, condensate pump, and associated piping and valving appears to be in poor condition and beyond its useful expected service life.

Shell and Tube heat exchangers appear to have corrosion on them, replacement in the near future should be considered. Insulation on equipment appears soiled and in some locations damaged, or missing, and should be replaced as needed. Pumps appear to have corrosion forming on the impeller casing, repair as needed is recommended.



Steam to Hot Water Heat Exchanger



Condensate Pump



Hot Water Pumps



Steam and Condensate Piping in Tunnel

Within one of the mechanical rooms is a 106 ton Carrier indoor chiller which is associated with a refrigerant outdoor condenser also of the Carrier manufacture. Chilled water is delivered to RTU's through the use of (2) end suction base mounted Bell & Gossett pumps. The indoor chiller and associated outdoor condensing unit should be provided with yearly maintenance, and replaced in the near future.



Heat Exchanger



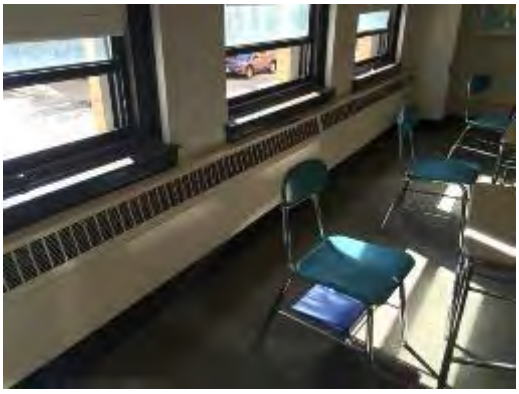
Indoor Spilt Air Cooled Chiller

Gas fired Roof Top Units provide ventilation air throughout the majority of the building. Some of the units are provided with chilled water coils for dehumidification purposes and provide constant volume to the rooms for ventilation.

Classrooms:

Typical classrooms throughout this building are provided with overhead ducted distribution systems with ceiling mounted diffusers and a combination of low and high sidewall or ceiling exhaust registers for ventilation purposes. Wall mounted fin tube radiation at the exterior walls are utilized as the main heat source for the spaces. The majority of classrooms have operable window for natural ventilation. The majority of rooms are provided with pneumatic (typically Barber Coleman) heating system thermostats while some rooms are equipped with new DDC temperature sensors for monitoring through the building management workstation.

Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork, it's recommended that rooftop units are replaced and ductwork be internally cleaned at a minimum or preferably replaced. It is also recommended that more DDC thermostats and control valves be installed within the building to provide a more accurate measurement of temperature for increased comfort and energy savings. Currently, several classrooms (often up to 3 classrooms) are controlled by one control valve.



Hot Water Radiation



Sidewall Exhaust Register

Basement Classrooms:

Many of the basement classrooms are heated and ventilated by classroom ceiling suspended horizontal unit ventilators. The units appear to be in poor condition and in need of replacement.



Unit Ventilator

Art Room:

The Art Classroom is heated and ventilated by an old indoor heating and ventilation unit located in the adjacent Kiln/Storage room. The unit is in poor condition. The electric Kilns do not have canopy heat capture exhaust air system installed.



Art Room H&V Unit



Kiln/Storage Room

Auditorium:

The Auditorium is served by a rooftop unit that provides heating and cooling through a ducted distribution system that terminates at the ceiling level with decorative grilles which are integrated into the ceiling design. Return air is captured below the stage through vertical grilles on the face of the stage and on the sidewall of the Auditorium. The stage itself is also supplied by this unit and has supply and return ducts high within the space for distribution. This space has a new DDC sensor for temperature monitoring and control.



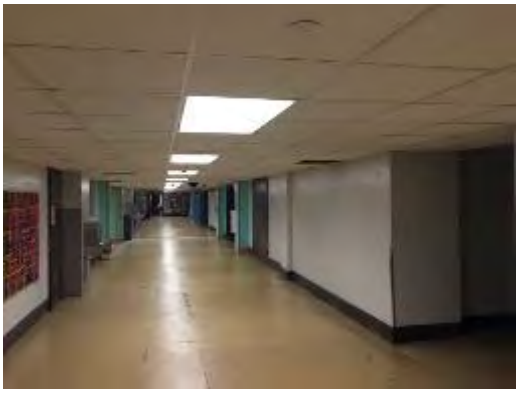
Auditorium Ceiling Supply Grilles



Auditorium Sidewall Return Grille

Corridors:

The majority of corridors located with this building do not appear to have code required ventilation air. In addition, the heating equipment directly installed for the corridor areas appears to be minimal.



Basement Corridor

Lord/Fieldhouse 1980 Building:

Heating and Air Conditioning Systems:

The majority of this building is heated, ventilated and air conditioned by rooftop air handling units. One large gas-fired heating, DX cooling VAV Multi-Zone unit (manufactured by Trane – Intellipack Model) that serves the Library and Media Studio was installed in 1997, while the majority of rooftop units were installed in 2005. The rooftop units that were installed in 2005 were manufactured by Trane. Each of these units is provided with direct expansion cooling components, supply and exhaust fans, filter sections, and hot water coils. Hot water for each rooftop is generated through the use of instantaneous gas fired water heater boilers, manufactured by Rinnair. Each rooftop unit is equipped with several water heaters, which are piped into a common header. The outlet and inlet piping on the hot water coil connects to this header. All of the piping is not insulated and is exposed to the weather including the water heaters. The manner in which the piping is installed can potentially back feed water into other water heaters that may not be operating and causing a high pressure drop within the system. Due to piping not being insulated, this will cause an increased water temperature drop and force the water heaters to operate longer and harder than required to meet the design temperature. This current heating system associated with these rooftop units has been failing on a constant basis and high number of water heaters have been replaced and continue to fail.

It is recommended that all the instantaneous water heaters on all the rooftop units be removed and a new high efficiency-condensing boiler be installed within the building or within a packaged boiler room on the roof. This will generate hot water much more efficiently and provide energy savings year-round with the condensing boiler and outside air reset control. The hot water piping traveling from the boiler to the individual rooftop unit hot water coils could be installed on the roof and would be insulated and jacketed with a weather proof cover.



Rooftop Unit with Outdoor Mounted Boilers



Multi-Zone VAV Unit



Rooftop Units with Outdoor Mounted Boilers

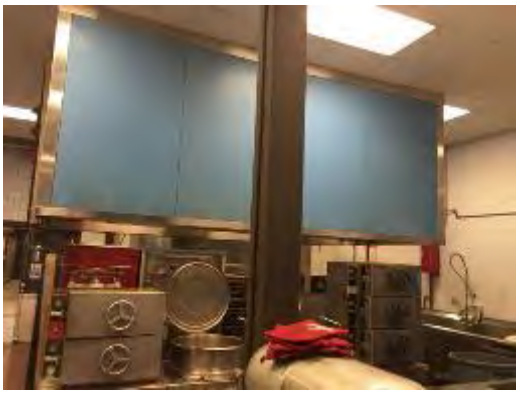
Distribution Systems:

The building HVAC system typically utilizes overhead ducted distribution systems with ceiling mounted diffusers and a mix of low, high or ceiling returns for heating, ventilation and cooling purposes. Majority of the rooms are provided with pneumatic thermostats (Barber Colman) while some rooms are equipped with electronic Trane Tracer temperature sensors. The Trane Tracer software is integrated into the direct digital control system utilized for monitoring and is graphically indicated on the building management workstation. Some areas are provided with variable air volume dampers with electric heat. These components provide individual control for specific areas through the spaces thermostat.

Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork, it is recommended that filters be changed quarterly and ductwork be internally cleaned at a minimum, or ideally replaced. It is recommended that more DDC thermostats be installed within the building to provide a more accurate measurement of temperature for increased comfort and energy savings.

Kitchen:

The kitchen is provided with (2) overhead cooking hoods, a pizza oven and a dishwasher that were all being exhausted by individual exhaust ducts and exhaust fans. This space is not air-conditioned and was provided with a roof mounted gas fired make up air unit utilized to maintain a neutral pressure in the kitchen once the hoods are activated. The associated make-up air unit and exhaust air fans appear to be in poor condition and in need of replacement.

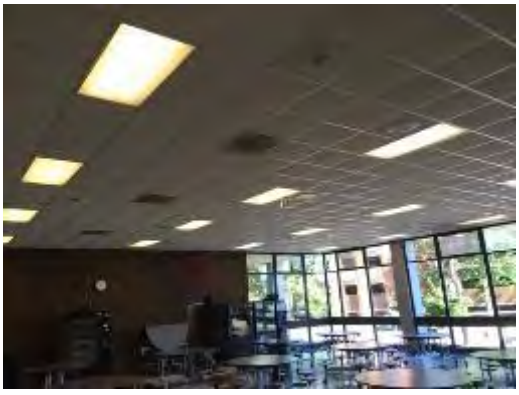
Kitchen Exhaust Hoods



Make-up Air Unit

Cafeteria:

The Cafeteria has an overhead ducted distribution system with ceiling mounted diffusers and a combination of low, high sidewall return and ceiling supply registers for heating, ventilation and cooling purposes. The exterior wall does not have fin tube radiation heating, which can cause higher energy use and reduced thermal comfort control.



Cafeteria Overhead Air Distribution

Library:

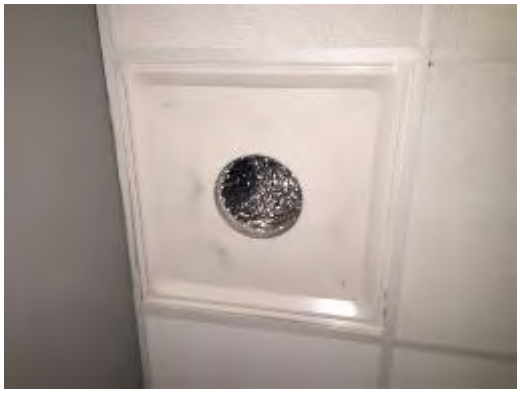
The Library has an overhead ducted distribution system with ceiling mounted diffusers and a combination of low, high sidewall return and ceiling supply registers for heating, ventilation and cooling purposes. The exterior wall does not have fin tube radiation heating, which can cause higher energy use and reduced thermal comfort control. The Library has inadequate thermostat control, and experiences times when the room is too hot and/or too cold according to the Library Staff.

Media Studio:

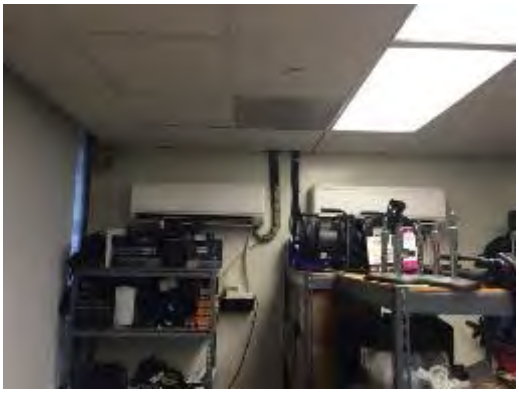
The Media Studio has an overhead ducted distribution system with ceiling mounted diffusers and a combination of low, high sidewall return and ceiling supply registers for heating, ventilation and cooling purposes. Many of the ceiling supply and return registers are damaged and do not have diffuser plates and/or face grilles installed. The TV studio is served by an exposed overhead ductwork distribution system. The Control room is air conditioned by two (2) ductless AC units with associated roof mounted condensing units.



TV Studio Ductwork



Ceiling Diffuser with Missing Face Grille





Control Room Ductless AC units and associated Condensing Units

Little Theatre:

The Little Theatre has an overhead ducted distribution system with ceiling supply and return registers, which provide heating, ventilation, and cooling to the theatre.



Little Theater Overhead Air Distribution

Classrooms:

The majority of classrooms in this building are located in the interior section of the building and are heated, ventilated and air conditioned by packaged direct expansion cooling and hot water heating rooftop air handling units that were installed in 2005. The overhead ductwork distribution systems were installed in 1980. Many of the associated air distribution registers and grilles appeared to be dirty and some showed signs of damage. In general, we would recommend that the classroom rooftop units and associated ductwork distribution system are replaced.

Corridors & Entryways:

Corridors and entryways are typically heated by hot water cabinet unit heaters and convectors by a combination of hot water cabinet unit heaters, convectors and fin tube radiation heating. In general, the terminal heating equipment is in poor condition and in need of replacement. Many corridors throughout the building are not provided with code required ventilation air.



Entryway Unit Heater



Corridor Hot Water Convector

Field House:

The field house consists of several individual systems, each dedicated for a specific space/area. The pool area is served by one indoor gas/oil fired air-handling unit located in a mechanical room in the basement. Breeching for the furnace section travels up through the building and exits the roof. The oil piping is connected to the burner, however, the storage tanks have been decommissioned and oil is no longer used. A galvanized sheet metal duct distribution system carries tempered air into the pool area, where supply air is delivered into the space at a high elevation and returned at a low elevation. The air-handling unit has an associated inline return air fan that draws air from the space and back into the unit. The pool itself is heated through the use of a Bryant Flex Water Tube boiler, the piping from the boiler directly connects to the pool water piping with no heat exchanger inline. Without a heat exchanger to separate the two systems, the chemically treated pool water is traveling into the boiler, which is corrosive to the cast iron and components within the boiler. Signs of this have already appeared and becoming an issue. The breeching was recently replaced due to the corrosive nature of the space.

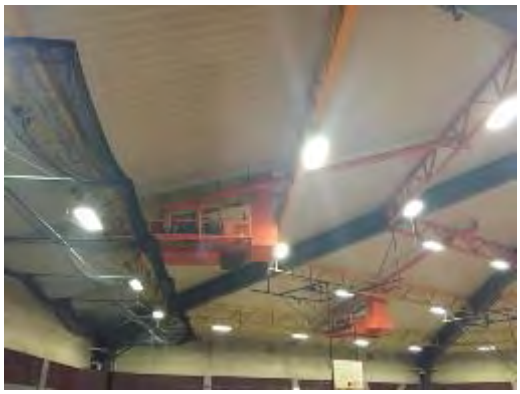




Pool and Pool Mechanical Room Gas-fired Air Handling Units

The locker rooms, weight room and wrestling room have similar systems with indoor gas/oil fired air handling units which provide tempered air to the spaces through ceiling mounted diffusers and registers.

The Field House is provided with (4) gas fired indoor air handling units with a single discharge and inlet grille. Associated breeching exits the roof directly above the unit. This space also has (2) inline exhaust fans, which exhaust any outside air introduced by the air-handling units to maintain a neutral pressure within the space. The entire field house is not air-conditioned, and is only provided with heating and ventilation.





Field House H&V Units and Exhaust Air Fans



Field House Intake and Exhaust Louvers

The heating and ventilation equipment within the Field House is antiquated and in need of replacement. The functional ability of these units are decreasing rapidly with squeaking motors, decreased airflow, minimal control, low gas furnace efficiencies and deteriorating insulation. It is recommended that these units be replaced with similar style gas fired air handling units or a centralized gas fired hot water condensing boiler system providing hot water to new indoor air handling units. Temperature control for this building should be enhanced and an increase of the direct digital control system currently on campus should be implemented. Air quality within the building seems to be poor and should be corrected and brought up to current standards.

Freshman Academy Building:

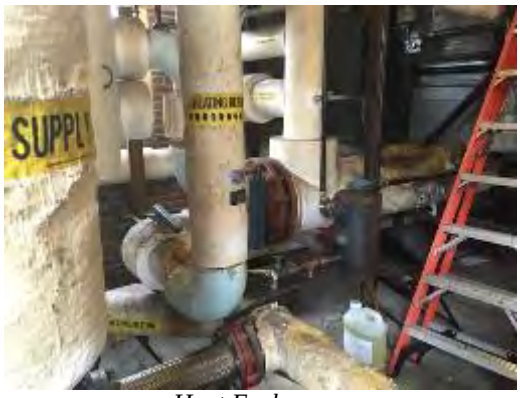
Heating and Air Conditioning Systems:

The penthouse mechanical rooms located within this building is equipped with a shell and tube steam to hot water heat exchanger that utilizes steam from the Steam Plant to provide hot water to the building. Hot water is circulated throughout the building with the use of (2) end suction base mounted Bell & Gossett pumps. Condensate is returned to the Steam Plant via a condensate receiver and duplex pump set.

The shell and tube heat exchanger and condensate pump appear to have corrosion on the heat exchanger and condensate pump surfaces. Replacement of this equipment in the near future should be considered. Insulation on equipment appears soiled and in some locations damaged. The insulation should be replaced. Pumps appear to have corrosion forming on the impeller casing, and should be repaired or replaced in the near future. Pump motors should be inverted duty type for VFD applications to provide increased energy efficiency.



Hot Water Pumps



Heat Exchanger



Condensate Pump

One gas fired rooftop unit is provided for ventilation purposes for the Cafeteria, Theatre and internal areas of the building. The majority of the classroom and administration areas of the building is ventilated by a central indoor hot water heating and ventilation unit located in the mechanical room. The H&V (heating and ventilation) unit has a supply air fan, filter section and hot water heating coils. The rooftop and indoor H&V units are generally in poor condition and in need of replacement. These units are functioning poorly and may become an issue in the near future. Return air is distributed back to the H&V units or relieved to the outdoors by return air fans. In most classrooms the supply and return grilles are located very close to each other; thereby reducing the ventilation system's effectiveness.



Rooftop H&V Unit



Indoor H&V Unit

Maker Space:

A Maker Space was added as part of a renovation project last year. The Maker Space is air conditioned by three (3) ductless AC units that are piped to exterior wall mounted air cooled condensing units. The AC system appears in very good condition. The Maker Space is heated by hot water fin tube radiation heating and is ventilated by the central H&V air handling system. The fintube radiation and associated enclosure are in poor condition and in need of replacement.

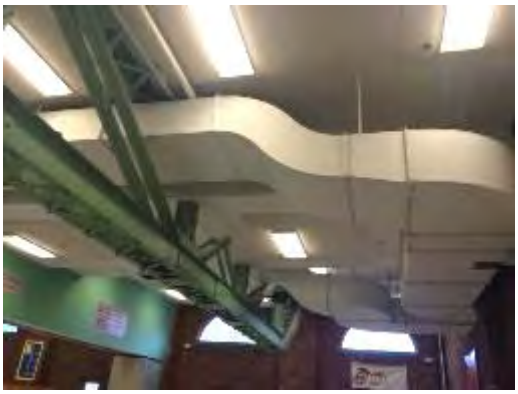




Maker Space AC System

Cafeteria and Auditorium:

Within the cafe and auditorium an exposed ducted distribution system provides tempered air to the spaces. Wall mounted fin tube is also utilized in these spaces for supplemental heat. The fintube radiation and enclosure are in poor condition and in need of repair or replacement. These spaces had new DDC sensor for temperature monitoring and control. Corridors and stairwells are heated through the use of fin tube radiation and unit heaters.




Cafeteria Ductwork and Radiation Heating




Auditorium Ductwork and Radiation Heating

Classrooms:

Typical classrooms throughout this building are provided with overhead ducted distribution systems with ceiling mounted diffusers and a combination of low, high or ceiling returns for ventilation purposes. Wall mounted fin tube radiation at the exterior walls are utilized as the main heat source for the spaces. Temperature control for individual spaces utilize thermostatic control valves located on the supply side of the fin tube radiation. These valves provide a dial type control where increasing or decreasing the dial will lower or increase the space temperature. These are ineffective when trying to maintain a constant comfort level within the space. Many of the ceiling mounted diffusers and grilles appear dirty which could be a sign of dirty filter and ductwork, it is recommended that filters be changed quarterly and ductwork be internally cleaned at a minimum. It is recommended that the existing thermostatic control valves be removed and replaced with digital control valves and thermostats, and individual classroom control valves are installed to provide accurate measurements of temperature for increased comfort and energy savings.

In general, the classroom diffusers, associated ductwork, hot water fintube radiation, and associated hot water piping appear to be in poor condition and should be replaced.





Classroom – Exterior Wall Fin Tube Radiation

Steam Plant:

The main campus heating plant consists of (2) gas-fired steam Cleaver Brooks tube style boilers, each having a capacity of 24,493 MBH natural gas input. The Boilers are Cleaver Brooks Model CBI700.600.015ST boilers, which were installed in 1996. The boilers appear to be in fair physical condition on the exterior, however the boiler internal shell and tubes surfaces show signs of wear and corrosion. The boilers are nearing the end of their expected useful service life of 25 years. The Steam Plant feeds steam to the Lord/Fieldhouse and Freshman Academy buildings. Condensate return travels back to the boilers through the use of a triplex pump condensate receiver and deaerator boiler feed unit, which was manufactured by Shipco (Serial No. 15571). Breeching associated with each boiler consists of a double wall positive pressure system that combines into a common header and exits the building into a masonry stack located adjacent to the Steam Plant. Combustion air for boilers is provided through high wall mounted louvers, which are equipped with dampers which are interlocked to the boilers. Gas fired vertical unit heaters are utilized for spatial heating requirements. The Steam Plant is tied into a direct digital control network system of the Siemens manufacture and graphical representation is provided which indicates boiler operation, steam pressure, and general alarms. A combustion air control and variable speed burner blower control system, manufactured by Nexus (Model Fireye), was installed by Frank Rounds Co. was installed in recent years.



Existing Steam Boilers



Existing Steam Boiler – Corroded Shell Surface



Boiler Deaerator Feedwater Unit



Boiler Breeching & Chimney

Piping Systems:

Overall the majority of the High School campus is served by hot water and steam, and schedule 40 black steel is typically utilized for both systems. From an outwards appearance the many sections of piping appeared to be in fair condition; however, sections of pipe throughout the buildings should be cut to determine the exact interior conditions of the piping system if any of the piping system is proposed for re-use as part of a renovation project. In general, the majority of hot water piping located throughout the High School campus is nearing or has exceeded its useful expected service life and therefore should be replaced. Insulation appears to be lacking in many areas and should be replaced or provided where soiled, missing or damaged insulation is currently installed.

It is recommended that chemical treatment of the piping system should occur on a yearly basis as part of a maintain plan or contract.

Automatic Temperature Controls & Building Management System:

All the buildings on campus utilize pneumatic controls as their main control system. Compressors with refrigerant air dryer systems are installed in each building and provide compressed air to individual components throughout the building. However, in many cases the controllability and dependability of this system is failing. Many wall-mounted thermostats are disconnected or not functional and provide no occupant control. In addition to the pneumatic system, all buildings have been integrated and incorporated into a campus wide direct digital control system with one main workstation providing web access, graphical representation and limited control utilizing a Tridum Niagra platform. This DDC system is not a complete building management system and only provides the necessary controls and ability to monitor the major pieces of equipment and selected areas/rooms. Some equipment such as rooftops, air handling units, pumps and main plant boilers are provided with actual control. This system has several secondary control manufactures integrated into the Niagra platform such as Trane and Siemens. Only selected rooms throughout the campus buildings are provided with wall mounted temperature sensors that feed back to the DDC system for overall building temperature and adjustment. Currently, these two systems work in conjunction with one another to provide temperature control.

The Pneumatic system is antiquated and is generally not reliable or dependable. It is recommended that all of the pneumatic systems be removed and the DDC system be expanded or replaced to incorporate full campus DDC control and energy management. New DDC controls should be provided for all equipment such as fin tube, unit heaters, AHU, RTU, pumps, heat exchangers etc. Wall mounted thermostats should be provided for each classroom space for improved temperature control. The current ATC system control graphics should be updated to include all equipment and provide equipment alarms, trending data, optimized start for energy savings, outdoor temperature reset and damper and valve positioning feed back if it is to be re-used and expanded as part of a renovation project.



Kouloheras Building Control Panel



Lord/Fieldhouse Building Control Panel



Freshman Academy ATC Compressor

Recommendations:

- When considering the overall age and poor performance of the HVAC and automatic temperature control systems, all HVAC and ATC Control systems should be replaced. We do not recommend upgrading the components of the system on a sectional basis since the mechanical systems and their components work together as a single system. As an example, changing the boilers without the piping systems, or the classroom radiator without adding automatic controls and the piping, would not result in achieving the benefits of the investment of upgrading the components since a failure could be eminent at any point within the existing components. An interruption at any point in the system could render portions of the HVAC system inoperative, or poorly performing.

- As the building presently exists, there does not appear to be any immediate life safety concerns associated with the HVAC systems however, the building code has specific requirements relating to ventilation air of which is severely compromised within many areas of the buildings.

- Due to the antiquated portions of the automatic temperature controls system, energy consumption within the building is most likely above average when compared to similar buildings with high efficiency systems and current energy management systems. Considering the general poor condition of the HVAC system, maintenance costs and repair costs would also likely be considered above average. On a long-term basis, the only alternative to correcting the ventilation code deficiency; below average thermal comfort, high operating costs; and high maintenance and repair costs would be an overall system replacement utilizing new high efficiency HVAC systems and energy conservation design techniques.

- In general, replacing the current High School HVAC system with a high performance HVAC system would consist of the follow:

    1. Replace existing steam boiler plant with new high efficiency gas fired hot water plant and replace existing steam and hot water heating equipment with new hot water heating equipment. Remove all existing steam heating and condensate distribution piping systems.
    2. Replace existing pneumatic automatic temperature controls and newly installed DDC controls that require an upgrade with a new direct digital control building energy management system.
    3. Replace rooftop and indoor air handling units. Provide energy recovery ventilation systems to air handling systems that require higher levels of fresh air ventilation as required by code. The existing Lord/Fieldhouse Building Rooftop unit heating load should be served by the central hot water heating plant, in lieu of the currently installed packaged instantaneous boilers at each rooftop unit.
    4. The entire existing hot water and chilled water piping distribution systems should be replaced.
    5. Existing ductwork distribution systems should be replaced.
    6. Existing constant volume air handling distribution systems equipped with multi-zone dampers and hot water heating coils and associated piping and controls should be replaced and should be converted to new variable air volume boxes with reheat coils and associated piping and controls.
    7. Replace existing split air-cooled chillers with high efficiency packaged air-cooled or water cooled chiller plant(s). This would eliminate refrigeration piping within the building. Provide a high efficiency air conditioning system for all building areas that require air conditioning. Remove all Window AC units.
    8. Add isolation valves to major piping runs to improve ease of maintenance.
    9. Replace existing fin tube radiation, convectors and unit heaters throughout the building.
    10. Replace all exhaust air fans that have exceeded service life.
    11. Provide ventilation to areas not directly ventilated, e.g. corridors, select interior classrooms, and offices located throughout the building.
    12. Exhaust all copy room and rooms in which chemicals are used.

SKANSKA

City of Lowell
Lowell High School
Lowell MA
Conceptual Estimate - Issue 01
Summary of Estimate by Perkins Eastman

Jan 26, 2017

Description	Base Repair	Full Renovation	Add/Reno Option #1A	Add/Reno Option #2	Add/Reno Option #3 Expanded Site	Add/Reno Option #4	Add/RenoOption #5 Expanded Existing Site	New School at Existing Site (HR)	New School at Expanded /Existing Site	New School Wang Site	New School Cawley Site
TOTAL PROJECT BUDGET	$270,770,322	$331,360,298	$340,980,538	$344,087,262	$334,335,971	$376,371,511	$386,376,693	$350,611,505	$355,436,809	$325,679,444	$332,458,871
Construction Budget	$204,398,947	$251,808,941	$262,539,821	$267,465,290	$252,572,380	$285,602,493	$293,347,594	$260,828,886	$261,622,232	$253,843,146	$259,432,121
Maximum Total Facilities Grant	$197,527,507	$214,887,765	$208,531,849	$208,472,737	$207,917,993	$210,585,341	$212,400,515	$193,768,445	$189,481,790	$183,433,639	$184,117,729
District Share	$73,242,815	$116,472,533	$132,448,689	$135,614,525	$126,417,978	$165,786,170	$173,976,178	$156,843,060	$165,955,019	$142,245,805	$148,341,142
NOTE: Estimates, district share and reimbursement are conceptual.											

OPTIONS	Total Project Budget	District Share	Debt Service Payment (Per year/ 30 year Term)*	Tax Increase on $253,908 home
Base Repair	$ 270,770,332.00	$ 73,242,815.00	$4.71 million	$144
Full Renovation	$ 331,360,298.00	$ 116,472,533.00	$7.49 million	$229
Add/ Reno Option #1A	$ 340,980,538.00	$ 132,448,689.00	$8.52 million	$260
Add/ Reno Option #2	$ 344,087,262.00	$ 135,614,525.00	$8.72 million	$266
Add/ Reno Option #3 Expanded Site	$ 334,335,971.00	$ 126,417,978.00	$8.13 million	$248
Add/ Reno Option #4	$ 376,371,511.00	$ 165,786,170.00	$10.67 million	$326
Add/ Reno Option #5 Expanded Site	$ 386,376,693.00	$ 173,976,178.00	$11.19 million	$342
New School at Existing Site (HR)	$ 350,611,505.00	$ 156,843,060.00	$10.09 million	$308
New School at Expanded Existing Site	$ 355,436,809.00	$ 165,955,019.00	$10.68 million	$326
New School Wang Site	$ 325,679,444.00	$ 142,245,805.00	$9.15 million	$279
New School Cawley Site	$ 332,458,871.00	$ 148,341,142.00	$9.54 million	$291

Perkins Eastman DPC

Lowell High School, Lowell, MA
Conceptual Cost Estimate

January 31, 2017

Design Options

			Base Repair Existing Site		Full Renovation Existing Site		Add/Reno Option 1A Existing Site		Add/Reno Option 2 Existing Site		Add/Reno Option 3 Expanded Existing Site	
Gross Floor Area (sf) =			1	628,000	2	641,670	3	617,356	4	624,138	5	638,701
			Element ($)	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**
A10 Foundations			226,905	0.36	561,754	0.88	2,645,140	4.28	4,039,209	6.47	4,137,668	6.48
B10 Superstructure			2,959,569	4.71	4,337,827	6.76	6,050,089	9.80	8,850,317	14.18	8,093,974	12.67
B20 Exterior Closure			6,055,060	9.64	10,473,118	16.32	11,713,484	18.97	14,573,055	23.35	12,536,748	19.63
B30 Roofing			8,588,349	13.68	7,191,260	11.21	9,136,869	14.80	5,920,305	9.49	3,763,162	5.89
C10 Interior Construction			7,401,877	11.79	16,143,075	25.16	16,567,339	26.84	17,409,776	27.89	14,008,472	21.93
C20 Staircases			1,801,578	2.87	2,165,269	3.37	2,169,579	3.51	2,268,558	3.63	1,749,412	2.74
C30 Interior Finishes			10,720,322	17.07	13,799,685	21.51	14,672,396	23.77	15,930,197	25.52	12,694,483	19.88
D Services			67,552,964	107.57	68,986,639	107.51	68,511,556	110.98	71,029,916	113.80	72,462,044	113.45
D10 Conveying Systems			477,962	0.76	491,575	0.77	506,232	0.82	532,641	0.85	322,297	0.50
D20 Plumbing			9,897,224	15.76	7,374,728	11.49	7,300,670	11.83	7,543,104	12.09	7,762,398	12.15
D30 HVAC			26,295,941	41.87	30,571,461	47.64	30,330,739	49.13	31,449,323	50.39	32,107,207	50.27
D40 Fire Protection Systems			4,035,314	6.43	4,011,264	6.25	4,000,467	6.48	4,166,760	6.68	4,265,218	6.68
D 50 Electrical Systems			26,846,523	42.75	26,537,611	41.36	26,373,448	42.72	27,338,090	43.80	28,004,924	43.85
E Equipment and Furnishings			6,072,937	9.67	8,144,666	12.69	8,445,430	13.68	8,997,477	14.42	8,308,265	13.01
E10 Equipment			4,298,015	6.84	4,582,852	7.14	5,105,534	8.27	5,757,667	9.22	4,764,128	7.46
E 20 Fixed Furnishings			1,774,922	2.83	3,561,814	5.55	3,339,896	5.41	3,239,810	5.19	3,544,137	5.55
F10 Special Construction			0	0	36,986	0.06	2,481,771	4.02	2,420,764	3.88	2,482,585	3.89
F10 Special Construction			0	0.00	36,986	0.06	2,481,771	4.02	2,420,764	3.88	2,482,585	3.89
F20 Selective Building Demolition			8,084,276	12.87	11,220,341	17.49	10,299,414	16.68	8,697,370	13.94	6,531,277	10.23
F2010 Selective/Building Demolition			3,894,276	6.20	7,030,341	10.96	6,554,414	10.62	4,364,524	6.99	2,198,431	3.44
F2020 Bulk Demo							72,000	0.12	659,846	1.06	659,846	1.03
F20 Hazardous Abatement			4,190,000	6.67	4,190,000	6.53	3,673,000	5.95	3,673,000	5.88	3,673,000	5.75
Sub Total Building Cost			**119,463,837**	**190.23**	**143,060,620**	**222.95**	**152,693,067**	**247.33**	**160,136,944**	**256.57**	**146,768,090**	**229.79**
G10 Site Preparation			293,707		577,837		796,152		796,152		981,921	
G20 Site Improvements			336,156		1,456,514		2,366,088		2,366,088		2,918,175	
G30 Site Civil/Mechanical Utilities			457,000		628,129		746,694		746,694		921,233	
G 40 Site Electrical			673,000		629,977		563,568		563,568		695,067	
Sub Total Construction			**121,223,700**	**193.03**	**146,353,077**	**228.08**	**157,165,569**	**254.58**	**164,609,446**	**263.74**	**152,284,486**	**238.43**
Design Contingency 15% reno & 10% new			18,183,555	28.95	21,513,902	33.53	22,097,479	35.79	21,679,064	34.73	19,675,156	30.80
General Conditions $300k/mo. (new) 250k/mo. (reno)		66mo.										
		60mo.			15,000,000							
		54mo.					13,500,000				13,500,000	
		48 mo.	12,000,000						12,000,000			
		42 mo.										
		36 mo.	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
		30 mo	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Phasing	3.00%		4,182,218		5,036,009		5,377,891		5,588,655		5,158,789	
Sub Total			155,589,473	247.75	187,902,989	292.83	198,140,939	320.95	203,877,165	326.65	190,618,430	298.45
General Requirements	4.00%		6,223,579	9.91	7,516,120	11.71	7,925,638	12.84	8,155,087	13.07	7,624,737	11.94
Sub Total			161,813,052	257.66	195,419,108	304.55	206,066,577	333.79	212,032,252	339.72	198,243,168	310.38
Bonds	1.00%		1,618,131	2.58	1,954,191	3.05	2,060,666	3.34	2,120,323	3.40	1,982,432	3.10
CDI / Subguard	1.25%		2,042,890	3.25	2,467,166	3.84	2,601,591	4.21	2,676,907	4.29	2,502,820	3.92
Insurance - CCIP	2.65%		4,385,063	6.98	5,295,772	8.25	5,584,314	9.05	5,745,981	9.21	5,372,303	8.41
Permits (Assumes Limited Fees)	0.00%		0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sub Total			169,859,135	270.48	205,136,238	319.69	216,313,147	350.39	222,575,463	356.61	208,100,722	325.82
GMP Contingency	3.00%		5,095,774	8.11	6,154,087	9.59	6,181,997	10.01	6,360,968	10.19	5,947,295	9.31
CM Fee & OH	2.50%		4,373,873	6.96	5,282,258	8.23	5,562,379	9.01	5,723,411	9.17	5,351,200	8.38
Sub Total			179,328,782	285.56	216,572,583	337.51	228,057,523	369.41	234,659,841	375.97	219,399,218	343.51
Escal. 3% per yr. til mid point construction			25,070,164	39.92	35,236,359	54.91	34,482,297	55.85	32,805,446	52.56	33,173,162	51.94
Sub Total Construction Cost			**204,398,945**	**325.48**	**251,808,942**	**392.43**	**262,539,820**	**425.26**	**267,465,287**	**428.54**	**252,572,380**	**395.45**
Temp Facilities 32 Classroom Allowance			5,225,406	48 mo.	6,264,186	60 mo.	2,867,869	54 mo.	16 cr			
Temp Facilities Gym Allowance			1,884,158	24 mo.	1,884,158	24 mo.	1,884,158	24 mo.	1,884,158	24 mo.		
Temp Facilities Admin												
Temp Facilities Cafeteria												
Temp Facilities Support												
Total Construction Cost			**211,508,510**	**336.80**	**259,957,287**	**405.13**	**267,291,848**	**432.96**	**269,349,445**	**431.55**	**252,572,380**	**395.45**
Project Soft Costs			**43,592,139**	**69.41**	**52,075,311**	**81.16**	**53,550,809**	**86.74**	**54,228,063**	**86.88**	**62,062,946**	**97.17**
Reimbursable soft cost allowance per MSBA (max 20% of Construction Cost)			34,043,669	54.21	42,526,841	66.28	44,002,339	71.28	44,679,593	71.59	50,514,476	79.09
A/E Fee included above												
OPM Fee included above												
Owner / Architect Consultants included above												
Legal included above												
Utility Allowance included above												
FF&E Allowance $1200 per Student	$1,200	3520	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
IT Allowance $1200 per Student	$1,200	3520	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
FF&E Allowance over MSBA			443,520		443,520		443,520		443,520		443,520	
IT Allowance over MSBA			356,950		356,950		356,950		356,950		356,950	
Moving Allowance			300,000		300,000		300,000		300,000		300,000	
Land Acquisition			0		0		0		0		2,000,000	
Total Project Cost			**255,100,649**	**406.21**	**312,032,598**	**486.28**	**320,842,657**	**519.70**	**323,577,508**	**518.44**	**314,635,326**	**492.62**
Owner Construction Contingency	7%		14,307,926		17,626,626		18,377,787		18,722,570		17,680,067	
Owner Soft Cost Contingency	4%		1,361,747		1,701,074		1,760,094		1,787,184		2,020,579	
Total Project Budget			**270,770,322**	**431.16**	**331,360,298**	**516.40**	**340,980,538**	**552.32**	**344,087,262**	**551.30**	**334,335,971**	**523.46**

	Add/Reno Option 4 Existing Site		Add/Reno Option 5 Expanded Existing Site		New School Existing Site		New School Expanded Existing Site		New School Wang Site		New School Cawley Site	
	6	619,002	7	620,872	8	594,020	9	576,460	10	571,513	11	571,513
	Element ($)	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**	**Element ($)**	**$/sf**
	6,303,789	10.18	6,341,507	10.21	6,272,851	10.56	9,085,010	15.76	6,035,177	10.56	6,035,177	10.56
	11,714,937	18.93	11,774,852	18.97	20,903,564	35.19	21,011,967	36.45	20,111,542	35.19	20,111,542	35.19
	17,095,528	27.62	17,170,403	27.66	20,766,939	34.96	20,153,042	34.96	19,980,094	34.96	19,980,094	34.96
	4,828,475	7.80	4,835,955	7.79	3,558,180	5.99	3,447,231	5.98	3,423,363	5.99	3,423,363	5.99
	17,199,273	27.79	17,253,783	27.79	17,725,557	29.84	15,431,834	26.77	17,053,948	29.84	17,053,948	29.84
	2,227,609	3.60	2,234,565	3.60	1,556,332	2.62	1,510,325	2.62	1,497,364	2.62	1,497,364	2.62
	16,546,398	26.73	16,605,041	26.74	14,618,832	24.61	17,622,382	30.57	14,064,935	24.61	14,064,935	24.61
	69,016,927	111.50	69,226,816	111.50	68,888,499	115.97	65,733,734	114.03	66,278,363	115.97	66,278,363	115.97
	525,886	0.85	527,550	0.85	493,037	0.83	478,462	0.83	474,356	0.83	474,356	0.83
	7,298,366	11.79	7,320,320	11.79	7,241,104	12.19	9,459,709	16.41	6,966,743	12.19	6,966,743	12.19
	30,563,990	49.38	30,656,985	49.38	31,584,043	53.17	27,099,385	47.01	30,387,346	53.17	30,387,346	53.17
	4,072,102	6.58	4,084,668	6.58	3,979,934	6.70	3,862,282	6.70	3,829,137	6.70	3,829,137	6.70
	26,556,584	42.90	26,637,293	42.90	25,590,382	43.08	24,833,897	43.08	24,620,780	43.08	24,620,780	43.08
	9,037,964	14.60	9,067,753	14.60	9,629,064	16.21	9,465,473	16.42	9,264,226	16.21	9,264,226	16.21
	6,155,613	9.94	6,178,708	9.95	5,999,602	10.10	5,914,480	10.26	5,772,281	10.10	5,772,281	10.10
	2,882,351	4.66	2,889,045	4.65	3,629,462	6.11	3,550,994	6.16	3,491,944	6.11	3,491,944	6.11
	3,854,976	6.23	3,878,295	6.25	997,954	1.68	968,453	1.68	960,142	1.68	960,142	1.68
	3,854,976	6.23	3,878,295	6.25	997,954	1.68	968,453	1.68	960,142	1.68	960,142	1.68
	9,419,859	15.22	9,419,859	15.17	3,721,763	12.12	3,721,763	10.48	0.00	0.00	0	0.00
	4,573,096	7.39	4,573,096	7.37	0	0.00	0	0.00	0	0.00	0	0.00
	1,173,763	1.90	1,173,763	1.89	1,173,763	6.06	1,173,763	6.06				
	3,673,000	5.93	3,673,000	5.92	2,548,000	6.06	2,548,000	4.42	0	0.00	0	0.00
	167,245,735	**270.19**	**167,808,829**	**270.28**	**168,639,536**	**283.90**	**168,151,213**	**291.70**	**158,669,154**	**277.63**	**158,669,154**	**277.63**
	797,952		981,921		437,884		623,652		1,950,572		2,653,840	
	2,366,088		2,918,175		1,301,348		1,853,436		5,796,916		7,886,960	
	746,694		920,923		410,682		584,910		1,830,018		2,489,820	
	563,568		695,067		309,962		441,462		1,380,742		1,878,560	
	171,720,037	**277.41**	**173,324,915**	**279.16**	**171,099,412**	**288.04**	**171,654,673**	**297.77**	**169,627,402**	**296.80**	**173,578,334**	**303.72**
	20,915,500	33.79	21,370,962	34.42	17,109,941	28.80	17,165,467	29.78	16,962,740	29.68	17,357,833	30.37
			16,500,000									
	15,000,000											
					12,600,000	21.21	12,600,000	21.86				
	0	0.00	0	0.00		0.00	0	0.00	10,800,000	18.90	10,800,000	18.90
	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	5,779,066		5,840,876									
	213,414,604	344.77	217,036,753	349.57	200,809,353	338.05	201,420,141	349.41	197,390,142	345.38	201,736,168	352.99
	8,536,584	13.79	8,681,470	13.98	8,032,374	13.52	8,056,806	13.98	7,895,606	13.82	8,069,447	14.12
	221,951,188	358.56	225,718,224	363.55	208,841,727	351.57	209,476,946	363.39	205,285,748	359.20	209,805,614	367.11
	2,219,512	3.59	2,257,182	3.64	2,088,417	3.52	2,094,769	3.63	2,052,857	3.59	2,098,056	3.67
	2,802,134	4.53	2,849,693	4.59	2,636,627	4.44	2,644,646	4.59	2,591,733	4.53	2,648,796	4.63
	6,014,780	9.72	6,116,865	9.85	5,659,519	9.53	5,676,734	9.85	5,563,154	9.73	5,685,640	9.95
	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	232,987,613	376.39	236,941,964	381.63	219,226,290	369.06	219,893,096	381.45	215,493,492	377.06	220,238,107	385.36
	6,658,536	10.76	6,771,547	10.91	6,265,252	10.55	6,284,308	10.90	6,158,572	10.78	6,294,168	11.01
	5,991,154	9.68	6,092,838	9.81	5,637,289	9.49	5,654,435	9.81	5,541,302	9.70	5,663,307	9.91
	245,637,303	396.83	249,806,348	402.35	231,128,831	389.09	231,831,839	402.16	227,193,366	397.53	232,195,582	406.28
	39,965,189	64.56	43,541,246	70.13	29,700,055	50.00	29,790,391	51.68	26,649,782	46.63	27,236,542	47.66
	285,602,492	**461.39**	**293,347,594**	**472.48**	**260,828,886**	**439.09**	**261,622,231**	**453.84**	**253,843,148**	**444.16**	**259,432,124**	**453.94**
	4,290,377	36 mo.	4,745,173	42 mo.	8,580,755	36 mo.	9,490,347	42 mo.	0		0	
	2,648,705	36 mo.			2,648,705	36 mo.	3,047,807	42 mo.				
	1,206,669	36 mo.	1,334,580	42 mo.	1,206,669	36 mo.	1,334,580	42 mo.				
	1,340,743	36 mo.	1,482,867	42 mo.	1,340,743	36 mo.	1,482,867	42 mo.				
	2,681,486	36 mo.	2,965,733	42 mo.	2,681,486	36 mo.	2,965,733	42 mo.				
	297,770,471	**481.05**	**303,875,948**	**489.43**	**277,287,242**	**466.80**	**279,943,564**	**485.63**	**253,843,148**	**444.16**	**259,432,124**	**453.94**
	56,721,927	**91.63**	**60,027,262**	**96.68**	**53,315,557**	**89.75**	**55,424,641**	**96.15**	**52,355,014**	**91.61**	**53,123,498**	**92.95**
	47,173,457	76.21	48,478,792	78.08	43,767,087	73.68	43,876,171	76.11	42,806,544	74.90	43,575,028	76.25
	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
	4,224,000		4,224,000		4,224,000		4,224,000		4,224,000		4,224,000	
	443,520		443,520		443,520		443,520		443,520		443,520	
	356,950		356,950		356,950		356,950		356,950		356,950	
	300,000		300,000		300,000		300,000		300,000		300,000	
	0		2,000,000		0		2,000,000		0		0	
	354,492,399	**572.68**	**363,903,210**	**586.12**	**330,602,799**	**556.55**	**335,368,206**	**581.77**	**306,198,162**	**535.77**	**312,555,622**	**546.89**
	19,992,174		20,534,332		18,258,022		18,313,556		17,769,020		18,160,249	
	1,886,938		1,939,152		1,750,683		1,755,047		1,712,262		1,743,001	
	376,371,511	**608.03**	**386,376,693**	**622.31**	**350,611,505**	**590.24**	**355,436,809**	**616.59**	**325,679,444**	**569.85**	**332,458,871**	**581.72**

Perkins Eastman DPC

Lowell High School
Base Repair
All Buildings

November 15, 2016

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =		628,000		
		Element ($)	**$/sf**	
A Substructure		226,905	0.36	
A10 Foundations		226,905	0.36	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		17,602,978	28.03	
B10 Superstructure		2,959,569	4.71	
B20 Exterior Closure		6,055,060	9.64	
B30 Roofing		8,588,349	13.68	
C Interiors		19,923,777	31.73	
C10 Interior Construction		7,401,877	11.79	
C20 Stairs		1,801,578	2.87	
C30 Interior Finishes		10,720,322	17.07	
D Services		67,552,964	107.57	
D10 Conveying Systems		477,962	0.76	
D20 Plumbing		9,897,224	15.76	
D30 HVAC		26,295,941	41.87	
D40 Fire Protection Systems		4,035,314	6.43	
D 50 Electrical Systems		26,846,523	42.75	
E Equipment and Furnishings		6,072,937	9.67	
E10 Equipment		4,298,015	6.84	
E 20 Furnishings		1,774,922	2.83	
F Special Construction and Demolition		8,084,276	12.87	
F20 Selective/Building Demolition		8,084,276	12.87	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**119,463,837**	**190.23**	
G Building Sitework		1,759,863	2.80	
G10 Site Preparation		293,707	0.47	
G20 Site Improvements		336,156	0.54	
G30 Site Civil/Mechanical Utilities		457,000	0.73	
G40 Site Electrical Utilities		673,000	1.07	
Sub Total Construction		**121,223,700**	**193.03**	
General Conditions	10.50%	12,728,489	20.27	
Generl Requirements	1.00%	1,212,237	1.93	
Design / Bidding Contingency	15.00%	20,274,664	32.28	
CM Contingency	3.00%	4,663,173	7.43	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	18,217,461	29.01	
Bonds	1.00%	1,783,197	2.84	
GMP Insurance	0.95%	1,694,037	2.70	
CM Fee	2.50%	4,341,414	6.91	
Estimated Total Construction Cost		**186,138,372**	**296.40**	
FF&E		8,448,000	13.45	2,400 per student
Soft Cost	20%	37,227,674		
Estimated Total Project Cost		**231,814,046**	**369.13**	

Base Repair

		FS Cost Estimate	
Gross Floor Area (sf) =			34,323
		Element ($)	**$/sf**
A Substructure		11,485	0.33
A10 Foundations		11,485	0.33
Special Foundations		0	0.00
Slab on Grade		0	0.00
B Shell		3,024,769	88.13
B10 Superstructure		172,645	5.03
B20 Exterior Closure		590,643	17.21
B30 Roofing		2,261,481	65.89
C Interiors		2,462,756	71.75
C10 Interior Construction		792,434	23.09
C20 Stairs		82,078	2.39
C30 Interior Finishes		1,588,244	46.27
D Services		3,427,735	99.87
D10 Conveying Systems		0	0.00
D20 Plumbing		454,509	13.24
D30 HVAC		1,591,347	46.36
D40 Fire Protection Systems		189,357	5.52
D 50 Electrical Systems		1,192,522	34.74
E Equipment and Furnishings		395,243	11.52
E10 Equipment		366,811	10.69
E 20 Furnishings		28,432	0.83
F Special Construction and Demolition		723,259	21.07
F20 Selective/Building Demolition		723,259	21.07
F20 Asbestos Abatement (in demo)		0	0.00
Sub Total Building Cost		**10,045,247**	**292.67**
G Building Sitework		0	0.00
G10 Site Preparation		0	0.00
G20 Site Improvements		0	0.00
G30 Site Civil/Mechanical Utilities		0	0.00
G40 Site Electrical Utilities		0	0.00
Sub Total Construction		**10,045,247**	**292.67**
General Conditions	10.50%	1,054,751	30.73
Generl Requirements	1.00%	100,452	2.93
Design / Bidding Contingency	15.00%	1,680,068	48.95
CM Contingency	3.00%	386,416	11.26
Escalation (2.4%/yr. til Jun. 2021)	11.72%	1,509,597	43.98
Bonds	1.00%	147,765	4.31
GMP Insurance	0.95%	140,377	4.09
CM Fee	2.50%	359,753	10.48
Estimated Total Construction Cost		**15,424,425**	**449.39**
FF&E		0	0.00
Soft Cost	20%	3,084,885	
Estimated Total Project Cost		**18,509,310**	**539.27**

2,400 per student

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =			92,759	
		Element ($)	**$/sf**	
A Substructure		2,076	0.02	
A10 Foundations		2,076	0.02	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		1,989,568	21.45	
B10 Superstructure		36,451	0.39	
B20 Exterior Closure		613,973	6.62	
B30 Roofing		1,339,144	14.44	
C Interiors		3,010,076	32.45	
C10 Interior Construction		1,123,650	12.11	
C20 Stairs		452,254	4.88	
C30 Interior Finishes		1,434,172	15.46	
D Services		10,133,828	109.25	
D10 Conveying Systems		271,171	2.92	
D20 Plumbing		1,432,543	15.44	
D30 HVAC		3,832,156	41.31	
D40 Fire Protection Systems		597,825	6.44	
D 50 Electrical Systems		4,000,133	43.12	
E Equipment and Furnishings		1,429,155	15.41	
E10 Equipment		824,094	8.88	
E 20 Furnishings		605,061	6.52	
F Special Construction and Demolition		852,738	9.19	
F20 Selective/Building Demolition		852,738	9.19	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**17,417,441**	**187.77**	
G Building Sitework		0	0.00	
G10 Site Preparation		0	0.00	
G20 Site Improvements		0	0.00	
G30 Site Civil/Mechanical Utilities		0	0.00	
G40 Site Electrical Utilities		0	0.00	
Sub Total Construction		**17,417,441**	**187.77**	
General Conditions	10.50%	1,828,831	19.72	
Generl Requirements	1.00%	174,174	1.88	
Design / Bidding Contingency	15.00%	2,913,067	31.40	
CM Contingency	3.00%	670,005	7.22	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	2,617,488	28.22	
Bonds	1.00%	256,210	2.76	
GMP Insurance	0.95%	243,400	2.62	
CM Fee	2.50%	550,948	5.94	
Estimated Total Construction Cost		**26,671,565**	**287.54**	
FF&E		0	0.00	2,400 per student
Soft Cost	20%	5,334,313		
Estimated Total Project Cost		**32,005,878**	**345.04**	

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =			321,992	
		Element ($)	**$/sf**	
A Substructure		194,644	0.60	
A10 Foundations		194,644	0.60	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		7,927,626	24.62	
B10 Superstructure		1,860,279	5.78	
B20 Exterior Closure		3,352,007	10.41	
B30 Roofing		2,715,340	8.43	
C Interiors		11,107,081	34.49	
C10 Interior Construction		3,809,710	11.83	
C20 Stairs		1,133,441	3.52	
C30 Interior Finishes		6,163,930	19.14	
D Services		34,444,009	106.97	
D10 Conveying Systems		206,792	0.64	
D20 Plumbing		4,972,929	15.44	
D30 HVAC		13,302,941	41.31	
D40 Fire Protection Systems		2,075,290	6.45	
D 50 Electrical Systems		13,886,057	43.13	
E Equipment and Furnishings		2,469,103	7.67	
E10 Equipment		1,486,396	4.62	
E 20 Furnishings		982,707	3.05	
F Special Construction and Demolition		3,661,259	11.37	
F20 Selective/Building Demolition		3,661,259	11.37	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**59,803,722**	**185.73**	
G Building Sitework		0	0.00	
G10 Site Preparation		0	0.00	
G20 Site Improvements		0	0.00	
G30 Site Civil/Mechanical Utilities		0	0.00	
G40 Site Electrical Utilities		0	0.00	
Sub Total Construction		**59,803,722**	**185.73**	
General Conditions	10.50%	6,279,391	19.50	
Generl Requirements	1.00%	598,037	1.86	
Design / Bidding Contingency	15.00%	10,002,173	31.06	
CM Contingency	3.00%	2,300,500	7.14	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	8,987,285	27.91	
Bonds	1.00%	879,711	2.73	
GMP Insurance	0.95%	835,726	2.60	
CM Fee	2.50%	2,141,765	6.65	
Estimated Total Construction Cost		**91,828,309**	**285.19**	
FF&E		0	0.00	2,400 per student
Soft Cost	20%	18,365,662		
Estimated Total Project Cost		**110,193,971**	**342.23**	

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =			211,305	
		Element ($)	**$/sf**	
A Substructure		18,701	0.09	
A10 Foundations		18,701	0.09	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		4,661,015	22.06	
B10 Superstructure		890,194	4.21	
B20 Exterior Closure		1,498,437	7.09	
B30 Roofing		2,272,384	10.75	
C Interiors		3,343,866	15.82	
C10 Interior Construction		1,676,083	7.93	
C20 Stairs		133,806	0.63	
C30 Interior Finishes		1,533,977	7.26	
D Services		18,817,392	89.05	
D10 Conveying Systems		0	0.00	
D20 Plumbing		2,733,212	12.93	
D30 HVAC		7,311,536	34.60	
D40 Fire Protection Systems		1,140,617	5.40	
D 50 Electrical Systems		7,632,027	36.12	
E Equipment and Furnishings		1,779,437	8.42	
E10 Equipment		1,620,714	7.67	
E 20 Furnishings		158,723	0.75	
F Special Construction and Demolition		2,790,021	13.20	
F20 Selective/Building Demolition		2,790,021	13.20	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**31,410,432**	**148.65**	
G Building Sitework		0	0.00	
G10 Site Preparation		0	0.00	
G20 Site Improvements		0	0.00	
G30 Site Civil/Mechanical Utilities		0	0.00	
G40 Site Electrical Utilities		0	0.00	
Sub Total Construction		**31,410,432**	**148.65**	
General Conditions	10.50%	3,298,095	15.61	
Generl Requirements	1.00%	314,104	1.49	
Design / Bidding Contingency	15.00%	5,253,395	24.86	
CM Contingency	3.00%	1,208,281	5.72	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	4,720,350	22.34	
Bonds	1.00%	462,047	2.19	
GMP Insurance	0.95%	438,944	2.08	
CM Fee	2.50%	1,124,909	5.32	
Estimated Total Construction Cost		**48,230,558**	**228.25**	
FF&E		0	0.00	2,400 per student
Soft Cost	20%	9,646,112		
Estimated Total Project Cost		**57,876,669**	**273.90**	

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =			2,500	
		Element ($)	**$/sf**	
A Substructure		0	0.00	
A10 Foundations		0	0.00	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		0	0.00	
B10 Superstructure		0	0.00	
B20 Exterior Closure		0	0.00	
B30 Roofing		0	0.00	
C Interiors		0	0.00	
C10 Interior Construction		0	0.00	
C20 Stairs		0	0.00	
C30 Interior Finishes		0	0.00	
D Services		730,000	292.00	
D10 Conveying Systems		0	0.00	
D20 Plumbing		304,030	121.61	
D30 HVAC		257,961	103.18	
D40 Fire Protection Systems		32,225	12.89	
D 50 Electrical Systems		135,784	54.31	
E Equipment and Furnishings		0	0.00	
E10 Equipment		0	0.00	
E 20 Furnishings		0	0.00	
F Special Construction and Demolition		57,000	22.80	
F20 Selective/Building Demolition		57,000	22.80	
F20 Asbestos Abatement (in demo)		0	0.00	
Sub Total Building Cost		**787,000**	**314.80**	
G Building Sitework		0	0.00	
G10 Site Preparation		0	0.00	
G20 Site Improvements		0	0.00	
G30 Site Civil/Mechanical Utilities		0	0.00	
G40 Site Electrical Utilities		0	0.00	
Sub Total Construction		**787,000**	**314.80**	
General Conditions	10.50%	82,635	33.05	
Generl Requirements	1.00%	7,870	3.15	
Design / Bidding Contingency	15.00%	131,626	52.65	
CM Contingency	3.00%	30,274	12.11	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	118,270	47.31	
Bonds	1.00%	11,577	4.63	
GMP Insurance	0.95%	10,998	4.40	
CM Fee	2.50%	28,185	11.27	
Estimated Total Construction Cost		**1,208,434**	**483.37**	
FF&E		0	0.00	2,400 per student
Soft Cost	20%	241,687		
Estimated Total Project Cost		**1,450,121**	**580.05**	

Base Repair

		FS Cost Estimate		
Gross Floor Area (sf) =			628,000	
		Element ($)	**$/sf**	
A Substructure		0	0.00	
A10 Foundations		0	0.00	
Special Foundations		0	0.00	
Slab on Grade		0	0.00	
B Shell		0	0.00	
B10 Superstructure		0	0.00	
B20 Exterior Closure		0	0.00	
B30 Roofing		0	0.00	
C Interiors		0	0.00	
C10 Interior Construction		0	0.00	
C20 Stairs		0	0.00	
C30 Interior Finishes		0	0.00	
D Services		0	0.00	
D10 Conveying Systems		0	0.00	
D20 Plumbing		0	0.00	
D30 HVAC		0	0.00	
D40 Fire Protection Systems		0	0.00	
D 50 Electrical Systems		0	0.00	
E Equipment and Furnishings		0	0.00	
E10 Equipment		0	0.00	
E 20 Furnishings		0	0.00	
F Special Construction and Demolition		0	0.00	
F20 Selective/Building Demolition		0	0.00	
F20 Asbestos Abatement		0	0.00	
Sub Total Building Cost		**0**	**0.00**	
G Building Sitework		1,759,863	2.80	
G10 Site Preparation		293,707	0.47	
G20 Site Improvements		336,156	0.54	
G30 Site Civil/Mechanical Utilities		457,000	0.73	
G40 Site Electrical Utilities		673,000	1.07	
Sub Total Construction		**1,759,863**	**2.80**	
General Conditions	10.50%	184,786	0.29	
Generl Requirements	1.00%	17,599	0.03	
Design / Bidding Contingency	15.00%	294,337	0.47	
CM Contingency	3.00%	67,698	0.11	
Escalation (2.4%/yr. til Jun. 2021)	11.72%	264,472	0.42	
Bonds	1.00%	25,888	0.04	
GMP Insurance	0.95%	24,593	0.04	
CM Fee	2.50%	63,026	0.10	
Estimated Total Construction Cost		**2,702,261**	**4.30**	
FF&E		0	0.00	2,400 per student
Soft Cost	20%	540,452		
Estimated Total Project Cost		**3,242,713**	**5.16**	

Feasibility
Study Estimate
BASE
RENOVATION

LOWELL

HIGH SCHOOL

Lowell, MA

November 15, 2016

Prepared For:

Perkins Eastman

Architect :

Perkins Eastman Architects

ESSENTIAL ESTIMATING

241 Boston Post Rd. West 1st Floor
Marlborough, MA 01752
508-885-1313

LOWELL HIGH SCHOOL BASE RENOVATION FEASIBILITY STUDY

Lowell, MA
11-15-16

NOTES ON ESTIMATE
This estimate was produced from drawings by Perlins Eastman dated October 27, 2016, and Narratives. Any design and engineering changes or changes produced subsequent to these documents are not included with the exception of items in the estimating clarification log and Site-Work telephone meeting November 14.

PRICING
This cost estimate reflects the probable construction costs for Lowell, MA. Costs should be escalated to the recommended mid-point of construction. Any further change in bid date will require additional escalation added and prorated to the anticipated bid date or mid point of construction. This estimate is a determination of the fair market prevailing wage value for the construction of this project as outlined. Unit prices include waste factors and sub-contractor overhead and profit. Pricing assumes a CMR contract procurement process with competitive bidding in every portion of the construction work for all subcontractors and general contracts. It is assumed that a minimum of 4 to 6 bids are received for all pertinent divisions.

CONTINGENCIES
Design Contingencies to be added of a minimum of 15.0% for renovation construction to

·allow for minor design development changes through the design phase.

Construction Contingency – a construction contingency is **NOT** included in our costs but should be added on the summary page to allow for unforeseen change orders that may arise during the construction phase.

A bid contingency is also recommended.

ITEMS SPECIFICALLY EXCLUDED FROM THIS ESSENTIAL ESTIMATE
Professional, management and design Fees included in TPC
Owner Furnished Items included in TPC
Furnishing and Equipment not specified
Temporary Facilities
Relocation expenses
Testing
Land and Finance Costs
Phasing
Overtime
Food Service Equipment & Haz Mat were furnished to us for inclusion by Perkins Eastman consultant.
Total square footage for this design was furnished to us by Perkins Eastman.
Permits
Costs for Options other than the Base Renovation.

Essential Estimating recommends that the Owner and Architect carefully review this document, including line item descriptions, scope of work, clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and markups. If the project is over budget, or if there are unresolved budgeting issues, alternate system/schemes should be evaluated before proceeding with releasing the bid documents.

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	FOUNDATIONS	148,693	74,205		4,008	0.36 /sqft	226,905
B10	SUPERSTRUCTURE	218,839	52,010	2,682,499	6,221	4.71 /sqft	2,959,569
B20	EXTERIOR CLOSURE	2,466,610	3,522,481		65,969	9.63 /sqft	6,055,060
B30	ROOFING	4,279,598	4,095,846		212,906	13.66 /sqft	8,588,349
C10	INTERIOR CONSTRUCTION	2,940,321	4,447,268		14,288	11.78 /sqft	7,401,877
C20	STAIRCASES	564,934	1,217,777		18,867	2.87 /sqft	1,801,578
C30	INTERIOR FINISHES	5,779,064	4,751,999		189,259	17.06 /sqft	10,720,322
D10	CONVEYING SYSTEMS	113,361	362,384		2,217	0.76 /sqft	477,962
D20	PLUMBING	5,300,866	4,596,358			15.75 /sqft	9,897,224
D30	HVAC	16,205,034	10,090,906			41.84 /sqft	26,295,941
D40	FIRE PROTECTION	2,347,933	1,687,381			6.42 /sqft	4,035,314
D50	ELECTRICAL	13,558,982	13,287,541			42.71 /sqft	26,846,523
E10	EQUIPMENT	522,338	1,565,677	2,210,000		6.84 /sqft	4,298,015
E20	FURNISHINGS	599,968	1,174,954			2.82 /sqft	1,774,922
F20	SELECTIVE DEMOLITION	3,850,614	8,085	4,067,000	158,577	12.86 /sqft	8,084,276
G10	SITE PREPARATION	31,685		180,000	11,022	0.47 /sqft	293,707
G20	SITE IMPROVEMENTS	74,263	104,937	149,900	7,057	0.54 /sqft	336,156
G30	SITE CIVIL/MECHANICAL UTILITIES			457,000		0.73 /sqft	457,000
G40	SITE ELECTRICAL UTILITIES			673,000		1.07 /sqft	673,000

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit	:ent of Total	
Labor	59,003,102		203,676.721 hrs		93.871 /sf	48.67%	
Material	51,039,810				81.201 /sf	42.10%	
Subcontract	10,419,399				16.577 /sf	8.60%	
Equipment	690,390		26,041.022 hrs		1.098 /sf	0.57%	
Other	71,000				0.113 /sf	0.06%	
	121,223,701	**121,223,701**			**192.860 /sf**	**100.00**	**100.00%**
Total		***121,223,701***			***192.860 /sf***		

Location	UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Total Cost/Unit	Total Amount
FIELD HOUSE							
	A10	FOUNDATIONS	4,312	7,173		/sqft	11,485
	B10	SUPERSTRUCTURE			172,645	/sqft	172,645
	B20	EXTERIOR CLOSURE	387,691	181,830		/sqft	590,643
	B30	ROOFING	863,141	1,391,217		/sqft	2,261,481
	C10	INTERIOR CONSTRUCTION	306,751	483,367		/sqft	792,434
	C20	STAIRCASES	31,189	50,106		/sqft	82,078
	C30	INTERIOR FINISHES	1,042,755	542,086		/sqft	1,588,244
	D20	PLUMBING	249,528	204,981		/sqft	454,509
	D30	HVAC	982,324	609,023		/sqft	1,591,347
	D40	FIRE PROTECTION	110,177	79,180		/sqft	189,357
	D50	ELECTRICAL	602,369	590,153		/sqft	1,192,522
	E10	EQUIPMENT	92,600	274,211		/sqft	366,811
	E20	FURNISHINGS	4,534	23,898		/sqft	28,432
	F20	SELECTIVE DEMOLITION	311,370	294	392,850	/sqft	723,259
		FIELD HOUSE	4,988,739	4,437,520	565,495	292.67 /sqft	10,045,246
FRESHMAN ACAD							
	A10	FOUNDATIONS	779	1,297		/sqft	2,076
	B10	SUPERSTRUCTURE	26,186	10,265		/sqft	36,451
	B20	EXTERIOR CLOSURE	292,371	289,869		/sqft	613,973
	B30	ROOFING	766,210	535,409		/sqft	1,339,144
	C10	INTERIOR CONSTRUCTION	367,213	756,416		/sqft	1,123,650
	C20	STAIRCASES	133,593	313,921		/sqft	452,254
	C30	INTERIOR FINISHES	705,004	697,138		/sqft	1,434,172
	D10	CONVEYING SYSTEMS	63,803	206,099		/sqft	271,171
	D20	PLUMBING	786,588	645,956		/sqft	1,432,543
	D30	HVAC	2,366,257	1,465,899		/sqft	3,832,156
	D40	FIRE PROTECTION	347,843	249,983		/sqft	597,825
	D50	ELECTRICAL	2,020,269	1,979,864		/sqft	4,000,133
	E10	EQUIPMENT	167,255	486,839	170,000	/sqft	824,094
	E20	FURNISHINGS	156,339	448,722		/sqft	605,061
	F20	SELECTIVE DEMOLITION	363,435	1,415	460,000	/sqft	852,738
		FRESHMAN ACAD	8,563,145	8,089,090	630,000	187.77 /sqft	17,417,440
KOULOHERAS							
	A10	FOUNDATIONS	136,581	54,055		/sqft	194,644
	B10	SUPERSTRUCTURE	192,653	41,746	1,619,660	/sqft	1,860,279
	B20	EXTERIOR CLOSURE	1,331,743	2,009,457		/sqft	3,352,007
	B30	ROOFING	1,408,215	1,196,816		/sqft	2,715,340
	C10	INTERIOR CONSTRUCTION	1,353,349	2,456,210		/sqft	3,809,710
	C20	STAIRCASES	355,517	765,651		/sqft	1,133,441
	C30	INTERIOR FINISHES	3,222,178	2,793,779		/sqft	6,163,930
	D10	CONVEYING SYSTEMS	49,558	156,285		/sqft	206,792
	D20	PLUMBING	2,730,560	2,242,369		/sqft	4,972,929
	D30	HVAC	8,214,220	5,088,721		/sqft	13,302,941
	D40	FIRE PROTECTION	1,207,500	867,790		/sqft	2,075,290

Location	UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Total Cost/Unit	Total Amount
	D50	ELECTRICAL	7,013,160	6,872,897		/sqft	13,886,057
	E10	EQUIPMENT	124,038	382,358	980,000	/sqft	1,486,396
	E20	FURNISHINGS	395,592	587,115		/sqft	982,707
	F20	SELECTIVE DEMOLITION	2,443,334	3,719	1,125,000	/sqft	3,661,259
		KOULOHERAS	30,178,197	25,518,967	3,724,660	185.73 /sqft	59,803,721
LORD							
	A10	FOUNDATIONS	7,021	11,680		/sqft	18,701
	B10	SUPERSTRUCTURE			890,194	/sqft	890,194
	B20	EXTERIOR CLOSURE	454,806	1,041,325		/sqft	1,498,437
	B30	ROOFING	1,242,032	972,404		/sqft	2,272,384
	C10	INTERIOR CONSTRUCTION	913,007	751,275		/sqft	1,676,083
	C20	STAIRCASES	44,634	88,099		/sqft	133,806
	C30	INTERIOR FINISHES	809,128	718,996		/sqft	1,533,977
	D20	PLUMBING	1,500,765	1,232,447		/sqft	2,733,212
	D30	HVAC	4,514,683	2,796,852		/sqft	7,311,536
	D40	FIRE PROTECTION	663,664	476,953		/sqft	1,140,617
	D50	ELECTRICAL	3,854,559	3,777,468		/sqft	7,632,027
	E10	EQUIPMENT	138,445	422,269	1,060,000	/sqft	1,620,714
	E20	FURNISHINGS	43,503	115,220		/sqft	158,723
	F20	SELECTIVE DEMOLITION	732,476	2,657	2,032,150	/sqft	2,790,021
		LORD	14,918,723	12,407,646	3,982,344	148.65 /sqft	31,410,430
STEAM PLANT							
	D20	PLUMBING	33,425	270,605		/sqft	304,030
	D30	HVAC	127,550	130,411		/sqft	257,961
	D40	FIRE PROTECTION	18,750	13,475		/sqft	32,225
	D50	ELECTRICAL	68,625	67,159		/sqft	135,784
	F20	SELECTIVE DEMOLITION			57,000	/sqft	57,000
		STEAM PLANT	248,350	481,650	57,000	314.80 /sqft	787,000
z SITE WORK							
	G10	SITE PREPARATION	31,685		180,000	/sqft	293,707
	G20	SITE IMPROVEMENTS	74,263	104,937	149,900	/sqft	336,156
	G30	SITE CIVIL/MECHANICAL UTILITIES			457,000	/sqft	457,000
	G40	SITE ELECTRICAL UTILITIES			673,000	/sqft	673,000
		z SITE WORK	105,948	104,937	1,459,900	2.80 /sqft	1,759,863

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit	cent of Total	
Labor	59,003,102		203,676.721 hrs		93.871 /sf	48.67%	
Material	51,039,810				81.201 /sf	42.10%	
Subcontract	10,419,399				16.577 /sf	8.60%	
Equipment	690,390		26,041.022 hrs		1.098 /sf	0.57%	
Other	71,000				0.113 /sf	0.06%	
	121,223,701	**121,223,701**			**192.860 /sf**	**100.00**	**100.00%**
Total		***121,223,701***			***192.860 /sf***		

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
FIELD HOUSE								
	A10		**FOUNDATIONS**					
			SLAB ON GRADE					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	686.00 sqft	4,312	7,173	16.74 /sqft	11,485
	B10		**SUPERSTRUCTURE**					
			ROOF CONSTRUCTION					
		5000.00	*METALS*					
			Structural: Framing					
			Misc Remedial Structural Allowance	34,323.00 sqft			5.03 /sqft	172,645
	B20		**EXTERIOR CLOSURE**					
			EXTERIOR WALLS					
		3000.00	*CONCRETE*					
			Precast Specialties					
			Precast Coping	6.00 lnft	132	279	69.85 /lnft	419
		4000.00	*MASONRY*					
			Misc: Scaffold					
			Exterior Scaffold	3,300.00 sqft	6,180	1,245	2.53 /sqft	8,332
			Misc: Material Handling					
			Brick	23.00 m	-	-	79.46 /m	1,828
			Mortar: All Types					
			Mortar Type "N"	10.70 cuyd	1,405	2,080	325.70 /cuyd	3,485
			Mortar Color	642.00 lbs	-	5,976	9.31 /lbs	5,976
			Access: Control Joint					
			Control Joint Sealant	5,575.00 lnft	70,274	3,218	13.18 /lnft	73,493
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	1,857.00 each	3,156	315	1.87 /each	3,471
			Brick: All Types					
			Standard Size Face Brick Infill	22.27 m	183,468	17,761	9,035.85 /m	201,228
			Masonry Restoration					
			Remove Individual Brick	99.00 each	7,058	-	95.29 /each	9,434
			Patch Individual Brick	99.00 each	1,810	121	19.50 /each	1,931
			Cleaning: Masonry					
			Clean Exist Brick Smooth	39.10 sqs	9,470	809	262.89 /sqs	10,279
			Clean Brick - General	33.00 sqs	9,768	208	302.32 /sqs	9,976
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	16	16.17 /lsum	16
			Blocking: Rough Bucks					
			2 x 6 PT Louvers	240.00 lnft	872	230	4.59 /lnft	1,102
			Wood Siding					
			Hardboard Siding	774.00 sqft	2,795	1,625	5.71 /sqft	4,419
		7000.00	*THERMAL & MOISTURE PROT*					
			Cladding: Siding					
			Exterior Cement Board	2,352.00 sqft	11,482	4,995	7.01 /sqft	16,477
			Exterior Cement Board Soffit	288.00 sqft	2,125	612	9.50 /sqft	2,737
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	240.00 lnft	850	21	3.63 /lnft	871
			Polyurethane Sealant 1/2"	384.00 lnft	4,351	192	11.83 /lnft	4,543
			Rake Out Masonry Jt. Filler	5,671.00 lnft	20,285	2,079	6.76 /lnft	38,353
		9000.00	*FINISHES*					
			Painting: Exterior					
			Paint Louvers	320.00 sqft	361	190	1.72 /sqft	551
		15500.00	*HVAC SYSTEMS*					
			Louvers/Filters					
			Fixed Blade Stormproof	320.00 sqft	14,994	14,902	93.42 /sqft	29,896
			EXTERIOR WINDOWS					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	286.00 lnft	1,461	274	6.07 /lnft	1,736
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	286.00 lnft	1,013	25	3.63 /lnft	1,038
			Polyurethane Sealant 1/2"	572.00 lnft	6,481	286	11.83 /lnft	6,767
		8000.00	*DOORS & WINDOWS*					
			Aluminum Storefront					
			Storefront Inc Double Glaze	1,486.00 sqft	18,583	104,044	82.52 /sqft	122,627
			EXTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	2.00 each	131	35	86.82 /each	174
			Grout Double Door Frame	1.00 each	88	24	117.49 /each	117
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	12.00 sqft	62	47	9.06 /sqft	109
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	134.00 lnft	456	129	4.37 /lnft	585
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	94.00 lnft	333	8	3.63 /lnft	341
			Polyurethane Sealant 1/2"	188.00 lnft	2,130	94	11.83 /lnft	2,224
		8000.00	*DOORS & WINDOWS*					
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	2.00 each	484	763	623.66 /each	1,247
			Alum Frame 6' x 7' Bronze Fin	3.00 each	847	1,310	718.95 /each	2,157
			Alum Door Med 3'-0 x 7'-0 Full Gl	8.00 each	2,604	6,158	1,095.19 /each	8,762
			Hardware: Finishing					
			Finishing Hardware Ext Budget	8.00 each	2,183	11,755	1,742.17 /each	13,937
	B30		**ROOFING**					
			ROOF COVERINGS					
		2050.00	*DEMOLITION*					
			Demo: General					
			General Disposal	384.00 cuyd	8,424	-	30.30 /cuyd	11,634
			Demo: Roofing					
			Remove Metal Roof	345.60 sqs	62,694	-	181.41 /sqs	62,694
			Remove Membrane Roof	3,702.00 sqft	7,413	-	2.00 /sqft	7,413
			Remove Skylights	1,080.00 sqft	8,905	-	8.25 /sqft	8,905
			Remove Roof Drains	4.00 each	211	-	52.77 /each	211
			Remove Gutter/Downspouts	948.00 lnft	2,345	-	2.47 /lnft	2,345
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	590	589.67 /lsum	590
			Plywood: Roof Sheathing					
			Roof Sheathing 3/4" Fire Ret	34,560.00 sqft	58,778	58,998	3.41 /sqft	117,776
		7000.00	*THERMAL & MOISTURE PROT*					
			Dampproofing: VaprBarrier					
			Rosin Slip Sheet	345.60 sq	8,736	1,270	28.95 /sq	10,006
			Poly Vapor Barrier 8 mil Fire Retardant	382.62 sq	17,659	5,671	60.98 /sq	23,330
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	3,702.00 sqft	5,442	2,946	2.27 /sqft	8,388
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	382.62 sqs	81,156	157,360	623.38 /sqs	238,516
			Insulation: Roof 2nd Lay					
			Perlite Tapered	5.55 sq	844	720	281.69 /sq	1,563
			Poly Iso 4.0" Layer 2	382.62 sqs	38,975	157,360	513.14 /sqs	196,336
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet	3,702.00 sqft	20,693	8,673	8.37 /sqft	30,988
			SBS Membrane Smooth 145 mil	3,702.00 sqft	29,487	7,522	10.62 /sqft	39,300
			Sheetmetal: Metal Roofing					
			Standing Seam L.C.C. Roof	345.60 sq	400,086	848,435	3,612.62 /sq	1,248,521
			Sheetmetal: Guttr DwnSpt					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Sheetmetal: Guttr DwnSpt					
			Downspout Copper Circular 5"	312.00 lnft	3,387	6,236	30.84 /lnft	9,623
			Gutter L.C.C. 5"	636.00 lnft	6,541	10,699	27.11 /lnft	17,240
			Sheetmetal: Exp Joints					
			Interior Edge	698.00 lnft	9,004	21,746	44.05 /lnft	30,750
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	38,262.00 sqft	61,865	55,229	3.06 /sqft	117,094
			Metal Framed Skylights					
			Lean to Skyroof Translucent Panel	1,080.00 sqft	27,862	45,289	67.73 /sqft	73,151
			ROOF OPENINGS					
		7000.00	*THERMAL & MOISTURE PROT*					
			Membrane: Base Flashing					
			Flash Vents PVC	2.00 each	44	40	41.98 /each	84
			Flash Drains PVC	4.00 each	99	79	44.62 /each	178
			Sheetmetal: Flashing					
			Flash AHU etc	7.00 each	1,392	1,954	478.05 /each	3,346
			Flash Skylights	120.00 lnft	1,097	400	12.47 /lnft	1,497
	C10		**INTERIOR CONSTRUCTION PARTITIONS**					
		3000.00	*CONCRETE*					
			Rebar: Dowels					
			Drill & Grout No. 4x1' Dowel	77.00 each	4,438	765	71.41 /each	5,498
		4000.00	*MASONRY*					
			Misc: Scaffold					
			Interior Scaffold	2,924.00 sqft	4,188	1,135	2.01 /sqft	5,861
			Misc: Material Handling					
			Concrete Block	4.00 m	-	-	236.49 /m	946
			Mortar: All Types					
			Mortar Type "N"	6.65 cuyd	873	1,293	325.70 /cuyd	2,166
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	5.51 cuyd	1,591	792	451.17 /cuyd	2,486
			Reinforce: Vertical Wall					
			Re-Bar #4, #5 & #6	1,147.30 lbs	2,437	967	2.97 /lbs	3,405
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 4" Hot Dippd	1.07 mlf	496	140	594.34 /mlf	636
			Horiz Wall Reinf 8" Hot Dippd	1.61 mlf	1,005	326	826.90 /mlf	1,331
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	1,599.00 each	21,628	4,231	16.17 /each	25,859
			Conc. Block: 4"					
			Blk 4" Standard Face Reg Wt	1,580.00 each	27,725	2,410	19.07 /each	30,135
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	57.00 each	1,141	433	28.85 /each	1,644
		5000.00	*METALS*					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	558.00 lb	1,831	574	4.49 /lb	2,506
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,874.00 lnft	20,968	541	11.48 /lnft	21,509
		9000.00	*FINISHES*					
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	11	2	13.51 /lsum	14
			GWB: Boards & Sheathing					
			GWB 5/8" Patch	48.00 sqft	104	22	2.62 /sqft	126
			GWB: Finish Mud/Tape					
			Labor GWB Wall Finish	459.00 sqft	432	30	1.01 /sqft	462
			INTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	52.00 each	3,395	903	86.85 /each	4,516
			Grout Double Door Frame	8.00 each	701	192	117.31 /each	938
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,232.00 lnft	13,785	356	11.48 /lnft	14,140
		8000.00	*DOORS & WINDOWS*					
			Doors: Steel with Frames					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	52.00 each	6,093	8,913	288.57 /each	15,006
			H.M. Frame 18ga Interior Double	8.00 each	1,171	1,828	374.88 /each	2,999
			H.M. Door 18ga 3-0 x 7-0 Flush	62.00 each	6,004	28,539	557.15 /each	34,543
			H.M. Door 18 ga 3-0 x 7-0 Vision	4.00 each	440	2,160	650.09 /each	2,600
			H.M. Door 18ga 3-0 x 7-0 Hlf Gl	2.00 each	218	1,190	704.16 /each	1,408
			Metal Sidelight Frame Only Int	529.00 sqft	6,006	30,908	69.78 /sqft	36,914
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	69.00 each	11,298	65,605	1,114.53 /each	76,903
			Glass: All Types					
			Glass Sheet 1/4" Tempered	529.00 sqft	9,362	5,532	28.15 /sqft	14,893
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Metal Door & Frame	68.00 each	3,573	777	63.97 /each	4,350
			Paint Exist Metal Door & Frame	14.00 each	440	146	41.87 /each	586
			Paint Int Bor. Lt. Frame	529.00 sqft	1,811	86	3.59 /sqft	1,896
			SPECIALTIES/MILLWORK					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	135	134.75 /lsum	135
			Blocking: Misc.					
			Block Toilet Partition & Urinal	34.00 each	1,404	301	50.14 /each	1,705
			Block Shower	76.00 each	4,717	897	73.87 /each	5,614
			Block H.C. Toilet Partition	6.00 each	372	71	73.87 /each	443
			Block Misc Toilet Accessories	272.00 each	6,753	1,085	28.81 /each	7,837
			Blocking 2 x 4 R.L.	331.00 lnft	1,270	105	4.15 /lnft	1,375
			Blocking 2 x 6 R.L.	512.00 lnft	2,427	248	5.22 /lnft	2,675
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Lockers	240.00 lnft	1,581	259	7.67 /lnft	1,840
		10000.00	*SPECIALTIES*					
			Chalkboards/Tackboards					
			Tackboard Alum Fr	160.00 sqft	672	1,440	13.20 /sqft	2,112
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	16.00 each	4,372	21,146	1,594.90 /each	25,518
			HDPE Toilet Partition HC Flr Mtd	6.00 each	1,640	9,379	1,836.38 /each	11,018
			Urinal Screens Wall Hung	18.00 each	3,441	10,342	765.77 /each	13,784
			Shower/Dressing Compart					
			Compartment Showers	78.00 each	37,527	110,402	1,896.53 /each	147,930
			Directory/Bulletin Boards					
			Buiding Directory	1.00 each	864	1,756	2,620.05 /each	2,620
			Plaques					
			Custom Plaque	1.00 each	716	5,017	5,732.56 /each	5,733
			Signs					
			Interior Stock	23.00 each	493	376	37.77 /each	869
			Interior Custom	32.00 each	2,062	2,094	129.87 /each	4,156
			Lockers					
			Locker Single Tier 6'	10.00 each	1,493	2,652	414.47 /each	4,145
			Locker Double Tier 6' Allow	800.00 opng	45,483	100,038	181.90 /opng	145,522
			Locker: Bench	224.00 lnft	4,959	6,979	53.29 /lnft	11,938
			Team Lockers	52.00 each	8,282	14,855	444.95 /each	23,137
			Fire Extinguishers					
			Fire Ext Cabinet Allow	10.00 each	2,241	2,415	465.58 /each	4,656
			Toilet Accessories					
			Shower Rod	78.00 each	5,651	3,628	118.96 /each	9,279
			Shower Curtain	234.00 lnft	528	2,043	10.99 /lnft	2,571
			Shower Bench	78.00 each	7,358	11,549	242.40 /each	18,907
			Shower Control HC	6.00 each	314	980	215.62 /each	1,294
			Grab Bar 1-1/4" S.S. Shower	6.00 each	298	263	93.42 /each	561
			Grab Bar 1-1/4" S.S. 36"	24.00 each	1,132	1,050	90.94 /each	2,182
			Mirror S.S.	8.00 each	490	606	137.00 /each	1,096
			Mirror HC	8.00 each	589	727	164.45 /each	1,316
			Janitor Utility Unit	2.00 each	94	177	135.78 /each	272
			Sanitary Napkin Dispenser Recessed	4.00 each	251	2,661	727.98 /each	2,912

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Toilet Accessories					
			Sanitary Napkin Dispenser Surface	8.00 each	314	1,673	248.40 /each	1,987
			Clothes Hook Single	6.00 each	157	96	42.19 /each	253
			Soap Dispenser	12.00 each	1,132	2,096	268.97 /each	3,228
			Toilet Tissue Disp Dbl	26.00 each	1,021	765	68.70 /each	1,786
			Towel Dispenser Surface Mtd	6.00 each	354	261	102.51 /each	615
			Towel Disp/Waste Recpt	6.00 each	1,132	2,005	522.85 /each	3,137
	C20		**STAIRCASES**					
			STAIR CONSTRUCTION					
		5000.00	*METALS*					
			Stairs: Stair Parts					
			Wall Rail Alum 1-1/2" 1 pipe	68.00 lnft	1,622	2,177	56.95 /lnft	3,873
			Ornamental Alum Well Rail Mid	200.00 lnft	15,513	37,838	270.30 /lnft	54,059
			Step Nosing	600.00 lnft	11,400	9,476	34.79 /lnft	20,876
			STAIR FINISHES					
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Stair Assembly	816.00 sqft	2,654	616	4.01 /sqft	3,269
	C30		**INTERIOR FINISHES**					
			WALL FINISHES					
		4000.00	*MASONRY*					
			Cleaning: Masonry					
			Clean Exist Brick Smooth	24.78 sqs	6,001	513	262.89 /sqs	6,514
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1,408	1,407.87 /lsum	1,408
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ Wall Removal	260.00 sqft	5,226	416	22.23 /sqft	5,779
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	1,964	706	2,670.23 /lsum	2,670
			Painting: Interior					
			Paint Exist GDW Roller 2ct	75,490.00 sqft	32,301	16,276	0.64 /sqft	48,576
			Paint Int CMU Spray p+2ct	3,344.00 sqft	2,862	937	1.14 /sqft	3,799
			Paint Exist Int CMU Spray 2 ct	53,077.00 sqft	22,711	9,727	0.61 /sqft	32,437
			Epoxy Paint Exist Int CMU	23,841.00 sqft	30,603	13,621	1.86 /sqft	44,225
			FLOOR FINISHES					
		3000.00	*CONCRETE*					
			Finish: Floor Hardner					
			Reseal Concrete	312.00 sqft	147	24	0.55 /sqft	171
		9000.00	*FINISHES*					
			Ceramic Tile					
			Clean Ceramic Tile Floor	2,499.00 sqft	1,442	56	0.60 /sqft	1,498
			Ceramic Tile Floor Grade 2	9,561.00 sqft	196,099	58,996	26.68 /sqft	255,095
			Ceramic Trim: Cove Base Allow	2,171.00 lnft	47,674	8,413	25.83 /lnft	56,087
			Ceramic Trim: Cove Base Patched	32.00 lnft	1,056	128	36.98 /lnft	1,183
			Ceramic Tile Pool Floor & Deck	6,954.00 sqft	109,297	66,789	25.32 /sqft	176,086
			Ceramic Tile Pool Wall	1,805.50 sqft	21,937	14,314	20.08 /sqft	36,251
			Flooring Resilient Tile					
			Clean VCT Tile Floor	1,797.00 sqft	2,223	40	1.26 /sqft	2,263
			Floor LVT 1/8"	144.00 sqft	180	852	7.17 /sqft	1,032
			Floor Resil Base 4" Allow	1,810.00 lnft	3,200	1,467	2.58 /lnft	4,667
			Synthetic Gym Floor 1/2"	28,392.00 sqft	245,049	187,312	15.23 /sqft	432,361
			Rubber Tile 1/8"	1,911.00 sqft	4,968	10,238	7.96 /sqft	15,206
			Radial Rubber Floor 3/16"	480.00 sqft	3,943	3,944	16.43 /sqft	7,887
			Painting: Interior					
			Paint Exist Conc Floor	9,646.00 sqft	7,195	1,144	0.87 /sqft	8,339
			Paint Floor Lines	4,457.00 lnft	3,814	1,201	1.13 /lnft	5,015
			CEILING FINISHES					
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	144.00 sqft	941	217	8.23 /sqft	1,185
			Gypsum Plaster Clg 2 coat System	1,574.67 sqyd	108,796	17,722	82.40 /sqyd	129,755

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	4,927	1,772	6,699.61 /lsum	6,700
			Blueboard					
			1/2" Plaster Base Clgs	7,162.00 sqft	9,758	2,007	1.64 /sqft	11,765
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	14,172.00 sqft	51,802	28,722	5.68 /sqft	80,523
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Std 2x4 3/4"	8,564.00 sqft	13,043	23,582	4.28 /sqft	36,625
			Painting: Interior					
			Paint GDW Clg Roller p+2ct	9,779.00 sqft	10,879	1,898	1.31 /sqft	12,777
			Epoxy Paint GDW Clg	4,393.00 sqft	9,022	3,836	2.93 /sqft	12,858
			Paint Misc Stl Exp Deck 3 Coat	1,110.00 sqft	665	108	0.70 /sqft	773
			Paint Exist Structure	1,110.00 sqft	1,443	179	1.46 /sqft	1,623
			Paint Exist Mechanicals	1,110.00 sqft	368	72	0.40 /sqft	440
			Sound Absorbing Panels					
			Tectum Absorbing Ceiling Panel	6,886.00 sqft	80,035	61,241	20.52 /sqft	141,275
			Tectum Absorbing Panel Soffit	250.00 sqft	1,185	2,210	13.58 /sqft	3,395
	D20		**PLUMBING**					
			PLUMBING FIXTURES					
		15100.00	*PLUMBING*					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	34,323.00 sqft	68,646	53,650	3.56 /sqft	122,296
			DOMESTIC WATER					
		15100.00	*PLUMBING*					
			Piping					
			Domestic Water (Sqft)	34,323.00 sqft	68,989	64,010	3.88 /sqft	133,000
			SANITARY WATER					
		15100.00	*PLUMBING*					
			Piping					
			Sanitary Water (Sqft)	34,323.00 sqft	52,514	41,070	2.73 /sqft	93,584
			RAINWATER DRAINAGE					
		15100.00	*PLUMBING*					
			Piping					
			Rain Water Drainage(Sqft)	34,323.00 sqft	37,069	28,860	1.92 /sqft	65,929
			SPECIAL PLUMBING SYSTEMS					
		15100.00	*PLUMBING*					
			Plumbing					
			Special Plumbing Systems (Sqft)	34,323.00 sqft	22,310	17,390	1.16 /sqft	39,700
	D30		**HVAC**					
			HEAT GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Heat Generation					
			Heat Generating Systems (Sqft)	34,323.00 sqft	89,583	58,090	4.30 /sqft	147,673
			COOLING GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Refrigeration					
			Cooling Generating Systems (Sqft)	34,323.00 sqft	59,379	36,260	2.79 /sqft	95,639
			DISTRIBUTION SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Air Distribution					
			Distribution Systems (Sqft)	34,323.00 sqft	608,890	368,152	28.47 /sqft	977,042
			TERMINAL PACKAGE UNITS					
		15500.00	*HVAC SYSTEMS*					
			Air Handling					
			Terminal Package Units (Sqft)	34,323.00 sqft	21,967	12,950	1.02 /sqft	34,917
			CONTROL & INSTRUMENTATION					
		15500.00	*HVAC SYSTEMS*					
			Controls					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Controls					
			Control & Instrumentation (Sqft)	34,323.00 sqft	145,186	88,430	6.81 /sqft	233,617
			SYSTEM TESTING & BALANCING					
		15500.00	*HVAC SYSTEMS*					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	34,323.00 sqft	12,700	7,770	0.60 /sqft	20,470
			OTHER HVAC SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			HVAC					
			HVAC (Sqft) Other	34,323.00 sqft	44,620	37,370	2.39 /sqft	81,990
	D40		**FIRE PROTECTION**					
			SPRINKLER SYSTEMS					
		15000.00	*FIRE PROTECTION*					
			Sprinkler					
			Fire Protection (Sqft)	34,323.00 sqft	110,177	79,180	5.52 /sqft	189,357
	D50		**ELECTRICAL**					
			SERVICE & DISTRIBUTION					
		16000.00	*ELECTRICAL*					
			Service Distribution					
			Service & Distribution (Sqft)	34,323.00 sqft	97,134	94,351	5.58 /sqft	191,485
			LIGHTING & BRANCH WIRING					
		16000.00	*ELECTRICAL*					
			Lighting					
			Lighting & Branch Wiring (Sqft)	34,323.00 sqft	236,829	231,251	13.64 /sqft	468,080
			COMMUNICATION & SECURITY					
		16000.00	*ELECTRICAL*					
			Communications					
			Communication & Security (Sqft)	34,323.00 sqft	210,057	207,941	12.18 /sqft	417,998
			SPECIAL ELECTRICAL SYSTEMS					
		16000.00	*ELECTRICAL*					
			Special Systems					
			Special Electrical Systems(Sqft)	34,323.00 sqft	58,349	56,610	3.35 /sqft	114,959
	E10		**EQUIPMENT**					
			INSTITUTIONAL EQUIPMENT					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3
			Blocking: Misc.					
			Blocking 2 x 6 R.L.	760.00 lnft	3,602	369	5.22 /lnft	3,971
		11000.00	*EQUIPMENT*					
			Equip: Gym					
			Bleacher Manual Allow	1,414.00 seat	82,504	183,067	187.82 /seat	265,572
			Power Operation Avg	1,414.00 seat	6,494	90,772	68.79 /seat	97,266
	E20		**FURNISHINGS**					
			FIXED FURNISHINGS					
		6000.00	*WOOD & PLASTICS*					
			Blocking: Misc.					
			Blocking 2 x 6 R.L.	33.00 lnft	156	16	5.23 /lnft	172
		12000.00	*FURNISHINGS*					
			Casework					
			School Casework Base & Top	22.00 lnft	2,713	6,237	406.81 /lnft	8,950
			Display Casework					
			Display case 8' h	11.00 lnft	1,665	17,645	1,755.41 /lnft	19,309
	F20		**SELECTIVE DEMOLITION**					
			SELECTIVE DEMOLITION					
		2050.00	*DEMOLITION*					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	392,850.00 /lsum	392,850
			Demo: General					
			General Disposal	1,000.10 cuyd	21,940	-	30.30 /cuyd	30,301
			Demo: Concrete					
			Saw Concrete Slab to 6"	686.00 lnft	4,035	-	7.98 /lnft	5,477
			Remove Slab on Grade	686.00 sqft	4,865	-	7.74 /sqft	5,310
			Demo: Masonry					
			Remove CMU 4"	1,884.00 sqft	6,288	-	3.63 /sqft	6,844
			Remove CMU 8"	1,360.00 sqft	5,560	-	4.45 /sqft	6,053
			Remove Brick Veneer	3,300.00 sqft	17,415	-	5.99 /sqft	19,772
			Demo: Wood					
			Remove Ext Sheathing	3,126.00 sqft	2,062	-	0.66 /sqft	2,062
			Demo: Exterior Finishes					
			Remove Exterior Cornice	6.00 lnft	12	-	2.22 /lnft	13
			Remove Soffit & Trim	288.00 sqft	1,330	-	4.62 /sqft	1,330
			Demo: Millwork					
			Remove Casework	22.00 lnft	118	-	5.36 /lnft	118
			Remove Phone Bank and Display	11.00 lnft	109	-	9.90 /lnft	109
			Demo: Doors & Windows					
			Remove Door & Frame Int Single	52.00 each	6,003	-	131.06 /each	6,815
			Remove Door Frame Int Double	8.00 each	1,055	-	149.78 /each	1,198
			Remove Door & Frame Ext Single	2.00 each	264	-	149.79 /each	300
			Remove Door & Frame Ext Double	3.00 each	462	-	174.78 /each	524
			Remove Transom or Borrowed Lite	529.00 sqft	4,384	-	8.29 /sqft	4,384
			Remove Hardware	2.00 each	113	-	56.42 /each	113
			Demo: Misc Items					
			Remove Toilet Partitions	48.00 each	3,958	-	82.46 /each	3,958
			Remove Urinal Screen	1.00 each	58	-	57.72 /each	58
			Remove Toilet Accessories	42.00 each	433	-	10.31 /each	433
			Remove Lockers	448.00 each	10,565	-	23.58 /each	10,565
			Remove Fire Ext Cabinet Allow	10.00 each	825	-	82.46 /each	825
			Remove Benches	224.00 lnft	2,309	-	10.31 /lnft	2,309
			Remove Bleachers	1,414.00 each	29,848	-	23.97 /each	33,887
			Remove Accoustic Clg Panels	6,886.00 sqft	9,085	-	1.32 /sqft	9,085
			Demo: Finishes, Floors					
			Remove Vinyl Tile	144.00 sqft	190	-	1.32 /sqft	190
			Remove Sheet Flooring	480.00 sqft	435	-	0.91 /sqft	435
			Remove Gym Sheet Flooring	28,392.00 sqft	25,753	-	0.91 /sqft	25,753
			Remove Ceramic Tile Floor	16,515.00 sqft	31,321	-	1.90 /sqft	31,321
			Remove Ceramic Base Only	32.00 lnft	32	-	0.99 /lnft	32
			Flash Patch @ Wall Removal	148.00 sqft	395	294	4.66 /sqft	689
			Demo: Finishes, Ceilings					
			Rem. Acoust Tile & Grid	8,564.00 sqft	10,593	-	1.24 /sqft	10,593
			Remove Plaster Ceiling Metal Lath	7,010.00 sqft	16,185	-	2.31 /sqft	16,185
			Demo: Plumbing					
			General Demolition	34,323.00 sqft	20,010	-	0.58 /sqft	20,010
			General Demolition Fire Protection	34,323.00 sqft	20,925	-	0.61 /sqft	20,925
			Remove Shower Compartment	56.00 each	3,455	-	61.69 /each	3,455
			Demo: Mechanical					
			General Demolition	34,323.00 sqft	20,010	-	0.58 /sqft	20,010
			Remove Louvers	320.00 sqft	3,773	-	11.79 /sqft	3,773
			Demo: Electrical					
			General Demolition	34,323.00 sqft	25,197	-	0.73 /sqft	25,197
FRESHMAN ACAD								
	A10		**FOUNDATIONS**					
			SLAB ON GRADE					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	124.00 sqft	779	1,297	16.74 /sqft	2,076
	B10		**SUPERSTRUCTURE**					
			FLOOR CONSTRUCTION					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
		5000.00	*METALS*					
			Struct: Cld-Frm Framing					
			6" Track 16 ga Ramp Framing	704.00 lnft	4,316	1,244	7.90 /lnft	5,560
			6" Stud 16 ga Ramp Framing	1,162.00 lnft	6,464	1,894	7.19 /lnft	8,358
			10" Track 16 ga	240.00 lnft	2,604	882	14.53 /lnft	3,487
			10" Stud 16 ga	294.00 lnft	2,904	935	13.06 /lnft	3,839
			C Stud 12" 16 ga.	624.00 lnft	5,526	2,677	13.15 /lnft	8,203
		6000.00	*WOOD & PLASTICS*					
			Plywood: Subfloor					
			Subfloor 3/4" T & G Plywood	2,750.00 sqft	4,371	2,633	2.55 /sqft	7,004
	B20		**EXTERIOR CLOSURE**					
			EXTERIOR WALLS					
		4000.00	*MASONRY*					
			Masonry Restoration					
			Cut & Repoint Brick Soft Mortr	12,351.70 sqft	94,610	7,689	10.85 /sqft	134,033
			Repoint Stone Hard Mortar Stairs	56.00 sqft	444	53	8.88 /sqft	497
		9000.00	*FINISHES*					
			Painting: Exterior					
			Scrape & Prep Ext Misc Surfaces	500.00 sqft	813	-	1.63 /sqft	813
			Scrape & Prep Ext Cornice	758.00 sqft	1,881	-	2.48 /sqft	1,881
			Paint Ornate Ext Cornice	379.00 lnft	8,153	106	21.79 /lnft	8,260
			Paint Ext Misc Exposed Metal	500.00 sqft	828	146	1.95 /sqft	973
			EXTERIOR WINDOWS					
		4000.00	*MASONRY*					
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	636.00 sqft	3,271	2,489	9.06 /sqft	5,759
			Flash Sill Lead Ct. Cop 5 oz.	636.00 sqft	2,998	2,338	8.39 /sqft	5,336
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	37	36.65 /lsum	37
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	3,799.00 lnft	19,409	3,644	6.07 /lnft	23,054
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	3,799.00 lnft	13,452	337	3.63 /lnft	13,789
			Polyurethane Sealant 1/2"	7,598.00 lnft	86,090	3,796	11.83 /lnft	89,886
		8000.00	*DOORS & WINDOWS*					
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	4,143.00 sqft	57,483	256,134	75.70 /sqft	313,617
			Windows: Screens					
			Security Screens SS	247.00 sqft	494	5,525	24.37 /sqft	6,019
			EXTERIOR DOORS					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	37.00 lnft	126	36	4.37 /lnft	162
		8000.00	*DOORS & WINDOWS*					
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	1.00 each	242	382	623.65 /each	624
			Alum Frame 6' x 7' Bronze Fin	1.00 each	282	437	718.95 /each	719
			Alum Door Med 3'-0 x 7'-0 Full Gl	3.00 each	977	2,309	1,095.20 /each	3,286
			Hardware: Finishing					
			Finishing Hardware Ext Budget	3.00 each	819	4,408	1,742.17 /each	5,227
	B30		**ROOFING**					
			ROOF COVERINGS					
		2050.00	*DEMOLITION*					
			Demo: General					
			General Disposal	305.80 cuyd	6,709	-	30.30 /cuyd	9,265
			Demo: Roofing					
			Remove Membrane Roof	33,080.00 sqft	66,245	-	2.00 /sqft	66,245
			Remove Roof Drains	14.00 each	739	-	52.77 /each	739
		7000.00	*THERMAL & MOISTURE PROT*					
			Dampproofing: VaprBarrier					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 8 mil Fire Retardant	330.80 sq	15,267	4,903	60.98 /sq	20,171
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	33,080.00 sqft	48,624	26,328	2.27 /sqft	74,952
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	330.80 sqs	70,165	136,048	623.38 /sqs	206,213
			Insulation: Roof 2nd Lay					
			Perlite Tapered	49.62 sq	7,542	6,435	281.68 /sq	13,977
			Poly Iso 4.0" Layer 2	330.80 sqs	33,697	136,048	513.13 /sqs	169,745
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet	33,080.00 sqft	184,903	77,500	8.37 /sqft	276,902
			SBS Membrane Smooth 145 mil	33,080.00 sqft	263,486	67,216	10.62 /sqft	351,172
			Sheetmetal: Exp Joints					
			Interior Edge	560.00 lnft	7,224	17,446	44.05 /lnft	24,670
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	33,080.00 sqft	53,487	47,749	3.06 /sqft	101,236
			ROOF OPENINGS					
		7000.00	*THERMAL & MOISTURE PROT*					
			Membrane: Base Flashing					
			Flash Vents PVC	3.00 each	67	59	41.98 /each	126
			Flash Drains PVC	14.00 each	348	277	44.62 /each	625
			Sheetmetal: Flashing					
			Flash Roof Fans	13.00 each	1,293	1,822	239.56 /each	3,114
			Flash AHU etc	14.00 each	2,784	3,909	478.05 /each	6,693
			Flash Skylights	84.00 lnft	768	280	12.47 /lnft	1,048
			Plastic Skylights					
			Skylight 7' x 7'	3.00 each	2,155	8,224	3,459.75 /each	10,379
			Skylight Curb Pre Fab	84.00 lnft	710	1,164	22.30 /lnft	1,873
	C10		**INTERIOR CONSTRUCTION**					
			PARTITIONS					
		5000.00	*METALS*					
			Misc: Lintels					
			Stl Angles 1000 - 2000 lbs	197.00 lb	363	269	3.21 /lb	631
		7000.00	*THERMAL & MOISTURE PROT*					
			Insulation: Sound Blankt					
			Sound Blanket 16" x 3- 5/8"	13,527.00 sqft	15,264	7,810	1.71 /sqft	23,074
		9000.00	*FINISHES*					
			GWB Int Frame: S Studs					
			S Half/Infill Stud 358 20 ga	235.00 lnft	1,538	117	7.04 /lnft	1,655
			S Stud 358 x 13' 20 ga	114.00 each	3,870	671	39.83 /each	4,541
			S Stud 600 x 13' 20 ga	208.00 each	8,450	2,204	51.22 /each	10,653
			GWB Int Frame: Track					
			Track: Standard 20 ga 3-5/8"	430.00 lnft	1,367	224	3.70 /lnft	1,591
			Track: Infill 20 ga 3-5/8"	6.00 lnft	45	3	8.02 /lnft	48
			Track: Standard 20 ga 6.00 "	534.00 lnft	3,615	551	7.80 /lnft	4,166
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	1,362	488	1,850.75 /lsum	1,851
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	6,732.00 sqft	7,643	2,874	1.56 /sqft	10,517
			GWB 5/8" Infill	1,134.00 sqft	2,446	528	2.62 /sqft	2,974
			GWB 5/8" Water Resistant Walls	3,640.00 sqft	4,133	1,554	1.56 /sqft	5,687
			GWB: Finish Mud/Tape					
			Acoustic Sealant	1,068.00 lnft	2,571	36	2.44 /lnft	2,607
			Labor GWB Wall Finish	9,770.00 sqft	9,197	632	1.01 /sqft	9,829
			Labor GWB Infill Finish	567.00 sqft	1,019	40	1.87 /sqft	1,059
			Shaftwall					
			Shaftwall 2 Hour Assembly	4,275.00 sqft	41,741	7,742	11.58 /sqft	49,483
			INTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	5.00 each	326	87	86.82 /each	434
			Stone Marble					
			Marble Threshold	12.00 lnft	563	334	74.74 /lnft	897
		6000.00	*WOOD & PLASTICS*					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 Doors	579.00 lnft	1,972	268	3.87 /lnft	2,240
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	85.00 lnft	951	25	11.48 /lnft	976
		8000.00	*DOORS & WINDOWS*					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	32.00 each	3,749	55	118.88 /each	3,804
			H.M. Door 18ga 3-0 x 7-0 Flush	16.00 each	1,550	7,365	557.15 /each	8,914
			H.M. Door 18 ga 3-0 x 7-0 Vision	12.00 each	1,320	6,481	650.09 /each	7,801
			Metal Sidelight Frame Only Int	84.00 sqft	954	4,908	69.78 /sqft	5,862
			Doors: Wood					
			Door M Core 3-0 x 7-0 Flush	62.00 each	9,073	21,388	491.31 /each	30,461
			Door M Core 3-0 x 7-0 Vision	113.00 each	17,371	47,995	578.46 /each	65,366
			Door M Core 3-0 x 7-0 Hlf Gl	3.00 each	479	1,229	569.38 /each	1,708
			Door M Core 3-0 x 7-0 Full Gl	13.00 each	2,152	7,960	777.84 /each	10,112
			Solid Core 3-0 x 7-0 Flush Label	3.00 each	439	789	409.38 /each	1,228
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	222.00 each	36,349	211,077	1,114.53 /each	247,426
			HC Electric Opener Single Allow 20%	46.00 each	26,769	146,285	3,762.03 /each	173,053
			Glass: All Types					
			Glass Insulated Tempered	84.00 sqft	2,370	2,046	52.57 /sqft	4,416
		9000.00	*FINISHES*					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	1,136.00 lnft	2,735	38	2.44 /lnft	2,773
			Painting: Interior					
			Refinish Wd Door & Metal Frame Exist	10.00 each	631	127	75.79 /each	758
			Paint Wd Door & Metal Frame	194.00 each	12,235	2,468	75.79 /each	14,703
			Paint Metal Door & Frame	28.00 each	1,471	320	63.97 /each	1,791
			Paint Exist Int. Bor. Lt. Frame	84.00 sqft	195	9	2.43 /sqft	204
			SPECIALTIES/MILLWORK					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	140	140.14 /lsum	140
			Blocking: Misc.					
			Block Toilet Partition	14.00 each	578	124	50.14 /each	702
			Block H.C. Toilet Partition	13.00 each	807	153	73.87 /each	960
			Block Misc Toilet Accessories	181.00 each	4,493	722	28.81 /each	5,215
			Blocking 2 x 4 R.L.	4,355.00 lnft	16,709	1,377	4.15 /lnft	18,086
			Blocking 2 x 6 R.L.	239.00 lnft	1,133	116	5.22 /lnft	1,249
			I Trim: Cabinets					
			Modify HC Casework	6.00 lnft	1,474	1,164	439.78 /lnft	2,639
			I Trim: Shelving					
			Custom Wood Shelving	502.00 lnft	28,337	10,018	76.41 /lnft	38,355
			I Trim: Misc Int. Trim					
			Trim 1" x 8" Cap	72.00 lnft	529	282	11.26 /lnft	810
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Shelves 3 ct	502.00 lnft	1,504	124	3.24 /lnft	1,628
			Paint Lockers	536.00 lnft	3,532	578	7.67 /lnft	4,110
			Paint Ladder	13.00 lnft	57	10	5.11 /lnft	66
			Paint Trim to 14" p + 2ct	72.00 lnft	68	13	1.13 /lnft	81
			Paint Plywood Wainscot	9.00 sqft	5	1	0.70 /sqft	6
		10000.00	*SPECIALTIES*					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	3,344.00 sqft	14,047	35,147	14.71 /sqft	49,194
			Tackboard Alum Fr	4,112.00 sqft	17,274	37,013	13.20 /sqft	54,287
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	14.00 each	3,826	18,503	1,594.90 /each	22,329
			HDPE Toilet Partition HC Flr Mtd	13.00 each	3,553	20,320	1,836.38 /each	23,873
			Directory/Bulletin Boards					
			Buiding Directory	1.00 each	864	1,756	2,620.06 /each	2,620

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Plaques					
			Custom Plaque	1.00 each	716	5,017	5,732.55 /each	5,733
			Signs					
			Interior Stock	86.00 each	1,844	1,405	37.77 /each	3,248
			Interior Custom	55.00 each	3,544	3,599	129.87 /each	7,143
			Lockers					
			Locker Single Tier 6'	107.00 each	15,973	28,375	414.47 /each	44,348
			Locker HC Single Tier 6'	5.00 each	821	1,838	531.88 /each	2,659
			Partitions Operable					
			Operable Partition 2-1/4" t Avg	1,020.00 sqft	6,138	75,870	80.40 /sqft	82,007
			Operable Partition Track	60.00 lnft	-	7,817	130.28 /lnft	7,817
			Shelving Metal Storage					
			Shelving: Steel	35.00 sqft	153	649	22.92 /sqft	802
			Toilet Accessories					
			Grab Bar 1-1/4" S.S. 36"	38.00 each	1,792	1,663	90.94 /each	3,456
			Mirror S.S.	6.00 each	368	454	137.00 /each	822
			Mirror HC	21.00 each	1,545	1,908	164.45 /each	3,453
			Janitor Utility Unit	3.00 each	142	266	135.78 /each	407
			Sanitary Napkin Dispenser Recessed	2.00 each	126	1,330	727.98 /each	1,456
			Sanitary Napkin Dispenser Surface	13.00 each	511	2,719	248.40 /each	3,229
			Clothes Hook Single	14.00 each	367	224	42.19 /each	591
			Soap Dispenser	27.00 each	2,547	4,715	268.97 /each	7,262
			Toilet Tissue Disp Dbl	36.00 each	1,414	1,059	68.70 /each	2,473
			Towel Dispenser Surface Mtd	14.00 each	826	609	102.51 /each	1,435
			Towel Disp/Waste Recpt	7.00 each	1,321	2,339	522.85 /each	3,660
	C20		**STAIRCASES**					
			STAIR CONSTRUCTION					
		3000.00	*CONCRETE*					
			Conc: Fill Pan Stairs					
			Fill Pan Stairs 3000 psi	14.80 cuyd	872	1,543	163.17 /cuyd	2,415
		5000.00	*METALS*					
			Stairs: Stair Parts					
			Custom Steel Stairs 3'-0"	32.00 risr	3,329	18,938	700.57 /risr	22,418
			Custom Steel Stairs 4'-0"	10.00 risr	1,149	6,727	794.75 /risr	7,947
			Custom Steel Stairs 5'-0"	111.00 risr	18,531	76,940	867.66 /risr	96,310
			Custom Steel Stairs 6'-0"	118.00 risr	20,707	86,753	918.57 /risr	108,391
			Stair Railing Steel 1-1/2" 2 pipe	41.00 lnft	960	1,087	51.02 /lnft	2,092
			Wall Rail Steel 1-1/2" 1 pipe	353.00 lnft	8,419	5,480	40.46 /lnft	14,283
			Wall Railing Steel 1-1/2" 2 Pipe	132.00 lnft	4,419	3,700	63.03 /lnft	8,320
			Ornamental Steel Well Rail Mid	286.00 lnft	22,184	25,065	168.75 /lnft	48,262
			Landing Steel Pan	979.00 sqft	24,527	53,876	81.21 /sqft	79,507
			STAIR FINISHES					
		9000.00	*FINISHES*					
			Flooring Resilient Tile					
			Radial Rubber Floor 3/16"	979.00 sqft	8,042	8,044	16.43 /sqft	16,086
			Floor Resil Tile Safety Tread	1,369.00 lnft	6,833	15,733	16.48 /lnft	22,566
			Floor Resil Rubber Riser	1,399.00 lnft	3,201	7,616	7.73 /lnft	10,817
			Painting: Interior					
			Paint Stair Assembly	2,378.00 sqft	7,733	1,794	4.01 /sqft	9,527
			Paint Int Pipe Rails	2,415.00 lnft	2,687	625	1.37 /lnft	3,311
	C30		**INTERIOR FINISHES**					
			WALL FINISHES					
		4000.00	*MASONRY*					
			Masonry Restoration					
			Repoint Brick Soft Mortar	1,580.00 sqft	21,035	1,216	14.08 /sqft	22,251
			Cleaning: Masonry					
			Clean Exist Brick Smooth	101.00 sqs	24,461	2,090	262.89 /sqs	26,552
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	451	450.60 /lsum	451
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	208.00 lnft	798	66	4.15 /lnft	864
			Prefinished Wood Paneling					
			Raised Wood Panel Arch Grade	2,753.00 sqft	29,874	44,457	27.00 /sqft	74,330

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ MEP Removal Allow	1,303.00 sqft	26,189	2,086	22.23 /sqft	28,963
			Plaster Patch @ Wall Removal	767.00 sqft	15,416	1,228	22.23 /sqft	17,049
			Lath/Plastr: Finish Coat					
			Veneer Plaster Walls 1 coat Patch Al0ow	3,166.00 sqft	9,545	863	3.36 /sqft	10,648
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	409	147	555.33 /lsum	555
			Ceramic Tile					
			Clean Ceramic Wall Tile	4,820.00 sqft	3,577	107	0.76 /sqft	3,684
			Patch Ceramic Wall Tile	56.00 sqft	886	205	19.49 /sqft	1,091
			Ceramic Tile Wall Grade 2	80.00 sqft	865	310	14.69 /sqft	1,175
			Backerboard 1/2"	80.00 sqft	518	75	7.41 /sqft	593
			Painting: Interior					
			Paint Plywood Wainscot	2,744.00 sqft	1,644	266	0.70 /sqft	1,910
			Paint GDW Wall Roller p + 2ct	10,337.00 sqft	7,077	2,006	0.88 /sqft	9,083
			Epoxy Paint Exist GDW Wall	3,360.00 sqft	4,601	1,739	1.89 /sqft	6,339
			Paint Exist GDW Roller 2ct	112,203.00 sqft	48,009	24,191	0.64 /sqft	72,200
			Paint Exist Int CMU Spray 2 ct	1,140.00 sqft	488	209	0.61 /sqft	697
			Epoxy Paint Exist Int CMU	1,260.00 sqft	1,617	720	1.86 /sqft	2,337
			Sound Absorbing Panels					
			Tectum Absorbing Panel	628.00 sqft	1,984	5,484	11.89 /sqft	7,468
			FLOOR FINISHES					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. 10% Allow	56.00 sqft	352	586	16.74 /sqft	938
			Conc: Slurry Coat					
			Leveling Compound	43,512.00 sqft	184,121	44,819	5.96 /sqft	259,131
			Moisture Mitigation	151.00 sqft	639	178	6.10 /sqft	921
		9000.00	*FINISHES*					
			Ceramic Tile					
			Clean Ceramic Tile Floor	636.00 sqft	367	14	0.60 /sqft	381
			Clean Ceramic Tile Floor Base	95.00 sqft	63	2	0.68 /sqft	65
			Patch Ceramic Tile Floor Grade 2	43.00 sqft	1,323	280	37.29 /sqft	1,603
			Ceramic Trim: Cove Base Patch	6.00 lnft	132	23	25.84 /lnft	155
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	349.00 sqft	7,119	3,488	30.39 /sqft	10,607
			Tile Quary Shape Cove Base 3/4	52.00 lnft	1,188	311	28.83 /lnft	1,499
			Flooring Wood Strip					
			Patch Wood Floor	25.00 sqft	214	161	15.01 /sqft	375
			Refinish Wood Floor Mid	828.00 sqft	3,004	893	4.71 /sqft	3,897
			Sand & Finish Floor	25.00 sqft	60	22	3.25 /sqft	81
			Flooring Resilient Tile					
			Clean & Wax VCT Tile Floor	24,835.00 sqft	30,718	552	1.26 /sqft	31,269
			Clean & Wax VCT Tile Floor Base	3,725.00 sqft	7,065	85	1.92 /sqft	7,150
			Floor Vinyl Composition Tile 1/8"	687.00 sqft	857	1,617	3.60 /sqft	2,474
			Floor LVT 1/8"	42,029.00 sqft	52,446	248,732	7.17 /sqft	301,178
			Floor LVT 1/8" Patch	90.00 sqft	168	548	7.96 /sqft	717
			Floor Resil Base 4"	6,576.00 lnft	11,625	5,330	2.58 /lnft	16,955
			Radial Rubber Floor 3/16"	796.00 sqft	6,539	6,540	16.43 /sqft	13,079
			Flooring Carpet					
			Carpet Commercial 32oz	331.99 sqyd	5,075	15,806	62.90 /sqyd	20,881
			CEILING FINISHES					
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	547.00 sqft	3,573	824	8.23 /sqft	4,500
			Gypsum Plaster Clg 2 coat System	145.22 sqyd	10,033	1,634	82.40 /sqyd	11,966
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	648.00 lnft	4,241	321	7.04 /lnft	4,562
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8"	864.00 lnft	6,435	492	8.02 /lnft	6,927
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	931	334	1,265.16 /lsum	1,265

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB: Boards & Sheathing					
			GWB 5/8" Clgs	1,454.00 sqft	1,816	621	1.68 /sqft	2,437
			GWB 5/8" Soffit	863.00 sqft	3,625	419	4.69 /sqft	4,044
			GWB: Finish Mud/Tape					
			Labor GWB Soffit Finish	1,454.00 sqft	1,866	103	1.36 /sqft	1,970
			Blueboard					
			1/2" Plaster Base Clgs	1,307.00 sqft	1,781	366	1.64 /sqft	2,147
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	2,761.00 sqft	10,092	5,596	5.68 /sqft	15,688
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Ultima 2x4 3/4"	17,048.00 sqft	25,964	66,441	5.42 /sqft	92,405
			MinFbr SqEdge Std 2x4 3/4"	2,150.00 sqft	3,274	6,637	4.61 /sqft	9,911
			MinFbr Tegulr Ultima 2x4 3/4"	46,333.00 sqft	98,792	188,290	6.20 /sqft	287,082
			Painting: Interior					
			Paint GDW Clg Roller p+2ct	2,125.00 sqft	2,364	412	1.31 /sqft	2,776
			Epoxy Paint GDW Clg	636.00 sqft	1,306	487	2.82 /sqft	1,793
			Paint GDW Soffit Roller p+2ct	1,454.00 sqft	1,618	282	1.31 /sqft	1,900
			Paint Misc Stl Exp Deck 3 Coat	353.00 sqft	211	34	0.70 /sqft	246
			Paint Exist Structure	10,269.00 sqft	13,353	1,661	1.46 /sqft	15,014
			Paint Exist Mechanicals	353.00 sqft	117	23	0.40 /sqft	140
			Sound Absorbing Panels					
			Tectum Absorbing Panel	488.00 sqft	1,542	4,261	11.89 /sqft	5,803
	D10		**CONVEYING SYSTEMS**					
			ELEVATORS					
		14000.00	*CONVEYING SYSTEMS*					
			Elevators					
			Elevator Hyd Passenger 2 stop	1.00 each	22,095	42,017	64,585.89 /each	64,586
			Capacity Upgrade 4000# Hyd	1.00 lsum	-	9,020	9,019.62 /lsum	9,020
			Travel Over Base Hyd	37.00 vlf	6,452	28,558	949.97 /vlf	35,149
			Additional Stops Hyd	4.00 each	8,076	5,196	3,361.09 /each	13,444
			Speed Upgrade 125 fpm Hyd	1.00 lsum	-	2,732	2,731.65 /lsum	2,732
			Stainless Steel Clg	1.00 lsum	-	4,043	4,042.50 /lsum	4,043
			Doors Stainless Steel	1.00 lsum	-	4,290	4,290.44 /lsum	4,290
			Emergency Power	1.00 lsum	-	2,848	2,848.07 /lsum	2,848
			Rear Opening Door	1.00 each	-	3,530	3,530.45 /each	3,530
			Walls Stainless Steel	1.00 lsum	-	4,453	4,453.22 /lsum	4,453
			Maint Contract 12 mos	1.00 lsum	3,702	-	3,702.00 /lsum	3,702
			Sig Device Hall Latern	4.00 each	-	2,294	573.50 /each	2,294
			Lifts					
			Lift Commercial	7.00 each	23,479	97,117	17,297.06 /each	121,079
	D20		**PLUMBING**					
			PLUMBING FIXTURES					
		15100.00	*PLUMBING*					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	92,758.00 sqft	216,126	168,988	4.15 /sqft	385,115
			DOMESTIC WATER					
		15100.00	*PLUMBING*					
			Piping					
			Domestic Water (Sqft)	92,758.00 sqft	217,054	201,986	4.52 /sqft	419,040
			SANITARY WATER					
		15100.00	*PLUMBING*					
			Piping					
			Sanitary Water (Sqft)	92,758.00 sqft	166,037	128,991	3.18 /sqft	295,028
			RAINWATER DRAINAGE					
		15100.00	*PLUMBING*					
			Piping					
			Rain Water Drainage(Sqft)	92,758.00 sqft	116,875	90,994	2.24 /sqft	207,869
			SPECIAL PLUMBING SYSTEMS					
		15100.00	*PLUMBING*					
			Plumbing					
			Special Plumbing Systems (Sqft)	92,758.00 sqft	70,496	54,996	1.35 /sqft	125,492
	D30		**HVAC**					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			HEAT GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Heat Generation					
			Heat Generating Systems (Sqft)	92,758.00 sqft	216,126	139,990	3.84 /sqft	356,117
			COOLING GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Refrigeration					
			Cooling Generating Systems (Sqft)	92,758.00 sqft	142,847	86,994	2.48 /sqft	229,841
			DISTRIBUTION SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Air Distribution					
			Distribution Systems (Sqft)	92,758.00 sqft	1,466,504	886,939	25.37 /sqft	2,353,443
			TERMINAL PACKAGE UNITS					
		15500.00	*HVAC SYSTEMS*					
			Air Handling					
			Terminal Package Units (Sqft)	92,758.00 sqft	52,872	30,998	0.90 /sqft	83,870
			CONTROL & INSTRUMENTATION					
		15500.00	*HVAC SYSTEMS*					
			Controls					
			Control & Instrumentation (Sqft)	92,758.00 sqft	349,698	211,985	6.06 /sqft	561,683
			SYSTEM TESTING & BALANCING					
		15500.00	*HVAC SYSTEMS*					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	92,758.00 sqft	30,610	18,999	0.54 /sqft	49,609
			OTHER HVAC SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			HVAC					
			HVAC (Sqft) Other	92,758.00 sqft	107,599	89,994	2.13 /sqft	197,593
	D40		**FIRE PROTECTION SPRINKLER SYSTEMS**					
		15000.00	*FIRE PROTECTION*					
			Sprinkler					
			Fire Protection (Sqft)	92,758.00 sqft	347,843	249,983	6.45 /sqft	597,825
	D50		**ELECTRICAL**					
			SERVICE & DISTRIBUTION					
		16000.00	*ELECTRICAL*					
			Service Distribution					
			Service & Distribution (Sqft)	92,758.00 sqft	328,363	319,978	6.99 /sqft	648,341
			LIGHTING & BRANCH WIRING					
		16000.00	*ELECTRICAL*					
			Lighting					
			Lighting & Branch Wiring (Sqft)	92,758.00 sqft	802,357	782,946	17.09 /sqft	1,585,303
			COMMUNICATION & SECURITY					
		16000.00	*ELECTRICAL*					
			Communications					
			Communication & Security (Sqft)	92,758.00 sqft	691,975	684,953	14.84 /sqft	1,376,928
			SPECIAL ELECTRICAL SYSTEMS					
		16000.00	*ELECTRICAL*					
			Special Systems					
			Special Electrical Systems(Sqft)	92,758.00 sqft	197,575	191,987	4.20 /sqft	389,561
	E10		**EQUIPMENT**					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			INSTITUTIONAL EQUIPMENT					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	6	6.47 /lsum	6
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	1,152.00 lnft	4,420	364	4.15 /lnft	4,784
			Blocking 2 x 6 R.L.	689.00 lnft	3,265	334	5.22 /lnft	3,600
		11000.00	*EQUIPMENT*					
			Division 11 Subcontractrs					
			Kitchen Equipment Sub	1.00 lsum	-	-	170,000.00 /lsum	170,000
			Equip: Residental Food					
			Microwave	2.00 each	615	1,046	830.42 /each	1,661
			Refrigerator 21-29 cf	4.00 each	1,253	5,239	1,623.11 /each	6,492
			Dishwasher Built-In	4.00 each	2,527	2,298	1,206.27 /each	4,825
			Garbage Disposer	4.00 each	674	543	304.28 /each	1,217
			Equip: Laboratory/Science					
			Science Casework Base & Top	647.00 lnft	80,876	254,575	518.47 /lnft	335,451
			Science Casework Tall Cabinet	42.00 lnft	3,815	19,333	551.13 /lnft	23,148
			Science Casework Wall Cabinet	576.00 lnft	52,316	158,337	365.72 /lnft	210,653
			Goggle Sterilization Cabinet	7.00 each	3,365	20,835	3,457.12 /each	24,200
			Fume Hood	7.00 each	14,129	23,928	5,436.75 /each	38,057
	E20		**FURNISHINGS**					
			FIXED FURNISHINGS					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	38.00 lnft	146	12	4.15 /lnft	158
			Blocking 2 x 6 R.L.	1,053.00 lnft	4,991	511	5.22 /lnft	5,501
		12000.00	*FURNISHINGS*					
			Casework					
			School Casework Base & Top	836.00 lnft	103,077	237,018	406.81 /lnft	340,095
			School Casework Tall	110.00 lnft	13,325	51,582	590.07 /lnft	64,908
			Upper Wall Casework	19.00 lnft	1,266	2,622	204.63 /lnft	3,888
			Display Casework					
			Display case 7' h	107.00 lnft	14,177	150,180	1,536.05 /lnft	164,357
			Misc Seating					
			Refinish/Repair or Reapolster Aud Seat	144.00 each	19,357	6,791	181.59 /each	26,148
	F20		**SELECTIVE DEMOLITION**					
			SELECTIVE DEMOLITION					
		2050.00	*DEMOLITION*					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	460,000.00 /lsum	460,000
			Demo: General					
			General Disposal	1,829.20 cuyd	40,129	-	30.30 /cuyd	55,421
			Shore - Screw Jack	5.00 each	5,532	330	1,239.08 /each	6,195
			Demo: Concrete					
			Saw Concrete Slab to 6"	816.00 lnft	4,800	-	7.98 /lnft	6,515
			Cutout Floor Opening Allowed 49	392.00 sqft	4,187	-	11.66 /sqft	4,570
			Remove Slab on Grade	124.00 sqft	879	-	7.74 /sqft	960
			Remove Stair 5'	2.00 risr	110	-	60.11 /risr	120
			Demo: Masonry					
			Cut Out Opng 8" CMU	161.00 sqft	4,971	-	33.60 /sqft	5,410
			Sawcut 8" CMU	93.00 lnft	3,785	-	71.74 /lnft	6,672
			Remove CMU 8"	286.00 sqft	1,169	-	4.45 /sqft	1,273
			Demo: Steel					
			Remove Metal Stair 3'	32.00 risr	2,639	-	97.14 /risr	3,108
			Remove Metal Stair 4'	10.00 risr	1,100	-	129.59 /risr	1,296
			Remove Metal Stair 6'	118.00 risr	15,968	-	159.50 /risr	18,821
			Remove Metal Stair 5'	111.00 risr	13,613	-	144.49 /risr	16,039
			Remove Steel Rail	160.00 lnft	1,649	-	10.31 /lnft	1,649
			Demo: Wood					
			Remove Wood Floor Frame Ramp	727.00 sqft	2,098	-	2.89 /sqft	2,098

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Wood					
			Remove Wood Floor Frame	772.00 sqft	2,228	-	2.89 /sqft	2,228
			Remove Wood Risers	117.00 lnt	772	-	6.60 /lnt	772
			Demo: Misc Walls					
			Remove Movable Wall	1,020.00 sqft	1,682	-	1.65 /sqft	1,682
			Demo: Millwork					
			Remove Shelves	490.00 lnft	606	-	1.24 /lnft	606
			Remove Cabinets	59.00 lnft	973	-	16.49 /lnft	973
			Remove Wall Cabinets	77.00 lnft	1,270	-	16.49 /lnft	1,270
			Remove Tall Cabinet	152.00 lnft	3,008	-	19.79 /lnft	3,008
			Remove Casework	1,265.00 lnft	6,780	-	5.36 /lnft	6,780
			Remove Display Case	107.00 lnft	706	-	6.60 /lnft	706
			Demo: Doors & Windows					
			Remove Door & Frame Ext Single	1.00 each	132	-	149.78 /each	150
			Remove Door & Frame Ext Double	1.00 each	154	-	174.78 /each	175
			Remove Transom or Borrowed Lite	224.00 sqft	1,857	-	8.29 /sqft	1,857
			Remove Metal Windows	4,143.00 sqft	13,323	-	3.22 /sqft	13,323
			Remove Security Screens	247.00 sqft	102	-	0.41 /sqft	102
			Demo: Misc Items					
			Remove Toilet Partitions	29.00 each	2,391	-	82.46 /each	2,391
			Remove Toilet Accessories	141.00 each	1,453	-	10.31 /each	1,453
			Remove Lockers	536.00 each	12,640	-	23.58 /each	12,640
			Remove Signage	141.00 each	2,790	-	19.79 /each	2,790
			Remove Stove	4.00 each	377	-	94.25 /each	377
			Remove Refrigerator	4.00 each	877	-	219.34 /each	877
			Remove Dishwasher	4.00 each	1,979	-	494.75 /each	1,979
			Remove Elevator	4.00 stop	30,779	-	7,859.82 /stop	31,439
			Demo: Finishes, Floors					
			Remove Carpet & Pad	2,988.00 sqft	1,971	-	0.66 /sqft	1,971
			Remove Vinyl Tile	42,716.00 sqft	56,356	-	1.32 /sqft	56,356
			Resilient Sheet Flooring	796.00 sqft	722	-	0.91 /sqft	722
			Remove Quarry Tile Floors	349.00 sqft	719	-	2.06 /sqft	719
			Flash Patch @ Wall Removal	547.00 sqft	1,461	1,085	4.66 /sqft	2,546
			Demo: Finishes, Walls					
			Remove Stud GWB Partition	7,059.00 sqft	27,307	-	3.87 /sqft	27,307
			Demo: Finishes, Ceilings					
			Rem. Acoust Tile & Grid	65,531.00 sqft	81,053	-	1.24 /sqft	81,053
			Remove Sheetrock Ceiling	1,454.00 sqft	1,319	-	0.91 /sqft	1,319
			Remove Plaster Ceiling Metal Lath	1,307.00 sqft	3,018	-	2.31 /sqft	3,018
KOULOH ERAS								
	A10		**FOUNDATIONS**					
			STANDARD FOUNDATIONS					
		2100.00	*SITEWORK*					
			Earthwk: Dispose Surplus					
			Dispose Surplus	166.00 cuyd	958	-	11.73 /cuyd	1,948
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	23.70 cuyd	2,931	-	123.69 /cuyd	2,931
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	507.00 cuyd	2,349	-	5.96 /cuyd	3,023
			Backfill: Footing					
			Backfill Footings-Exist	365.00 cuyd	1,035		4.47 /cuyd	1,632
		3000.00	*CONCRETE*					
			Forms: Footings					
			Footing Forms 2 Use	1,284.00 sqft	9,865	5,446	11.93 /sqft	15,311
			Keyway In Footing	640.00 lnft	4,405	426	7.55 /lnft	4,832
			Forms: Walls					
			Wall Forms	5,120.00 sqft	61,121	9,778	13.85 /sqft	70,899
			Forms: Ramps					
			Ramp Forms 2 use	636.00 lnft	6,024	994	11.04 /lnft	7,018
			Forms: Stairs					
			Stair Forms	780.00 sqft	16,930	2,269	24.61 /sqft	19,199
			Forms: Pits & Misc.					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Forms: Pits & Misc.					
			Pad Forms	122.00 sqft	662	410	8.79 /sqft	1,072
			Rebar: Footings					
			Footing Rebar #5	1.00 ton	1,749	1,261	3,010.26 /ton	3,010
			Rebar: Walls					
			Wall Rebar #4	3.42 ton	4,191	4,312	2,486.11 /ton	8,502
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.16 ton	368	202	3,558.25 /ton	569
			Rebar: WWM @ Ramp/Misc					
			Wiremesh - Ramp 6x6 6/6	19.20 sqs	1,304	558	96.95 /sqs	1,861
			Wiremesh - Pad 6x6 6/6	12.20 sqs	853	354	98.96 /sqs	1,207
			Conc: Footings					
			Footing Conc 3000 psi	47.41 cuyd	2,574	5,178	172.13 /cuyd	8,160
			Conc: Walls					
			Wall Conc 4000 psi	94.81 cuyd	6,033	10,308	182.50 /cuyd	17,303
			Conc: Ramps					
			Ramp Conc 4000 psi	35.56 cuyd	1,768	4,050	171.31 /cuyd	6,092
			Conc: Pit & Misc					
			Pad Conc 4000 psi	22.59 cuyd	398	2,339	121.44 /cuyd	2,743
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	15.80 cuyd	603	1,718	152.96 /cuyd	2,417
			Finish: Protect & Cure					
			Cure Conc Ext Stair	2.55 sqs	67	27	36.80 /sqs	94
			Cure Conc Ramp	19.20 sqs	507	200	36.80 /sqs	707
			Conc Cure Pad	12.20 sqs	354	127	39.44 /sqs	481
			Finish: General					
			Trowel Finish Pad	1,220.00 sqft	2,875	-	2.36 /sqft	2,875
			Broom/Float Finish Ramp	1,920.00 sqft	1,961	-	1.02 /sqft	1,961
			Stair Finish	255.00 sqft	801	1	3.15 /sqft	802
			Rub Risers	306.00 lnft	1,442	20	4.78 /lnft	1,462
			SLAB ON GRADE					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	390.00 sqft	2,451	4,078	16.74 /sqft	6,529
	B10		**SUPERSTRUCTURE**					
			FLOOR CONSTRUCTION					
		3000.00	*CONCRETE*					
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6 Ramp	0.45 sqs	43	13	123.22 /sqs	55
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi Ramp	0.83 cuyd	55	90	185.55 /cuyd	154
			Finish: Protect & Cure					
			Cure Conc Elv. Slab ramp	0.45 sqs	19	5	53.58 /sqs	24
			Finish: General					
			Broom/Float Finish Elv. Slab Ramp	45.00 sqft	71	-	1.57 /sqft	71
		5000.00	*METALS*					
			Structural: Framing					
			Angle Framing < 4" Allow	10,824.00 lb	105,945	7,818	11.08 /lb	119,972
			Struct: Cld-Frm Framing					
			6" Track 16 ga Ramp Framing	1,352.00 lnft	12,433	2,606	11.12 /lnft	15,039
			6" Stud 16 ga Ramp Framing	1,064.00 lnft	8,939	1,817	10.11 /lnft	10,756
			10" Track 16 ga	684.00 lnft	7,422	2,514	14.53 /lnft	9,937
			10" Stud 16 ga	789.00 lnft	7,793	2,510	13.06 /lnft	10,303
			C Stud 12" 16 ga.	5,544.00 lnft	49,096	23,783	13.15 /lnft	72,879
			Structural: Deck Roof/Fl					
			Slab Form 2" 20ga Galv Ramp	45.00 sqft	55	115	3.83 /sqft	172
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	4	4.32 /lsum	4
			Plywood: Subfloor					
			Subfloor 3/4" T & G Plywood	492.00 sqft	782	471	2.55 /sqft	1,253
			ROOF CONSTRUCTION					
		5000.00	*METALS*					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Structural: Framing					
			Misc Remedial Structural Allowance	322,000.00 sqft			5.03 /sqft	1,619,660
	B20		**EXTERIOR CLOSURE**					
			EXTERIOR WALLS					
		3000.00	*CONCRETE*					
			Precast Specialties					
			Precast Coping	288.00 lnft	6,316	13,395	69.85 /lnft	20,117
		4000.00	*MASONRY*					
			Access: Control Joint					
			Control Joint Sealant	1,036.00 lnft	13,059	598	13.18 /lnft	13,657
			Stone Coping					
			Terra Cotta Coping Patch	24.00 lnft	1,020	735	73.11 /lnft	1,755
			Stone Veneer					
			Terra Cotta Highlight Panels	36.00 sqft	362	472	26.56 /sqft	956
			Masonry Restoration					
			Cut & Repoint Brick Soft Mortr	2,802.00 sqft	21,462	1,744	10.87 /sqft	30,458
			Repoint Stone Hard Mortar Stairs	584.00 sqft	6,948	582	12.89 /sqft	7,530
			Cleaning: Masonry					
			Clean Exist Brick Smooth Allow	693.67 sqs	168,000	14,357	262.89 /sqs	182,358
			Clean TC Cornice Allow	4,195.00 sqft	19,013	398	4.63 /sqft	19,411
			Clean Brick - Acid Graffiti	50.00 sqft	531	22	11.05 /sqft	553
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Blocking: Rough Bucks					
			2 x 6 PT Louvers	116.00 lnft	421	111	4.59 /lnft	533
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	116.00 lnft	411	10	3.63 /lnft	421
			Polyurethane Sealant 1/2"	232.00 lnft	2,629	116	11.83 /lnft	2,745
			Rake Out Masonry Jt. Filler	1,036.00 lnft	3,706	380	6.78 /lnft	7,025
		9000.00	*FINISHES*					
			Painting: Exterior					
			Scrape & Prep Ext Misc Surfaces	1,986.00 sqft	3,229	-	1.63 /sqft	3,229
			Paint Louvers	200.00 sqft	226	119	1.72 /sqft	344
			Paint Ext Misc Exposed Metal	1,986.00 sqft	3,287	578	1.95 /sqft	3,865
		15500.00	*HVAC SYSTEMS*					
			Louvers/Filters					
			Fixed Blade Stormproof	200.00 sqft	9,371	9,314	93.42 /sqft	18,685
			EXTERIOR WINDOWS					
		4000.00	*MASONRY*					
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	3,154.00 sqft	16,220	12,342	9.06 /sqft	28,562
			Flash Sill Lead Ct. Cop 5 oz.	3,154.00 sqft	14,868	11,594	8.39 /sqft	26,462
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	184	184.34 /lsum	184
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	19,246.00 lnft	98,328	18,463	6.07 /lnft	116,791
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	19,246.00 lnft	68,146	1,710	3.63 /lnft	69,856
			Polyurethane Sealant 1/2"	38,472.00 lnft	435,909	19,223	11.83 /lnft	455,132
		8000.00	*DOORS & WINDOWS*					
			Aluminum Storefront					
			Storefront Inc Double Glaze	896.00 sqft	11,205	62,734	82.52 /sqft	73,939
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	21,038.00 sqft	291,896	1,300,639	75.70 /sqft	1,592,535
			Special Custom Proj 4" .125 w Ins Gl Kynar	3,035.00 sqft	84,220	375,267	151.40 /sqft	459,487
			Circular Custom Proj 4" .125 w Ins Gl Kynar	99.00 sqft	3,018	13,468	166.53 /sqft	16,487
			Windows: Screens					
			Security Screens SS	2,200.00 sqft	4,400	49,211	24.37 /sqft	53,610

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			EXTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	1.00 each	65	17	86.85 /each	87
			Grout Double Door Frame	15.00 each	1,314	364	117.52 /each	1,763
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	122.00 sqft	627	477	9.06 /sqft	1,105
			Flash Sill Lead Ct. Cop 5 oz.	34.00 sqft	160	125	8.39 /sqft	285
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	4	4.31 /lsum	4
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	470.00 lnft	1,601	451	4.37 /lnft	2,052
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	470.00 lnft	1,664	42	3.63 /lnft	1,706
			Polyurethane Sealant 1/2"	940.00 lnft	10,651	470	11.83 /lnft	11,120
		8000.00	*DOORS & WINDOWS*					
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Single	1.00 each	110	168	277.96 /each	278
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Hlf Gl	1.00 each	123	702	824.95 /each	825
			Aluminum Doors & Frames					
			Alum Frame 6' x 7' Bronze Fin	15.00 each	4,235	6,549	718.95 /each	10,784
			Alum Door Med 3'-0 x 7'-0 Half Gl	30.00 each	9,472	18,822	943.13 /each	28,294
			Aluminum Storefront					
			Storefront Inc Double Glaze	399.00 sqft	4,990	27,936	82.52 /sqft	32,926
			Hardware: Finishing					
			Finishing Hardware Ext Budget	31.00 each	8,458	45,549	1,742.17 /each	54,007
		9000.00	*FINISHES*					
			Painting: Exterior					
			Paint Ext Door & Frame	1.00 each	69	15	83.82 /each	84
	B30		**ROOFING**					
			ROOF COVERINGS					
		2050.00	*DEMOLITION*					
			Demo: General					
			General Disposal	683.00 cuyd	14,984	-	30.35 /cuyd	20,731
			Demo: Concrete					
			Remove Precast Concrete Coping	284.00 sqft	1,335	-	199.50 /sqft	56,657
			Demo: Roofing					
			Remove Membrane Roof	65,356.00 sqft	130,879	-	2.00 /sqft	130,879
			Remove Skylights	1,784.00 sqft	14,711	-	8.25 /sqft	14,711
			Remove Roof Drains	28.00 each	1,478	-	52.77 /each	1,478
		7000.00	*THERMAL & MOISTURE PROT*					
			Dampproofing: VaprBarrier					
			Vapor Retarder Check spec?	653.56 sq	140,124	91,565	354.50 /sq	231,690
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	65,356.00 sqft	96,067	52,016	2.27 /sqft	148,083
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	653.56 sqs	138,624	268,790	623.38 /sqs	407,414
			Insulation: Roof 2nd Lay					
			Tapered Upcharge	98.11 sq	14,912	12,724	281.68 /sq	27,635
			Poly Iso 4.0" Layer 2	653.56 sqs	66,574	268,790	513.13 /sqs	335,364
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet Check Spec	65,356.00 sqft	365,311	153,117	8.37 /sqft	547,293
			SBS Membrane Base Sheet Check Spec	65,356.00 sqft	246,585	132,798	6.12 /sqft	399,759
			Sheetmetal: Exp Joints					
			Interior Edge	910.00 lnft	11,739	28,350	44.05 /lnft	40,089
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	65,356.00 sqft	105,673	94,338	3.06 /sqft	200,011
			ROOF OPENINGS					
		7000.00	*THERMAL & MOISTURE PROT*					
			Membrane: Base Flashing					
			Flash Vents PVC	29.00 each	644	574	41.98 /each	1,217

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Membrane: Base Flashing					
			Flash Drains PVC	28.00 each	696	554	44.62 /each	1,249
			Sheetmetal: Flashing					
			Flash Roof Fans	24.00 each	2,386	3,363	239.56 /each	5,750
			Flash AHU etc	17.00 each	3,380	4,746	478.05 /each	8,127
			Flash Skylights	498.00 lnft	4,553	1,659	12.47 /lnft	6,212
			Metal Framed Skylights					
			Lean to Skyroof Translucent Panel	544.00 sqft	14,034	22,812	67.73 /sqft	36,846
			Lean to Skyroof Double Med Span	1,240.00 sqft	33,526	60,620	75.92 /sqft	94,146
	C10		**INTERIOR CONSTRUCTION**					
			PARTITIONS					
		4000.00	*MASONRY*					
			Unit Masonry Glass					
			Glass Block 4" 8"x8" Under 1000 (sqft)	176.00 sqft	6,241	3,519	55.45 /sqft	9,760
		7000.00	*THERMAL & MOISTURE PROT*					
			Insulation: Sound Blankt					
			Sound Blanket 16" x 3- 5/8"	12,951.00 sqft	14,614	7,478	1.71 /sqft	22,092
		9000.00	*FINISHES*					
			Lath/Plastr: Finish Coat					
			Veneer Plaster Walls 2 coat	726.00 sqft	3,374	352	5.28 /sqft	3,836
			GWB Int Frame: S Studs					
			S Infill Stud 358 20 ga	252.00 lnft	1,649	125	7.04 /lnft	1,774
			S Stud 358 x 11' 20 ga	220.50 each	6,759	1,098	35.64 /each	7,857
			S Stud 600 x 11' 20 ga	1,856.00 each	63,878	16,638	43.38 /each	80,517
			GWB Int Frame: Track					
			Track: Standard 20 ga 3-5/8"	672.00 lnft	2,136	351	3.70 /lnft	2,487
			Track:Infill 20 ga 3-5/8"	96.00 lnft	715	55	8.02 /lnft	770
			Track: Standard 20 ga 6.00 "	4,636.00 lnft	31,388	4,783	7.80 /lnft	36,171
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	6,267	2,249	8,515.79 /lsum	8,516
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	27,392.00 sqft	31,099	11,693	1.56 /sqft	42,793
			GWB 5/8" Infill	672.00 sqft	1,450	313	2.62 /sqft	1,763
			GWB 5/8" Water Resistant Walls	15,708.00 sqft	17,834	6,706	1.56 /sqft	24,539
			GWB: Finish Mud/Tape					
			Acoustic Sealant	5,756.00 lnft	13,859	192	2.44 /lnft	14,051
			Labor GWB Wall Finish	16,781.00 sqft	15,797	1,085	1.01 /sqft	16,882
			Labor GWB Infill Finish	336.00 sqft	604	24	1.87 /sqft	628
			Blueboard					
			1/2" Plaster Base Walls	23,400.00 sqft	29,224	7,214	1.56 /sqft	36,438
			Shaftwall					
			Shaftwall 2 Hour Assembly	7,623.00 sqft	74,430	13,806	11.58 /sqft	88,236
		10000.00	*SPECIALTIES*					
			Partitions Wire Mesh					
			Wire Mesh Partition 4 x 10	78.00 each	11,070	16,060	347.82 /each	27,130
			Partit Doors Swinging 3 x 7	5.00 each	1,666	1,595	652.20 /each	3,261
			INTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	1.00 each	65	17	86.82 /each	87
			Stone Marble					
			Marble Threshold	36.00 lnft	1,688	1,002	74.74 /lnft	2,690
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 Doors	153.00 lnft	521	75	3.90 /lnft	596
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	17.00 lnft	190	5	11.48 /lnft	195
		8000.00	*DOORS & WINDOWS*					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single 10 new opng	172.00 each	20,153	29,481	288.57 /each	49,634

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Double	41.00 each	6,000	9,370	374.88 /each	15,370
			H.M. Door 18ga 3-0 x 7-0 Flush	16.00 each	1,550	7,365	557.15 /each	8,914
			H.M. Door 18 ga 3-0 x 7-0 Vision	207.00 each	22,773	111,796	650.09 /each	134,569
			H.M. Door 18ga 3-0 x 7-0 Vision Lab	65.00 each	6,738	43,584	774.17 /each	50,321
			Metal Sidelight Frame Only Int Allow	2,971.00 sqft	33,731	173,588	69.78 /sqft	207,319
			Doors: Wood					
			Door M Core 3-0 x 7-0 Flush	19.00 each	2,781	6,554	491.31 /each	9,335
			Door M Core 3-0 x 7-0 Vision Default 10 new	290.00 each	44,580	123,172	578.46 /each	167,753
			Door M Core 3-0 x 7-0 Louver	3.00 each	490	1,523	671.12 /each	2,013
			STC Acoustical Upgrade Allow	9.00 each	7,793	37,033	4,980.65 /each	44,826
			Doors: Access					
			Access Door Fire Rated 4' x 4'	1.00 each	116	620	736.30 /each	736
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	560.00 each	91,692	532,446	1,114.53 /each	624,137
			HC Electric Opener Upcharge Allow CHECK w your HW consultant?	276.00 each	160,613	514,723	2,446.87 /each	675,336
			Glass: All Types					
			Glass Sheet 1/4" Tempered Allow	2,971.00 sqft	52,579	31,067	28.15 /sqft	83,646
		9000.00	*FINISHES*					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	289.00 lnft	696	10	2.44 /lnft	705
			Painting: Interior					
			Paint Wd Door & Metal Frame	272.00 each	17,155	3,460	75.79 /each	20,615
			Paint Metal Door & Frame	288.00 each	15,133	3,291	63.97 /each	18,424
			Paint Int Bor. Lt. Frame	2,971.00 sqft	10,170	480	3.59 /sqft	10,650
			SPECIALTIES/MILLWORK					
		5000.00	*METALS*					
			Misc: Ladders					
			Ladders	12.00 vlf	813	589	119.84 /vlf	1,438
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1,699	1,698.93 /lsum	1,699
			Blocking: Misc.					
			Block Toilet Partition & Urinal	79.00 each	3,263	698	50.14 /each	3,961
			Block H.C. Toilet Partition	36.00 each	2,234	425	73.87 /each	2,659
			Block Misc Toilet Accessories	387.00 each	9,607	1,544	28.81 /each	11,151
			Blocking 2 x 4 R.L.	8,434.00 lnft	32,358	2,667	4.15 /lnft	35,025
			Blocking 2 x 6 R.L.	963.00 lnft	4,564	467	5.22 /lnft	5,031
			I Trim: Cabinets					
			Modify HC Casework Allowance	622.00 lnft	152,852	120,693	439.78 /lnft	273,545
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	3,154.00 lnft	27,311	39,072	21.05 /lnft	66,383
			Apron At Stools	3,154.00 lnft	13,137	7,240	6.46 /lnft	20,377
		9000.00	*FINISHES*					
			Painting: Interior					
			Refinish Counter	51.00 lnft	153	14	3.28 /lnft	167
			Paint Lockers	2,470.00 lnft	16,276	2,663	7.67 /lnft	18,938
			Paint Ladder	12.00 lnft	52	9	5.11 /lnft	61
			Refinish Exist Trim	312.00 lnft	776	595	4.40 /lnft	1,371
			Refinish Exist Window Trim	14,246.00 lnft	35,422	27,182	4.40 /lnft	62,604
		10000.00	*SPECIALTIES*					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	8,080.00 sqft	33,942	84,925	14.71 /sqft	118,867
			Tackboard Alum Fr	8,208.00 sqft	34,480	73,883	13.20 /sqft	108,362
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	50.00 each	13,664	66,081	1,594.90 /each	79,745
			HDPE Toilet Partition HC Flr Mtd	36.00 each	9,838	56,272	1,836.38 /each	66,110
			HDPE Urinal Screens Wall Hung	29.00 each	5,545	16,663	765.77 /each	22,207
			Hospital Cubicles					
			Cubicle Hosp Track Ceil Mountd	36.00 lnft	93	460	15.37 /lnft	553
			Directory/Bulletin Boards					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Directory/Bulletin Boards					
			Buiding Directory	1.00 each	864	1,756	2,620.05 /each	2,620
			Plaques					
			Custom Plaque	1.00 each	716	5,017	5,732.56 /each	5,733
			Signs					
			Interior Stock	284.00 each	6,089	4,638	37.77 /each	10,727
			Interior Custom	97.00 each	6,250	6,347	129.87 /each	12,597
			Lockers					
			Locker Single Tier 6'	469.00 each	70,012	124,373	414.47 /each	194,385
			Locker HC Single Tier 6'	25.00 each	4,107	9,190	531.88 /each	13,297
			Fire Extinguishers					
			Fire Ext Allow	55.00 each	5,120	13,281	334.57 /each	18,401
			Toilet Accessories					
			Grab Bar 1-1/4" S.S. 36"	82.00 each	3,868	3,589	90.94 /each	7,457
			Mirror S.S.	69.00 each	4,228	5,225	137.00 /each	9,453
			Mirror HC	41.00 each	3,017	3,726	164.45 /each	6,742
			Janitor Utility Unit	9.00 each	425	798	135.78 /each	1,222
			Sanitary Napkin Dispenser Recessed	25.00 each	1,571	16,628	727.98 /each	18,199
			Sanitary Napkin Dispenser Surface	5.00 each	196	1,046	248.40 /each	1,242
			Clothes Hook Single	5.00 each	131	80	42.19 /each	211
			Soap Dispenser	111.00 each	10,471	19,385	268.97 /each	29,856
			Toilet Tissue Disp Dbl	91.00 each	3,574	2,678	68.70 /each	6,252
			Towel Dispenser Surface Mtd	6.00 each	354	261	102.51 /each	615
			Towel Disp/Waste Recpt	25.00 each	4,717	8,355	522.85 /each	13,071
	C20		**STAIRCASES**					
			STAIR CONSTRUCTION					
		3000.00	*CONCRETE*					
			Forms: Stairs					
			Stair Forms	376.00 sqft	8,161	1,094	24.61 /sqft	9,255
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.07 ton	162	89	3,580.30 /ton	251
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	4.70 cuyd	179	511	152.97 /cuyd	719
			Conc: Fill Pan Stairs					
			Fill Pan Stairs 3000 psi	20.80 cuyd	1,226	2,168	163.17 /cuyd	3,394
			Finish: Protect & Cure					
			Cure Conc Ext Stair	1.25 sqs	33	13	36.80 /sqs	46
			Finish: General					
			Stair Finish	290.00 sqft	911	1	3.15 /sqft	912
			Rub Risers	125.00 lnft	589	8	4.78 /lnft	597
		5000.00	*METALS*					
			Stairs: Stair Parts					
			Custom Steel Stairs 4'-0"	47.00 risr	5,142	31,616	786.83 /risr	36,981
			Custom Steel Stairs 5'-0"	140.00 risr	23,373	97,042	867.27 /risr	121,418
			Custom Steel Stairs 6'-0"	402.00 risr	70,544	295,549	918.57 /risr	369,266
			Stair Railing Steel 1-1/2" 2 pipe	189.00 lnft	4,425	5,012	50.98 /lnft	9,635
			Stair Railing Galv 1-1/2" 2 pipe	658.00 lnft	15,477	27,096	65.79 /lnft	43,289
			Wall Rail Steel 1-1/2" 1 pipe	844.00 lnft	20,129	12,601	39.83 /lnft	33,614
			Wall Rail Galv 1-1/2" 1 pipe	6.00 lnft	143	126	46.00 /lnft	276
			Wall Railing Steel 1-1/2" 2 Pipe	132.00 lnft	4,419	3,700	63.04 /lnft	8,321
			Wall Rail Steel Galv 1-1/2" 2 pipe	40.00 lnft	1,348	1,304	67.83 /lnft	2,713
			Balcony Rail Allow	89.00 lnft	4,635	24,470	329.39 /lnft	29,316
			Ornamental Steel Well Rail Mid	1,129.00 lnft	87,573	98,947	168.57 /lnft	190,311
			Landing Steel Pan	1,661.00 sqft	41,614	91,408	81.15 /sqft	134,797
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	11	10.78 /lsum	11
			Framing: Stairs					
			Stair Ledger 2x12	8.00 lnft	56	11	8.45 /lnft	68
			Stair Stringer 2x12	36.00 lnft	552	51	16.74 /lnft	602
			Stair Risers Poplar	64.00 lnft	997	288	20.08 /lnft	1,285
			Stair Tread Oak 1-1/16" x 9-1/2"	56.00 lnft	1,024	776	32.15 /lnft	1,800
			STAIR FINISHES					
		9000.00	*FINISHES*					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Flooring Resilient Tile					
			Radial Rubber Floor 3/16"	1,661.00 sqft	13,645	13,648	16.43 /sqft	27,293
			Floor Resil Tile Safety Tread	2,950.00 lnft	14,725	33,901	16.48 /lnft	48,626
			Floor Resil Rubber Riser	3,300.00 lnft	7,549	17,965	7.73 /lnft	25,514
			Painting: Interior					
			Paint Stair Assembly	4,961.00 sqft	16,133	3,744	4.01 /sqft	19,876
			Paint Int Pipe Rails	9,667.00 lnft	10,754	2,501	1.37 /lnft	13,255
	C30		**INTERIOR FINISHES**					
			WALL FINISHES					
		4000.00	*MASONRY*					
			Masonry Restoration					
			Repoint Brick Soft Mortar Allow	2,556.00 sqft	34,029	1,967	14.08 /sqft	35,996
			Cleaning: Masonry					
			Clean Exist Brick Smooth	73.44 sqs	17,786	1,520	262.89 /sqs	19,307
		6000.00	*WOOD & PLASTICS*					
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	1,882.00 lnft	7,221	595	4.15 /lnft	7,816
			Prefinished Wood Paneling					
			Raised Wood Panel Arch Grade Allow	8,670.00 sqft	94,081	140,007	27.00 /sqft	234,088
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ Wall Removal	176.00 sqft	3,537	282	22.23 /sqft	3,913
			Plaster Patch @ MEP Removal Allow	3,215.00 sqft	64,619	5,147	22.23 /sqft	71,464
			Plaster Patch @ CB/TB Removal Allow	8,000.00 sqft	160,794	12,807	22.23 /sqft	177,826
			Lath/Plastr: Finish Coat					
			Veneer Plaster Skim Ct Patch 10% 1 coat Allow	7,552.00 sqft	34,153	2,247	4.90 /sqft	36,974
			Ceramic Tile					
			Clean Ceramic Wall Tile	34,086.00 sqft	25,296	757	0.76 /sqft	26,053
			Patch Ceramic Wall Tile	216.00 sqft	3,419	790	19.49 /sqft	4,209
			Painting: Interior					
			Paint Exist Wainscot	39,138.00 sqft	23,445	3,797	0.70 /sqft	27,242
			Paint Wainscot	6,503.00 sqft	3,896	631	0.70 /sqft	4,526
			Paint GDW Wall Roller p + 2ct	31,065.00 sqft	21,267	6,028	0.88 /sqft	27,295
			Paint Exist GDW Roller 2ct	301,404.00 sqft	128,965	64,983	0.64 /sqft	193,947
			Paint Exist Int Brick Spray 2 ct	7,952.00 sqft	3,403	1,457	0.61 /sqft	4,860
			Paint Exist Int CMU Spray 2 ct	16,513.00 sqft	7,066	3,026	0.61 /sqft	10,092
			Sound Absorbing Panels					
			Tectum Absorbing Panel	7,528.00 sqft	23,786	65,733	11.89 /sqft	89,518
			FLOOR FINISHES					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. 10% allow	47.00 sqft	295	491	16.74 /sqft	787
			Patch Conc. Slab Trench etc.	1,198.00 sqft	7,530	12,527	16.74 /sqft	20,057
			Conc: Slurry Coat					
			Leveling Compound	5,054.00 sqft	21,386	5,206	5.96 /sqft	30,121
			Moisture Mitigation	159,955.00 sqft	676,850	188,295	6.10 /sqft	976,130
			Finish: Floor Hardner					
			Reseal Concrete	3,474.00 sqft	1,638	262	0.55 /sqft	1,900
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	2,202	2,202.36 /lsum	2,202
			Plywood: Subfloor					
			Subfloor 3/4" Cdx Plywood	86,573.00 sqft	137,606	95,864	2.70 /sqft	233,470
			Subfloor 3/4" T & G Plywood	15,771.00 sqft	25,068	15,099	2.55 /sqft	40,166
			I Trim: Wood Base					
			Wood Base 6"	14,345.00 lnft	99,057	110,227	14.59 /lnft	209,284
		7000.00	*THERMAL & MOISTURE PROT*					
			Dampproofing: VaprBarrier					
			Rosin Slip Sheet	55.75 sq	1,409	205	28.95 /sq	1,614
		9000.00	*FINISHES*					
			Ceramic Tile					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Ceramic Tile					
			Clean Ceramic Tile Floor	7,357.00 sqft	4,247	163	0.60 /sqft	4,410
			Clean Ceramic Base	1,104.00 sqft	1,001	25	0.93 /sqft	1,027
			Ceramic Tile Floor Grade 2	400.00 sqft	5,484	2,398	19.71 /sqft	7,883
			Patch Ceramic Tile Floor Grade 2 Allow	514.00 sqft	7,047	3,082	19.71 /sqft	10,129
			Ceramic Trim: Cove Base	79.00 lnft	1,735	306	25.83 /lnft	2,041
			Floor: Terrazo					
			Clean Terrazzo	36,501.06 sqft	9,029	787	0.27 /sqft	9,816
			Clean Terrazzo Base	5,475.00 sqft	2,257	118	0.43 /sqft	2,375
			Patch Terrazzo Floor	100.00 sqft	9,402	953	114.31 /sqft	11,431
			Flooring Wood Strip					
			Wood Flooring	5,575.00 sqft	16,725	12,200	5.19 /sqft	28,925
			Oak Select 2-1/4" Repair Allow	253.00 sqft	2,198	949	12.44 /sqft	3,148
			Refinish Wood Floor Mid	2,531.00 sqft	9,183	2,728	4.71 /sqft	11,911
			Sand & Finish Floor	5,575.00 sqft	13,331	4,808	3.25 /sqft	18,139
			Flooring Resilient Tile					
			Clean & Wax VCT Tile Floor	6,334.00 sqft	7,834	141	1.26 /sqft	7,975
			Floor LVT 1/8"	140,360.00 sqft	175,147	830,666	7.17 /sqft	1,005,814
			Floor Resil Base 4" Allow	13,743.00 lnft	24,295	11,139	2.58 /lnft	35,434
			Floor Resilient Sheet Vinyl .125	9,783.00 sqft	34,588	50,402	8.69 /sqft	84,990
			Radial Rubber Floor 3/16"	9,812.00 sqft	80,605	80,620	16.43 /sqft	161,226
			Flooring Carpet					
			Carpet Commercial 32oz	1,323.11 sqyd	20,225	62,993	62.90 /sqyd	83,218
			Carpet Tile 38 oz Patch	16.67 sqyd	146	1,065	72.64 /sqyd	1,211
			Flooring Epoxy MarbleChip					
			Floor Epoxy Composition Med	1,482.00 sqft	13,225	8,371	14.71 /sqft	21,805
			Floor Epoxy Composition Med Base	222.00 lnft	1,981	926	13.24 /lnft	2,938
			Painting: Interior					
			Paint Exist Conc Floor	912.00 sqft	680	108	0.87 /sqft	788
			Paint Wood Base 3 ct	14,345.00 lnft	14,731	1,701	1.15 /lnft	16,432
			CEILING FINISHES					
		7000.00	*THERMAL & MOISTURE PROT*					
			Fireproofing: Spray On					
			Fireprfg Repair Allow	56,897.00 sqft	152,936	111,820	5.05 /sqft	287,229
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	1,739.00 sqft	11,360	2,619	8.23 /sqft	14,309
			Gypsum Plaster Clg 2 coat System	1,335.22 sqyd	92,252	15,027	82.40 /sqyd	110,024
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	13,620.00 lnft	89,141	6,754	7.04 /lnft	95,895
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8" Allow	18,160.00 lnft	135,249	10,336	8.02 /lnft	145,585
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	7,368	2,642	10,010.53 /lsum	10,011
			GWB: Boards & Sheathing					
			GWB 5/8" Soffit	18,160.00 sqft	76,286	8,809	4.69 /sqft	85,095
			GWB 5/8" Infill Patch Reduce	888.00 sqft	1,916	414	2.62 /sqft	2,329
			GWB: Finish Mud/Tape					
			Labor GWB Ceiling Finish	19,048.00 sqft	22,821	1,232	1.26 /sqft	24,053
			Labor GWB Soffit Finish	18,160.00 sqft	23,311	1,292	1.36 /sqft	24,603
			Blueboard					
			1/2" Plaster Base Clgs	12,017.00 sqft	16,372	3,368	1.64 /sqft	19,740
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	12,017.00 sqft	43,925	24,354	5.68 /sqft	68,279
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Ultima 2x4 3/4"	38,499.00 sqft	58,634	150,042	5.42 /sqft	208,676
			MinFbr SqEdge Std 2x4 3/4"	51,788.00 sqft	78,874	142,606	4.28 /sqft	221,479
			MinFbr Tegulr Ultima 2x4 3/4"	113,235.00 sqft	241,441	460,169	6.20 /sqft	701,611
			Ceiling: 2x2 Tile					
			Mylar Faced Std 2x2 3/4"	1,941.00 sqft	3,153	7,478	5.48 /sqft	10,632
			Painting: Interior					
			Paint Exist GDW Roller 2ct	8,103.00 sqft	3,467	1,747	0.64 /sqft	5,214
			Paint GDW Clg Roller p+2ct	12,017.00 sqft	13,369	2,332	1.31 /sqft	15,701
			Paint Exist Concrete	4,086.00 sqft	2,098	881	0.73 /sqft	2,979

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Painting: Interior					
			Epoxy Paint GDW Clg	19,048.00 sqft	39,121	16,632	2.93 /sqft	55,754
			Paint GDW Soffit Roller p+2ct	18,160.00 sqft	20,203	3,524	1.31 /sqft	23,727
			Paint Misc Stl Exp Deck 3 Coat	2,772.00 sqft	1,661	269	0.70 /sqft	1,929
			Paint Exist Structure	2,772.00 sqft	3,605	448	1.46 /sqft	4,053
			Paint Exist Mechanicals	2,772.00 sqft	919	179	0.40 /sqft	1,098
	D10		**CONVEYING SYSTEMS**					
			ELEVATORS					
		14000.00	*CONVEYING SYSTEMS*					
			Elevators					
			Elevator Hyd Passenger 2 stop	1.00 each	22,095	42,017	64,568.96 /each	64,569
			Capacity Upgrade 4000# Hyd	1.00 lsum	-	9,020	9,019.63 /lsum	9,020
			Travel Over Base Hyd	24.00 vlf	4,185	18,524	949.84 /vlf	22,796
			Additional Stops Hyd	2.00 each	4,038	2,598	3,359.55 /each	6,719
			Speed Upgrade 125 fpm Hyd	1.00 lsum	-	2,732	2,731.65 /lsum	2,732
			Stainless Steel Clg	1.00 lsum	-	4,043	4,042.50 /lsum	4,043
			Doors Stainless Steel	1.00 lsum	-	4,290	4,290.44 /lsum	4,290
			Emergency Power	1.00 lsum	-	2,848	2,848.08 /lsum	2,848
			Walls Stainless Steel	1.00 lsum	-	4,453	4,453.21 /lsum	4,453
			Maint Contract 12 mos	1.00 lsum	3,702	-	3,702.00 /lsum	3,702
			Sig Device Hall Latern	3.00 each	-	1,720	573.50 /each	1,720
			Lifts					
			Evacuation Chair	1.00 each	2,121	8,544	10,711.20 /each	10,711
			Lift Commercial	4.00 each	13,416	55,495	17,297.06 /each	69,188
	D20		**PLUMBING**					
			PLUMBING FIXTURES					
		15100.00	*PLUMBING*					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	322,000.00 sqft	750,260	586,626	4.15 /sqft	1,336,886
			DOMESTIC WATER					
		15100.00	*PLUMBING*					
			Piping					
			Domestic Water (Sqft)	322,000.00 sqft	753,480	701,174	4.52 /sqft	1,454,654
			SANITARY WATER					
		15100.00	*PLUMBING*					
			Piping					
			Sanitary Water (Sqft)	322,000.00 sqft	576,380	447,780	3.18 /sqft	1,024,160
			RAINWATER DRAINAGE					
		15100.00	*PLUMBING*					
			Piping					
			Rain Water Drainage(Sqft)	322,000.00 sqft	405,720	315,876	2.24 /sqft	721,596
			SPECIAL PLUMBING SYSTEMS					
		15100.00	*PLUMBING*					
			Plumbing					
			Special Plumbing Systems (Sqft)	322,000.00 sqft	244,720	190,914	1.35 /sqft	435,634
	D30		**HVAC**					
			HEAT GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Heat Generation					
			Heat Generating Systems (Sqft)	322,000.00 sqft	750,260	485,962	3.84 /sqft	1,236,222
			COOLING GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Refrigeration					
			Cooling Generating Systems (Sqft)	322,000.00 sqft	495,880	301,991	2.48 /sqft	797,871
			DISTRIBUTION SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Air Distribution					
			Distribution Systems (Sqft)	322,000.00 sqft	5,090,820	3,078,919	25.37 /sqft	8,169,739

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			TERMINAL PACKAGE UNITS					
		15500.00	*HVAC SYSTEMS*					
			Air Handling					
			Terminal Package Units (Sqft)	322,000.00 sqft	183,540	107,606	0.90 /sqft	291,146
			CONTROL & INSTRUMENTATION					
		15500.00	*HVAC SYSTEMS*					
			Controls					
			Control & Instrumentation (Sqft)	322,000.00 sqft	1,213,940	735,886	6.06 /sqft	1,949,826
			SYSTEM TESTING & BALANCING					
		15500.00	*HVAC SYSTEMS*					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	322,000.00 sqft	106,260	65,952	0.54 /sqft	172,212
			OTHER HVAC SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			HVAC					
			HVAC (Sqft) Other	322,000.00 sqft	373,520	312,404	2.13 /sqft	685,924
	D40		**FIRE PROTECTION SPRINKLER SYSTEMS**					
		15000.00	*FIRE PROTECTION*					
			Sprinkler					
			Fire Protection (Sqft)	322,000.00 sqft	1,207,500	867,790	6.45 /sqft	2,075,290
	D50		**ELECTRICAL SERVICE & DISTRIBUTION**					
		16000.00	*ELECTRICAL*					
			Service Distribution					
			Service & Distribution (Sqft)	322,000.00 sqft	1,139,880	1,110,771	6.99 /sqft	2,250,651
			LIGHTING & BRANCH WIRING					
		16000.00	*ELECTRICAL*					
			Lighting					
			Lighting & Branch Wiring (Sqft)	322,000.00 sqft	2,785,300	2,717,918	17.09 /sqft	5,503,218
			COMMUNICATION & SECURITY					
		16000.00	*ELECTRICAL*					
			Communications					
			Communication & Security (Sqft)	322,000.00 sqft	2,402,120	2,377,745	14.84 /sqft	4,779,865
			SPECIAL ELECTRICAL SYSTEMS					
		16000.00	*ELECTRICAL*					
			Special Systems					
			Special Electrical Systems(Sqft)	322,000.00 sqft	685,860	666,463	4.20 /sqft	1,352,323
	E10		**EQUIPMENT INSTITUTIONAL EQUIPMENT**					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	422.00 lnft	1,619	133	4.15 /lnft	1,753
		11000.00	*EQUIPMENT*					
			Division 11 Subcontractrs					
			Kitchen Equipment Crabtree	1.00 lsum	-	-	980,000.00 /lsum	980,000
			Equip: Residental Food					
			Microwave	1.00 each	308	523	830.42 /each	830
			Refrigerator Small	3.00 each	601	1,261	620.79 /each	1,862
			Refrigerator 21-29 cf	1.00 each	313	1,310	1,623.11 /each	1,623
			Dishwasher Built-In	3.00 each	1,895	1,724	1,206.27 /each	3,619
			Garbage Disposer	1.00 each	168	136	304.27 /each	304

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Equip: Laboratory/Science					
			Science Casework Base & Top	700.00 lnft	87,501	275,429	518.47 /lnft	362,930
			Science Casework Tall Cabinet	60.00 lnft	5,450	27,618	551.13 /lnft	33,068
			Science Casework Wall Cabinet	211.00 lnft	19,165	58,002	365.72 /lnft	77,166
			Goggle Sterilization Cabinet	2.00 each	963	5,962	3,457.12 /each	6,925
			Fume Hood	3.00 each	6,055	10,255	5,436.74 /each	16,310
	E20		**FURNISHINGS**					
			FIXED FURNISHINGS					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	6	6.47 /lsum	6
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	34.00 lnft	130	11	4.15 /lnft	141
			Blocking 2 x 6 R.L.	1,352.00 lnft	6,408	656	5.22 /lnft	7,063
		12000.00	*FURNISHINGS*					
			Casework					
			School Casework Base & Top Allowance	1,336.00 lnft	164,726	378,775	406.81 /lnft	543,501
			Upper Wall Casework	17.00 lnft	1,133	2,346	204.63 /lnft	3,479
			Display Casework					
			Display case 7' h	16.00 lnft	2,120	22,457	1,536.05 /lnft	24,577
			Shades					
			Vinyl Heavy Wt	24,172.00 sqft	30,004	113,350	5.93 /sqft	143,354
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	100.00 sqft	1,264	2,921	41.85 /sqft	4,185
			Misc Seating					
			Refinish/Repair or Reapolster Aud Seat	1,412.00 each	189,807	66,593	181.59 /each	256,401
	F20		**SELECTIVE DEMOLITION**					
			SELECTIVE DEMOLITION					
		2050.00	*DEMOLITION*					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	######### /lsum	1,125,000
			Demo: General					
			General Disposal	7,613.40 cuyd	167,021	-	30.30 /cuyd	230,670
			Shore - Screw Jack	3.00 each	3,319	198	1,239.08 /each	3,717
			Demo: Concrete					
			Saw Concrete Slab to 6"	570.00 lnft	3,353	-	8.00 /lnft	4,560
			Saw Floor	1,380.00 lnft	8,117	-	7.98 /lnft	11,018
			Remove Slab on Grade	1,588.00 sqft	11,263	-	7.74 /sqft	12,296
			Cutout Floor Opening Allowed 110	940.00 sqft	10,040	-	11.66 /sqft	10,958
			Remove Ext Platform	165.00 sqft	1,941	-	12.84 /sqft	2,119
			Remove Stair 5'	27.00 risr	1,487	-	60.11 /risr	1,623
			Demo: Masonry					
			Cut Out Opng 8" CMU	42.00 sqft	1,297	-	33.61 /sqft	1,411
			Sawcut 8" CMU	41.00 lnft	1,669	-	71.94 /lnft	2,949
			Tooth Jambs 4 Wythes	21.00 lnft	168	-	12.34 /lnft	259
			Remove Glass Block	176.00 sqft	793	-	4.90 /sqft	863
			Demo: Steel					
			Remove Metal Stair 4'	45.00 risr	4,948	-	128.57 /risr	5,786
			Remove Metal Stair 5'	140.00 risr	17,169	-	143.16 /risr	20,042
			Remove Metal Stair 6'	402.00 risr	54,400	-	159.50 /risr	64,120
			Remove Steel Rail	2,132.00 lnft	21,975	-	10.31 /lnft	21,975
			Demo: Wood					
			Remove Wood Floor Frame	7,308.00 sqft	21,091	-	2.89 /sqft	21,091
			Remove Sub Floor	86,573.00 sqft	126,999	-	1.47 /sqft	126,999
			Remove Wood Risers	800.00 lnft	5,277	-	6.60 /lnft	5,277
			Demo: Misc Walls					
			Remove Wire Mesh Partition	2,520.00 sqft	2,286	-	0.91 /sqft	2,286
			Demo: Exterior Finishes					
			Remove Exterior Metal Panels	36.00 sqft	59	-	1.65 /sqft	59
			Remove Exterior Cornice	12.00 lnft	24	-	2.22 /lnft	27
			Demo: Millwork					
			Remove Shelves	65.00 lnft	80	-	1.24 /lnft	80
			Remove Wall Cabinets	187.00 lnft	3,084	-	16.49 /lnft	3,084
			Remove Tall Cabinet	48.00 lnft	950	-	19.79 /lnft	950

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Millwork					
			Remove Casework	1,944.00 lnft	10,419	-	5.36 /lnft	10,419
			Demo: Doors & Windows					
			Remove Door	306.00 each	10,093	-	32.98 /each	10,093
			Remove Door & Frame Int Single	161.00 each	18,586	-	131.21 /each	21,125
			Remove Door Frame Int Double	41.00 each	5,409	-	143.75 /each	5,894
			Remove Door & Frame Ext Single	1.00 each	132	-	149.96 /each	150
			Remove Door & Frame Ext Double	15.00 each	2,309	-	174.98 /each	2,625
			Remove Transom or Borrowed Lite	469.00 sqft	3,887	-	8.29 /sqft	3,887
			Remove Transom or Borrowed Lite Int	2,811.00 sqft	23,298	-	8.29 /sqft	23,298
			Remove Hatch	1.00 each	106	-	105.59 /each	106
			Remove Metal Windows	24,969.00 sqft	80,297	-	3.22 /sqft	80,297
			Remove Security Screens	2,200.00 sqft	907	-	0.41 /sqft	907
			Demo: Misc Items					
			Remove Toilet Partitions	86.00 each	7,091	-	82.46 /each	7,091
			Remove Urinal Screen	29.00 each	1,674	-	57.72 /each	1,674
			Remove Toilet Accessories	387.00 each	3,989	-	10.31 /each	3,989
			Remove Lockers	494.00 each	11,650	-	23.58 /each	11,650
			Remove & Relocate Lockers	4.00 each	236	-	58.96 /each	236
			Remove Signage	381.00 each	7,540	-	19.79 /each	7,540
			Remove Fire Ext Cabinet Allow	55.00 each	4,535	-	82.46 /each	4,535
			Remove Hospital Curtains	18.00 lnft	15	-	0.82 /lnft	15
			Remove Refrigerator	1.00 each	219	-	219.34 /each	219
			Remove Seats	72.00 each	1,419	-	19.71 /each	1,419
			Remove Seats for Reuse	1,412.00 each	41,799	-	29.60 /each	41,799
			Remove Tectum Wall Panels	7,528.00 sqft	8,690	-	1.15 /sqft	8,690
			Remove Elevator	4.00 stop	30,779	-	7,853.93 /stop	31,416
			Demo: Finishes, Floors					
			Remove Carpet & Pad	94,345.00 sqft	62,236	-	0.66 /sqft	62,236
			Remove Vinyl Tile	31,444.00 sqft	41,485	-	1.32 /sqft	41,485
			Remove Resilient Sheet Flooring	19,595.00 sqft	17,773	-	0.91 /sqft	17,773
			Remove Wood Floor	32,054.00 sqft	90,427	-	2.82 /sqft	90,427
			Remove Ceramic Tile Floor	182.00 sqft	345	-	1.90 /sqft	345
			Flash Patch @ Wall Removal	1,775.00 sqft	4,741	3,521	4.66 /sqft	8,262
			Demo: Finishes, Walls					
			Remove VWC	1,350.00 sqft	2,263	-	1.68 /sqft	2,263
			Remove Wood Panel But No Studs	8,670.00 sqft	16,443	-	1.90 /sqft	16,443
			Rem Ceramic Tile But No Studs	20.00 sqft	45	-	2.23 /sqft	45
			Remove Lath/Plaster Partition	19,527.00 sqft	151,074	-	7.74 /sqft	151,074
			Demo: Finishes, Ceilings					
			Remove Plaster Ceiling Metal Lath	217,480.00 sqft	502,123	-	2.31 /sqft	502,123
			Demo: Plumbing					
			General Demolition	322,000.00 sqft	187,719	-	0.58 /sqft	187,719
			General Demolition Fire Protection	322,000.00 sqft	196,311	-	0.61 /sqft	196,311
			Demo: Mechanical					
			General Demolition	322,000.00 sqft	187,719	-	0.58 /sqft	187,719
			Remove Louvers	200.00 sqft	2,358	-	11.79 /sqft	2,358
			Demo: Electrical					
			General Demolition	322,000.00 sqft	236,383	-	0.73 /sqft	236,383
LORD								
	A10		**FOUNDATIONS**					
			SLAB ON GRADE					
		3000.00	*CONCRETE*					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	1,117.00 sqft	7,021	11,680	16.74 /sqft	18,701
	B10		**SUPERSTRUCTURE**					
			ROOF CONSTRUCTION					
		5000.00	*METALS*					
			Structural: Framing					
			Misc Remedial Structural Allowance	176,977.00 sqft			5.03 /sqft	890,194

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	B20		**EXTERIOR CLOSURE**					
			EXTERIOR WALLS					
		4000.00	*MASONRY*					
			Access: Control Joint					
			Control Joint Sealant	796.00 lnft	10,034	460	13.18 /lnft	10,493
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	10	9.70 /lsum	10
			Blocking: Rough Bucks					
			2 x 6 PT Louvers	20.00 lnft	73	19	4.59 /lnft	92
			Wood Siding					
			Hardboard Siding	516.00 sqft	1,863	1,083	5.71 /sqft	2,946
		7000.00	*THERMAL & MOISTURE PROT*					
			Cladding: Siding					
			Exterior Cement Board	2,412.00 sqft	11,775	5,122	7.01 /sqft	16,898
			Exterior Cement Board Soffit	220.00 sqft	1,624	467	9.50 /sqft	2,091
			Sheetmetal: Soffits					
			Bridge Soffit Aluminum Allow	1,777.00 sqft	24,115	4,573	16.14 /sqft	28,688
			Metal Framed Skylights					
			Bridge Glazing Allowance	3,612.00 sqft	121,258	295,340	115.34 /sqft	416,598
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	20.00 lnft	71	2	3.63 /lnft	73
			Polyurethane Sealant 1/2"	40.00 lnft	453	20	11.83 /lnft	473
			Rake Out Masonry Jt. Filler	796.00 lnft	2,847	292	6.76 /lnft	5,383
		9000.00	*FINISHES*					
			GWB Ext Frame: C Studs					
			Bridge Soffit C Stud 800	1,333.00 lnft	6,356	1,881	6.18 /lnft	8,237
			GWB Ext Frame: Track					
			Bridge Regular Leg Track 800 20 ga	344.00 lnft	6,639	438	20.57 /lnft	7,077
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	250	88	338.17 /lsum	338
			Painting: Exterior					
			Paint Louvers	12.00 sqft	14	7	1.72 /sqft	21
		15500.00	*HVAC SYSTEMS*					
			Louvers/Filters					
			Fixed Blade Stormproof	12.00 sqft	562	559	93.43 /sqft	1,121
			EXTERIOR WINDOWS					
		4000.00	*MASONRY*					
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	787.00 sqft	4,047	3,080	9.06 /sqft	7,127
			Flash Sill Lead Ct. Cop 5 oz.	722.00 sqft	3,404	2,654	8.39 /sqft	6,058
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	31	31.26 /lsum	31
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	3,291.00 lnft	16,814	3,157	6.07 /lnft	19,971
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	3,291.00 lnft	11,653	292	3.63 /lnft	11,945
			Polyurethane Sealant 1/2"	6,582.00 lnft	74,578	3,289	11.83 /lnft	77,866
		8000.00	*DOORS & WINDOWS*					
			Aluminum Storefront					
			Storefront Inc Double Glaze	4,849.00 sqft	60,639	339,508	82.52 /sqft	400,147
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	4,731.00 sqft	65,641	292,486	75.70 /sqft	358,127
			EXTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	4.00 each	261	69	86.82 /each	347
			Grout Double Door Frame	8.00 each	701	194	117.49 /each	940
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.24 /lsum	3
			Blocking: Rough Bucks					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	380.00 lnft	1,294	365	4.37 /lnft	1,659
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	100.00 lnft	354	9	3.63 /lnft	363
			Polyurethane Sealant 1/2"	200.00 lnft	2,266	100	11.83 /lnft	2,366
		8000.00	*DOORS & WINDOWS*					
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	4.00 each	968	1,526	623.65 /each	2,495
			Alum Frame 6' x 7' Bronze Fin	14.00 each	3,953	6,112	718.95 /each	10,065
			Alum Door Med 3'-0 x 7'-0 Full Gl	32.00 each	10,416	24,630	1,095.19 /each	35,046
			Aluminum Storefront					
			Storefront Inc Double Glaze	92.00 sqft	1,151	6,441	82.52 /sqft	7,592
			Hardware: Finishing					
			Finishing Hardware Ext Budget	32.00 each	8,731	47,018	1,742.17 /each	55,749
	B30		**ROOFING**					
			ROOF COVERINGS					
		2050.00	*DEMOLITION*					
			Demo: General					
			General Disposal	488.00 cuyd	10,706	-	30.27 /cuyd	14,773
			Demo: Roofing					
			Remove Membrane Roof	51,007.00 sqft	102,145	-	2.00 /sqft	102,145
			Remove Roof Drains	18.00 each	950	-	52.77 /each	950
			Remove Coping	1,548.00 lnft	6,255	-	4.04 /lnft	6,255
		7000.00	*THERMAL & MOISTURE PROT*					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 8 mil Fire Retardant	510.07 sq	23,541	7,561	60.98 /sq	31,102
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	51,007.00 sqft	74,975	40,596	2.27 /sqft	115,571
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	510.07 sqs	108,189	209,776	623.38 /sqs	317,966
			Insulation: Roof 2nd Lay					
			Perlite Tapered	76.51 sq	11,629	9,922	281.68 /sq	21,551
			Poly Iso 4.0" Layer 2	510.07 sqs	51,958	209,776	513.13 /sqs	261,734
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet	51,007.00 sqft	285,107	119,500	8.37 /sqft	426,947
			SBS Membrane Smooth 145 mil	51,007.00 sqft	406,277	103,642	10.62 /sqft	541,459
			Sheetmetal: Coping					
			Coping - L. C. Copper	1,548.00 lnft	53,293	152,028	132.64 /lnft	205,321
			Sheetmetal: Exp Joints					
			Roof to Roof Joint Alum Cover	346.00 lnft	8,188	20,384	82.58 /lnft	28,572
			Expansion Joint Filler 9"	346.00 lnft	3,662	2,275	17.16 /lnft	5,937
			Interior Edge	452.00 lnft	5,831	14,082	44.05 /lnft	19,913
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	51,007.00 sqft	82,473	73,626	3.06 /sqft	156,098
			ROOF OPENINGS					
		7000.00	*THERMAL & MOISTURE PROT*					
			Membrane: Base Flashing					
			Flash Vents PVC	11.00 each	244	218	41.98 /each	462
			Flash Drains PVC	18.00 each	447	356	44.62 /each	803
			Sheetmetal: Flashing					
			Flash Roof Fans	12.00 each	1,193	1,682	239.56 /each	2,875
			Flash AHU etc	25.00 each	4,971	6,980	478.05 /each	11,951
	C10		**INTERIOR CONSTRUCTION**					
			PARTITIONS					
		3000.00	*CONCRETE*					
			Rebar: Dowels					
			Drill & Grout No. 4x1' Dowel	102.00 each	5,879	1,014	71.38 /each	7,280
		4000.00	*MASONRY*					
			Misc: Scaffold					
			Interior Scaffold	18,659.19 sqft	26,724	7,241	2.00 /sqft	37,382
			Misc: Material Handling					
			Concrete Block	21.00 m	-	-	234.87 /m	4,932
			Mortar: All Types					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Mortar: All Types					
			Mortar Type "N"	51.75 cuyd	6,793	10,062	325.70 /cuyd	16,855
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	44.86 cuyd	12,954	6,451	451.05 /cuyd	20,234
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	7,331.89 lbs	15,576	6,181	2.97 /lbs	21,757
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 4" Hot Dippd	3.42 mlf	1,584	448	594.27 /mlf	2,032
			Horiz Wall Reinf 8" Hot Dippd	10.94 mlf	6,828	2,217	826.84 /mlf	9,046
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	14,796.00 each	200,134	39,148	16.17 /each	239,282
			Blk 8" Standard Face Reg Wt - Infill	307.00 each	6,060	844	22.49 /each	6,904
			Conc. Block: 4"					
			Blk 4" Standard Face Reg Wt	5,490.00 each	96,336	8,373	19.07 /each	104,709
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	821.00 each	16,430	6,241	28.84 /each	23,676
			Unit Masonry Glazed Conc					
			CMU Glazed 1 Face 4"	320.00 each	6,317	3,175	29.66 /each	9,492
		5000.00	*METALS*					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	5,133.00 lb	16,847	5,282	4.49 /lb	23,042
		7000.00	*THERMAL & MOISTURE PROT*					
			Insulation: Sound Blankt					
			Sound Blanket 16" x 3- 5/8"	12,622.92 sqft	14,244	7,288	1.71 /sqft	21,532
		9000.00	*FINISHES*					
			GWB Int Frame: S Studs					
			S Bracing Stud 600 20 ga	9,348.00 lnft	68,566	7,981	8.19 /lnft	76,547
			S Stud 600 x 13' 20 ga	10.00 each	406	106	51.22 /each	512
			GWB Int Frame: Track					
			Track: Standard 20 ga 6.00 "	5,426.00 lnft	36,737	5,598	7.80 /lnft	42,335
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	3,202	1,152	4,354.04 /lsum	4,354
			GWB: Boards & Sheathing					
			GWB 5/8" Infill @ Bracing of Demountable	49,851.84 sqft	107,538	23,216	2.62 /sqft	130,754
			GWB: Finish Mud/Tape					
			Acoustic Sealant	48.00 lnft	116	2	2.44 /lnft	117
			Labor GWB Wall Finish	264.00 sqft	249	17	1.01 /sqft	266
			INTERIOR DOORS					
		4000.00	*MASONRY*					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	62.00 each	4,048	1,076	86.82 /each	5,383
			Grout Double Door Frame	10.00 each	876	240	117.27 /each	1,173
		7000.00	*THERMAL & MOISTURE PROT*					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,254.00 lnft	14,031	362	11.48 /lnft	14,393
		8000.00	*DOORS & WINDOWS*					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	53.00 each	6,210	9,084	288.57 /each	15,294
			H.M. Frame 18ga Interior Double	10.00 each	1,463	2,285	374.88 /each	3,749
			H.M. Door 18ga 3-0 x 7-0 Flush	21.00 each	2,034	9,666	557.15 /each	11,700
			H.M. Door 18 ga 3-0 x 7-0 Vision	10.00 each	1,100	5,401	650.09 /each	6,501
			Doors: Wood					
			Door M Core 3-0 x 7-0 Flush	53.00 each	7,756	18,283	491.31 /each	26,039
			Door M Core 3-0 x 7-0 Vision	7.00 each	1,076	2,973	578.46 /each	4,049
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	285.00 each	46,665	270,977	1,114.53 /each	317,641
			HC Electric Opener Single	4.00 each	2,328	12,720	3,762.03 /each	15,048
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Wd Door & Metal Frame	45.00 each	2,838	572	75.79 /each	3,411
			Refinish & Stain Exist Door	7.00 each	873	46	131.31 /each	919
			Paint Metal Door & Frame	35.00 each	1,839	400	63.97 /each	2,239
			Paint Exist Metal Door & Frame	223.00 each	7,005	2,332	41.87 /each	9,337
			Paint Exist Frame	5.00 each	53	17	13.98 /each	70

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			SPECIALTIES/MILLWORK					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	52	51.74 /lsum	52
			Blocking: Misc.					
			Block Toilet Partition & Urinal	42.00 each	1,735	371	50.14 /each	2,106
			Block H.C. Toilet Partition	9.00 each	559	106	73.87 /each	665
			Block Misc Toilet Accessories	235.00 each	5,834	937	28.81 /each	6,771
			Blocking 2 x 4 R.L.	4,580.00 lnft	17,572	1,448	4.15 /lnft	19,020
			Blocking 2 x 6 R.L.	528.00 lnft	2,502	256	5.22 /lnft	2,758
			I Trim: Cabinets					
			Counter Tops Custom p Lam 24" B.S.	22.00 lnft	791	1,033	82.93 /lnft	1,824
			Modify HC Casework	6.00 lnft	1,474	1,164	439.78 /lnft	2,639
		9000.00	*FINISHES*					
			Painting: Interior					
			Paint Int Cabinet 2 Coat	66.00 sqft	311	18	4.98 /sqft	328
			Paint Lockers	1,398.00 lnft	9,212	1,507	7.67 /lnft	10,719
		10000.00	*SPECIALTIES*					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	4,416.00 sqft	18,551	46,414	14.71 /sqft	64,965
			Tackboard Alum Fr	4,384.00 sqft	18,416	39,462	13.20 /sqft	57,878
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	24.00 each	6,559	31,719	1,594.90 /each	38,278
			HDPE Toilet Partition HC Flr Mtd	9.00 each	2,459	14,068	1,836.38 /each	16,527
			Urinal Screens Wall Hung	18.00 each	3,441	10,342	765.77 /each	13,784
			Directory/Bulletin Boards					
			Buiding Directory	1.00 each	864	1,756	2,620.06 /each	2,620
			Plaques					
			Custom Plaque	1.00 each	716	5,017	5,732.55 /each	5,733
			Signs					
			Interior Stock	154.00 each	3,302	2,515	37.77 /each	5,817
			Interior Custom	72.00 each	4,639	4,711	129.87 /each	9,350
			Lockers					
			Locker Single Tier 6'	280.00 each	41,798	74,253	414.47 /each	116,051
			Locker HC Single Tier 6'	14.00 each	2,300	5,146	531.88 /each	7,446
			Fire Extinguishers					
			Fire Ext Cabinet	25.00 each	5,603	6,037	465.58 /each	11,639
			Toilet Accessories					
			Grab Bar 1-1/4" S.S. 36"	44.00 each	2,075	1,926	90.94 /each	4,001
			Mirror S.S.	27.00 each	1,654	2,045	137.00 /each	3,699
			Mirror HC	19.00 each	1,398	1,727	164.45 /each	3,125
			Janitor Utility Unit	5.00 each	236	443	135.78 /each	679
			Sanitary Napkin Dispenser Recessed	3.00 each	189	1,995	727.98 /each	2,184
			Sanitary Napkin Dispenser Surface	19.00 each	746	3,974	248.40 /each	4,720
			Clothes Hook Single	7.00 each	183	112	42.19 /each	295
			Soap Dispenser	46.00 each	4,339	8,033	268.97 /each	12,373
			Toilet Tissue Disp Dbl	46.00 each	1,806	1,354	68.70 /each	3,160
			Towel Dispenser Surface Mtd	12.00 each	708	522	102.51 /each	1,230
			Towel Disp/Waste Recpt	7.00 each	1,321	2,339	522.85 /each	3,660
	C20		**STAIRCASES**					
			STAIR CONSTRUCTION					
		5000.00	*METALS*					
			Stairs: Stair Parts					
			Ornamental Alum Well Rail Mid	303.00 lnft	23,503	57,324	270.30 /lnft	81,900
			STAIR FINISHES					
		9000.00	*FINISHES*					
			Flooring Resilient Tile					
			Floor Vinyl Composition Tile 1/8"	1,168.00 sqft	1,457	2,749	3.60 /sqft	4,207
			Floor Resil Tile Safety Tread	1,500.00 lnft	7,487	17,238	16.48 /lnft	24,725
			Floor Resil Rubber Riser	1,620.00 lnft	3,706	8,819	7.73 /lnft	12,525
			Painting: Interior					
			Paint Stair Assembly	2,608.00 sqft	8,481	1,968	4.01 /sqft	10,449
	C30		**INTERIOR FINISHES**					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			WALL FINISHES					
		4000.00	*MASONRY*					
			Unit Masonry Glazed Conc					
			Clean Glazed CMU	522.48 sqft	444	41	0.93 /sqft	485
			Masonry Restoration					
			Cut & Repoint CMU Hard Mortar	543.00 lnft	5,972	667	15.96 /lnft	8,667
			Cut & Repoint Brick Soft Mortr	279.90 sqft	2,144	177	10.86 /sqft	3,040
			Cleaning: Masonry					
			Clean Exist Brick Smooth	67.74 sqs	16,406	1,402	262.89 /sqs	17,808
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ Wall Removal	1,033.00 sqft	20,762	1,654	22.23 /sqft	22,962
			Lath/Plastr: Finish Coat					
			Veneer Plaster Walls 2 coat	2,786.58 sqft	12,952	1,682	5.40 /sqft	15,055
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	125	46	171.25 /lsum	171
			Ceramic Tile					
			Clean Ceramic Wall Tile	1,170.00 sqft	868	26	0.76 /sqft	894
			Painting: Interior					
			Paint Exist Wainscot	2,586.00 sqft	1,549	251	0.70 /sqft	1,800
			Paint GDW Wall Roller p + 2ct	3,051.00 sqft	2,089	592	0.88 /sqft	2,681
			Paint Exist GDW Roller 2ct	22,215.00 sqft	9,505	4,790	0.64 /sqft	14,295
			Paint Int CMU Spray p+2ct	24,794.00 sqft	21,218	6,949	1.14 /sqft	28,167
			Paint Exist Int CMU Spray 2 ct	80,310.25 sqft	34,363	14,718	0.61 /sqft	49,081
			Epoxy Paint Exist Int CMU	4,906.00 sqft	6,298	2,803	1.86 /sqft	9,101
			Wall Covering					
			Vinyl Wall Cover Med Wt	49,065.84 sqft	49,356	49,878	2.02 /sqft	99,234
			FLOOR FINISHES					
		9000.00	*FINISHES*					
			Ceramic Tile					
			Clean Ceramic Tile Floor	2,098.00 sqft	1,211	47	0.60 /sqft	1,258
			Clean Marble Floor	446.00 sqft	257	10	0.60 /sqft	267
			Clean Ceramic Tile Base	399.00 sqft	362	4	0.92 /sqft	366
			Ceramic Tile Floor Grade 2	5,532.00 sqft	113,463	34,135	26.68 /sqft	147,598
			Regrout Ceramic Tile Floor	114.00 sqft	1,017	20	9.09 /sqft	1,036
			Ceramic Trim: Cove Base Allow	830.00 lnft	18,226	3,216	25.83 /lnft	21,443
			Flooring Resilient Tile					
			Clean & Wax VCT Tile Floor	70,866.00 sqft	87,652	1,574	1.26 /sqft	89,226
			Clean & VCT Base	11,079.00 sqft	20,098	123	1.83 /sqft	20,221
			Floor Vinyl Composition Tile 1/8"	13,593.00 sqft	16,962	31,997	3.60 /sqft	48,959
			Floor LVT 1/8"	4,364.00 sqft	5,446	25,827	7.17 /sqft	31,272
			Floor Resil Base 4" Allow	6,888.00 lnft	12,176	5,583	2.58 /lnft	17,760
			Flooring Carpet					
			Clean Carpet	332.89 sqyd	935	71	3.02 /sqyd	1,006
			Carpet Commercial 32oz	2,977.24 sqyd	45,510	141,746	62.90 /sqyd	187,256
			CEILING FINISHES					
		5000.00	*METALS*					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	3,790.00 lb	12,439	3,806	4.46 /lb	16,920
		9000.00	*FINISHES*					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	1,140.00 sqft	7,447	1,717	8.23 /sqft	9,379
			Gypsum Plaster Clg 2 coat System	608.11 sqyd	42,015	6,844	82.40 /sqyd	50,109
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	307	109	415.41 /lsum	415
			Blueboard					
			1/2" Plaster Base Clgs	5,473.00 sqft	7,456	1,534	1.64 /sqft	8,990
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	5,473.00 sqft	20,005	11,092	5.68 /sqft	31,097
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Std 2x4 3/4"	124,936.00 sqft	190,279	344,029	4.28 /sqft	534,308
			Mylar Faced Std 2x4 3/4" 250-500 sf	3,257.00 sqft	4,960	13,815	5.77 /sqft	18,775
			Painting: Interior					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Painting: Interior					
			Epoxy Paint Exist GDW Clg Roller 2ct	668.00 sqft	915	144	1.59 /sqft	1,059
			Epoxy Paint GDW Clg	7,630.00 sqft	15,671	5,840	2.82 /sqft	21,511
			Paint Misc Stl Exp Deck 3 Coat	120.00 sqft	72	12	0.70 /sqft	84
			Paint Exist Structure	120.00 sqft	156	19	1.46 /sqft	175
			Paint Exist Mechanicals	120.00 sqft	40	8	0.40 /sqft	48
	D20		**PLUMBING**					
			PLUMBING FIXTURES					
		15100.00	*PLUMBING*					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	176,977.00 sqft	412,356	322,420	4.15 /sqft	734,777
			DOMESTIC WATER					
		15100.00	*PLUMBING*					
			Piping					
			Domestic Water (Sqft)	176,977.00 sqft	414,126	385,378	4.52 /sqft	799,504
			SANITARY WATER					
		15100.00	*PLUMBING*					
			Piping					
			Sanitary Water (Sqft)	176,977.00 sqft	316,789	246,108	3.18 /sqft	562,897
			RAINWATER DRAINAGE					
		15100.00	*PLUMBING*					
			Piping					
			Rain Water Drainage(Sqft)	176,977.00 sqft	222,991	173,611	2.24 /sqft	396,602
			SPECIAL PLUMBING SYSTEMS					
		15100.00	*PLUMBING*					
			Plumbing					
			Special Plumbing Systems (Sqft)	176,977.00 sqft	134,503	104,930	1.35 /sqft	239,432
	D30		**HVAC**					
			HEAT GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Heat Generation					
			Heat Generating Systems (Sqft)	176,977.00 sqft	412,356	267,094	3.84 /sqft	679,450
			COOLING GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Refrigeration					
			Cooling Generating Systems (Sqft)	176,977.00 sqft	272,545	165,980	2.48 /sqft	438,524
			DISTRIBUTION SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Air Distribution					
			Distribution Systems (Sqft)	176,977.00 sqft	2,798,006	1,692,229	25.37 /sqft	4,490,236
			TERMINAL PACKAGE UNITS					
		15500.00	*HVAC SYSTEMS*					
			Air Handling					
			Terminal Package Units (Sqft)	176,977.00 sqft	100,877	59,142	0.90 /sqft	160,019
			CONTROL & INSTRUMENTATION					
		15500.00	*HVAC SYSTEMS*					
			Controls					
			Control & Instrumentation (Sqft)	176,977.00 sqft	667,203	404,456	6.06 /sqft	1,071,659
			SYSTEM TESTING & BALANCING					
		15500.00	*HVAC SYSTEMS*					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	176,977.00 sqft	58,402	36,248	0.54 /sqft	94,651
			OTHER HVAC SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			HVAC					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			HVAC					
			HVAC (Sqft) Other	176,977.00 sqft	205,293	171,703	2.13 /sqft	376,996
	D40		**FIRE PROTECTION**					
			SPRINKLER SYSTEMS					
		15000.00	*FIRE PROTECTION*					
			Sprinkler					
			Fire Protection (Sqft)	176,977.00 sqft	663,664	476,953	6.45 /sqft	1,140,617
	D50		**ELECTRICAL**					
			SERVICE & DISTRIBUTION					
		16000.00	*ELECTRICAL*					
			Service Distribution					
			Service & Distribution (Sqft)	176,977.00 sqft	626,499	610,500	6.99 /sqft	1,236,998
			LIGHTING & BRANCH WIRING					
		16000.00	*ELECTRICAL*					
			Lighting					
			Lighting & Branch Wiring (Sqft)	176,977.00 sqft	1,530,851	1,493,817	17.09 /sqft	3,024,668
			COMMUNICATION & SECURITY					
		16000.00	*ELECTRICAL*					
			Communications					
			Communication & Security (Sqft)	176,977.00 sqft	1,320,248	1,306,851	14.84 /sqft	2,627,100
			SPECIAL ELECTRICAL SYSTEMS					
		16000.00	*ELECTRICAL*					
			Special Systems					
			Special Electrical Systems(Sqft)	176,977.00 sqft	376,961	366,300	4.20 /sqft	743,261
	E10		**EQUIPMENT**					
			INSTITUTIONAL EQUIPMENT					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	660.00 lnft	2,532	209	4.15 /lnft	2,741
			Blocking 2 x 6 R.L.	678.00 lnft	3,213	329	5.22 /lnft	3,542
		11000.00	*EQUIPMENT*					
			Division 11 Subcontractrs					
			Kitchen Equipment Sub	1.00 lsum	-	-	######### /lsum	1,060,000
			Equip: Residental Food					
			Refrigerator Small	3.00 each	601	1,261	620.79 /each	1,862
			Dishwasher Built-In	3.00 each	1,895	1,724	1,206.27 /each	3,619
			Equip: Laboratory/Science					
			Science Casework Base & Top	678.00 lnft	84,751	266,773	518.47 /lnft	351,523
			Science Casework Tall Cabinet	72.00 lnft	6,540	33,142	551.13 /lnft	39,682
			Science Casework Wall Cabinet	330.00 lnft	29,973	90,714	365.72 /lnft	120,687
			Goggle Sterilization Cabinet	6.00 each	2,885	17,858	3,457.12 /each	20,743
			Fume Hood	3.00 each	6,055	10,255	5,436.75 /each	16,310
	E20		**FURNISHINGS**					
			FIXED FURNISHINGS					
		6000.00	*WOOD & PLASTICS*					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.07 /lsum	1
			Blocking: Misc.					
			Blocking 2 x 6 R.L.	246.00 lnft	1,166	119	5.22 /lnft	1,285
		12000.00	*FURNISHINGS*					
			Casework					
			School Casework Base & Top	246.00 lnft	30,331	69,744	406.81 /lnft	100,076
			Shades					
			Vinyl Heavy Wt	9,672.00 sqft	12,006	45,355	5.93 /sqft	57,361
	F20		**SELECTIVE DEMOLITION**					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			SELECTIVE DEMOLITION					
		2050.00	*DEMOLITION*					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	######### /lsum	2,032,150
			Demo: General					
			General Disposal	1,292.00 cuyd	28,344	-	30.30 /cuyd	39,145
			Shore - Screw Jack	6.00 each	6,639	396	1,239.08 /each	7,435
			Demo: Concrete					
			Saw Concrete Slab to 6"	122.00 lnft	718	-	7.98 /lnft	974
			Remove Slab on Grade	1,177.00 sqft	8,348	-	7.74 /sqft	9,111
			Demo: Masonry					
			Cut Out Opng 8" CMU	126.00 sqft	3,890	-	33.60 /sqft	4,234
			Sawcut 8" CMU	102.00 lnft	4,151	-	71.74 /lnft	7,318
			Remove CMU 4"	4,160.00 sqft	13,884	-	3.63 /sqft	15,111
			Remove CMU 8"	12,031.32 sqft	49,191	-	4.45 /sqft	53,538
			Demo: Steel					
			Remove Steel Rail	209.00 lnft	2,154	-	10.31 /lnft	2,154
			Demo: Wood					
			Remove Ext Sheathing	516.00 sqft	340	-	0.66 /sqft	340
			Demo: Exterior Finishes					
			Remove Exterior Concrete Panels	2,412.00 sqft	3,580	-	1.48 /sqft	3,580
			Remove Soffit & Trim	220.00 sqft	1,016	-	4.62 /sqft	1,016
			Remove Bridge Soffit & Trim	1,777.00 sqft	8,206	-	4.62 /sqft	8,206
			Demo: Millwork					
			Remove Tall Cabinet	95.00 lnft	1,880	-	19.79 /lnft	1,880
			Remove Casework	584.00 lnft	3,130	-	5.36 /lnft	3,130
			Remove Counter Tops	22.00 lnft	267	-	12.15 /lnft	267
			Demo: Doors & Windows					
			Remove Door & Frame Int Single	57.00 each	6,580	-	131.06 /each	7,471
			Remove Door Frame Int Double	10.00 each	1,319	-	149.78 /each	1,498
			Remove Door & Frame Ext Single	4.00 each	528	-	149.79 /each	599
			Remove Door & Frame Ext Double	14.00 each	2,155	-	174.78 /each	2,447
			Remove Transom or Borrowed Lite	92.00 sqft	762	-	8.29 /sqft	762
			Remove Bridge Glazing	3,612.00 sqft	29,936	-	8.29 /sqft	29,936
			Remove Metal Windows	9,580.00 sqft	30,808	-	3.22 /sqft	30,808
			Demo: Misc Items					
			Remove Toilet Partitions	33.00 each	2,721	-	82.46 /each	2,721
			Remove Urinal Screen	18.00 each	1,039	-	57.72 /each	1,039
			Remove Toilet Accessories	280.00 each	2,886	-	10.31 /each	2,886
			Remove Lockers	280.00 each	6,603	-	23.58 /each	6,603
			Remove Signage	226.00 each	4,473	-	19.79 /each	4,473
			Remove Fire Ext Cabinet aLLOW	25.00 each	2,061	-	82.46 /each	2,061
			Demo: Finishes, Floors					
			Remove Carpet & Pad	26,795.00 sqft	17,676	-	0.66 /sqft	17,676
			Remove Vinyl Tile & Stair Risers/Treads	4,288.00 sqft	5,657	-	1.32 /sqft	5,657
			Remove Vinyl Tile	17,957.00 sqft	23,691	-	1.32 /sqft	23,691
			Remove Ceramic Tile Floor	5,532.00 sqft	10,492	-	1.90 /sqft	10,492
			Flash Patch @ Wall Removal	1,140.00 sqft	3,045	2,261	4.66 /sqft	5,306
			Demo: Plumbing					
			General Demolition	176,977.00 sqft	103,174	-	0.58 /sqft	103,174
			General Demolition Fire Protection	176,977.00 sqft	107,896	-	0.61 /sqft	107,896
			Demo: Mechanical					
			General Demolition	176,977.00 sqft	103,174	-	0.58 /sqft	103,174
			Remove Louvers	12.00 sqft	142	-	11.79 /sqft	142
			Demo: Electrical					
			General Demolition	176,977.00 sqft	129,920	-	0.73 /sqft	129,920
STEAM PLANT								
	D20		**PLUMBING**					
			PLUMBING FIXTURES					
		15100.00	*PLUMBING*					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	2,500.00 sqft	5,825	4,555	4.15 /sqft	10,380

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			DOMESTIC WATER					
		15100.00	*PLUMBING*					
			Piping					
			Domestic Water (Sqft)	2,500.00 sqft	11,700	10,888	9.04 /sqft	22,588
			SANITARY WATER					
		15100.00	*PLUMBING*					
			Piping					
			Sanitary Water (Sqft)	2,500.00 sqft	8,950	6,953	6.36 /sqft	15,903
			RAINWATER DRAINAGE					
		15100.00	*PLUMBING*					
			Piping					
			Rain Water Drainage(Sqft)	2,500.00 sqft	3,150	245,245	99.36 /sqft	248,395
			SPECIAL PLUMBING SYSTEMS					
		15100.00	*PLUMBING*					
			Plumbing					
			Special Plumbing Systems (Sqft)	2,500.00 sqft	3,800	2,965	2.71 /sqft	6,765
	D30		**HVAC**					
			HEAT GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Heat Generation					
			Heat Generating Systems (Sqft)	2,500.00 sqft	11,650	7,546	7.68 /sqft	19,196
			COOLING GENERATING SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Refrigeration					
			Cooling Generating Systems (Sqft)	2,500.00 sqft	7,700	4,689	4.96 /sqft	12,389
			DISTRIBUTION SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			Air Distribution					
			Distribution Systems (Sqft)	2,500.00 sqft	79,050	47,809	50.74 /sqft	126,859
			TERMINAL PACKAGE UNITS					
		15500.00	*HVAC SYSTEMS*					
			Air Handling					
			Terminal Package Units (Sqft)	2,500.00 sqft	2,850	1,671	1.81 /sqft	4,521
			CONTROL & INSTRUMENTATION					
		15500.00	*HVAC SYSTEMS*					
			Controls					
			Control & Instrumentation (Sqft)	2,500.00 sqft	18,850	11,427	12.11 /sqft	30,277
			SYSTEM TESTING & BALANCING					
		15500.00	*HVAC SYSTEMS*					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	2,500.00 sqft	1,650	1,024	1.07 /sqft	2,674
			OTHER HVAC SYSTEMS					
		15500.00	*HVAC SYSTEMS*					
			HVAC					
			HVAC (Sqft)	2,500.00 sqft	5,800	56,245	24.82 /sqft	62,045
	D40		**FIRE PROTECTION SPRINKLER SYSTEMS**					
		15000.00	*FIRE PROTECTION*					
			Sprinkler					
			Fire Protection (Sqft)	2,500.00 sqft	18,750	13,475	12.89 /sqft	32,225
	D50		**ELECTRICAL SERVICE & DISTRIBUTION**					
		16000.00	*ELECTRICAL*					
			Service Distribution					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Service Distribution					
			Service & Distribution (Sqft)	2,500.00 sqft	17,700	17,248	13.98 /sqft	34,948
			LIGHTING & BRANCH WIRING					
		16000.00	*ELECTRICAL*					
			Lighting					
			Lighting & Branch Wiring (Sqft)	2,500.00 sqft	21,625	21,102	17.09 /sqft	42,727
			COMMUNICATION & SECURITY					
		16000.00	*ELECTRICAL*					
			Communications					
			Communication & Security (Sqft)	2,500.00 sqft	18,650	18,461	14.84 /sqft	37,111
			SPECIAL ELECTRICAL SYSTEMS					
		16000.00	*ELECTRICAL*					
			Special Systems					
			Special Electrical Systems(Sqft)	2,500.00 sqft	10,650	10,349	8.40 /sqft	20,999
	F20		**SELECTIVE DEMOLITION**					
			SELECTIVE DEMOLITION					
		2050.00	*DEMOLITION*					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	57,000.00 /lsum	57,000
z SITE WORK								
	G10		**SITE PREPARATION**					
			SITE PREPARATION					
		1000.00	*GENERAL REQUIREMENTS*					
			Division 1 Subcontractors					
			Temp Fence Chain Link & Gates	1.00 lsum			57,000.00 /lsum	57,000
			Controls: Traffic					
			Traffic Control-Police Detail	1.00 lsum	-	-	71,000.00 /lsum	71,000
			Project Signs					
			Temporary Signage	1.00 lsum			2,000.00 /lsum	2,000
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Tank Removal Site Haz Mat Allow	1.00 lsum	-	-	50,000.00 /lsum	50,000
			Soil Stablze: ErosionCtrl					
			Siltation Fence	1.00 lsum			71,000.00 /lsum	71,000
			SITE CLEARING					
		2050.00	*DEMOLITION*					
			Demo: Clear Site					
			Remove Concrete Sidewalks	4,753.00 sqft	6,935	-	1.75 /sqft	8,321
			Remove Asphalt	16,166.00 sqft	8,363	-	0.74 /sqft	11,963
			Demo Curbing Granite	1,023.00 lnft	5,556	-	6.55 /lnft	6,700
			Demo: General					
			General Disposal	261.10 cuyd	5,728	-	30.30 /cuyd	7,911
			EARTHWORK					
		2100.00	*SITEWORK*					
			Earthwk: Fine Grade					
			Fine Grade Walks & Drives	2,324.33 sqyd	5,104	-	3.36 /sqyd	7,812
	G20		**SITE IMPROVEMENTS**					
			ROADWAYS					
		2100.00	*SITEWORK*					
			Earthwk: Dispose Surplus					
			Dispose Surplus	234.00 cuyd	1,350	-	11.73 /cuyd	2,746
			Earthwk: Fine Grade					
			Trench for Curb Machine	202.00 cuyd	1,978	-	12.42 /cuyd	2,508
			Fine Grade at Curb Hand	31.40 cuyd	3,961	-	126.14 /cuyd	3,961
			Backfill: Trench Compact					
			Backfl Trnch Curb Compact Hand Gravel	177.00 cuyd	12,057	3,171	86.03 /cuyd	15,227

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Paving: Asphalt					
			Paving Bitum Binder Course 3"	263.60 ton	2,570	19,528	87.93 /ton	23,179
			Paving Bitum Wearing Couse 1-1/2"	138.39 ton	1,870	10,462	94.46 /ton	13,073
			Paving: Crushed Stone					
			Base Course Compact 12" Deep	1,615.56 sqyd	1,241	23,833	16.15 /sqyd	26,097
			Paving: Concrete Curb					
			Plain Conc Curb 4000 psi	18.90 cuyd	3,634	2,106	306.54 /cuyd	5,794
			Paving: Granite Curb					
			Granite 6" x 18"	958.00 lnft	11,678	21,105	35.55 /lnft	34,058
			Radius Curb 6" x 18" > 10'	65.00 lnft	1,182	1,574	47.08 /lnft	3,060
			WALKS & TERRACES					
		2100.00	*SITEWORK*					
			Paving: Sidewalks					
			Concrete 5"	4,753.00 sqft	19,091	11,119	6.36 /sqft	30,210
			Gravel Base 8" Bankrun	6,379.00 sqft	12,338	6,722	3.06 /sqft	19,511
			Paving: Asphalt					
			Paving Bitum Binder Course 1-1/2"	14.74 ton	181	1,092	91.10 /ton	1,343
			Paving Bitum Wearing Course 1"	9.79 ton	132	740	94.47 /ton	925
			Paving: Concrete					
			Handicap Curb Cut	6.00 each	191	2,194	410.84 /each	2,465
			Detectable Warning Surface	72.00 sqft	809	1,292	29.17 /sqft	2,100
			SITE DEVELOPMENT					
		2100.00	*SITEWORK*					
			Improvmnts: Traffic Signs					
			Sign Allowance	1.00 lsum			4,800.00 /lsum	4,800
			Site Equip: PlayingFields					
			Park Bench Allowance	1.00 lsum			4,600.00 /lsum	4,600
			Site Equip: Rec Facility					
			Bike Rack etc Allowance	1.00 lsum			11,900.00 /lsum	11,900
			Site Equip: Trash Recept					
			Trash Receptacle etc Allowance	1.00 lsum			5,600.00 /lsum	5,600
			LANDSCAPING					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Landscaping Planting Allowance	1.00 lsum	-	-	123,000.00 /lsum	123,000
	G30		**SITE CIVIL/MECHANICAL UTILITIES**					
			WATER SUPPLY & DISTRIBUTION					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Water Allowance	1.00 lsum	-	-	58,000.00 /lsum	58,000
			SANITARY SEWER SYSTEM					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Sanitary Allowance	1.00 lsum	-	-	158,000.00 /lsum	158,000
			STORM SEWER SYSTEM					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Storm Allowance	1.00 lsum	-	-	191,000.00 /lsum	191,000
			GAS DISTRIBUTION					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Gas Backcharge Allowance	1.00 lsum	-	-	50,000.00 /lsum	50,000
	G40		**SITE ELECTRICAL UTILITIES**					

Location	UNI 1	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			ELECTRICAL DISTRIBUTION					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Electrical Allowance	1.00 lsum	-	-	333,000.00 /lsum	333,000
			Sub - Site Utilities Backcharge Allowance	1.00 lsum	-	-	50,000.00 /lsum	50,000
			EXTERIOR LIGHTING					
		2100.00	*SITEWORK*					
			Division 2 Subcontractors					
			Sub - Site Utilities Lighting Allowance	1.00 lsum	-	-	290,000.00 /lsum	290,000

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit	cent of Total	
Labor	59,003,102		203,676.721 hrs		93.871 /sf	48.67%	
Material	51,039,810				81.201 /sf	42.10%	
Subcontract	10,419,399				16.577 /sf	8.60%	
Equipment	690,390		26,041.022 hrs		1.098 /sf	0.57%	
Other	71,000				0.113 /sf	0.06%	
	121,223,701	**121,223,701**			**192.860 /sf**	**100.00**	**100.00%**
Total		***121,223,701***			***192.860 /sf***		

Feasibility
Study Estimate
3 Detailed
Options

LOWELL

HIGH SCHOOL

Lowell, MA

January 25, 2017

Prepared For:

Perkins Eastman

Architect :

Perkins Eastman Architects

ESSENTIAL ESTIMATING

241 Boston Post Rd. West 1st Floor
Marlborough, MA 01752
508-885-1313

LOWELL HIGH SCHOOL FEASIBILITY STUDY 3 DETAILED BASE OPTIONS

Lowell, MA
1-26-17

NOTES ON ESTIMATE
This estimate was produced from drawings by Perlins Eastman dated January 7, 2017, and Narratives. Any design and engineering changes or changes produced subsequent to these documents are not included.

PRICING
This cost estimate reflects the probable construction costs for Lowell, MA. Costs should be escalated to the recommended mid-point of construction. Any further change in bid date will require additional escalation added and prorated to the anticipated bid date or mid point of construction. This estimate is a determination of the fair market prevailing wage value for the construction of this project as outlined. Unit prices include waste factors and sub-contractor overhead and profit. Pricing assumes a CMR contract procurement process with competitive bidding in every portion of the construction work for all subcontractors and general contracts. It is assumed that a minimum of 4 to 6 bids are received for all pertinent divisions.

CONTINGENCIES
Design Contingencies to be added of a minimum of 15.0% for reno & 10.0% New to

·allow for minor design development changes through the design phase.

Construction Contingency – a construction contingency is **NOT** included in our costs but should be added on the summary page to allow for unforeseen change orders that may arise during the construction phase.

A bid contingency is also recommended.

ITEMS SPECIFICALLY EXCLUDED FROM THIS ESSENTIAL ESTIMATE
Professional, management and design Fees included in TPC
Owner Furnished Items included in TPC
Furnishing and Equipment not specified
Temporary Facilities
Relocation expenses
Testing
Land and Finance Costs
Phasing
Overtime
Food Service Equipment & Haz Mat were furnished to us for inclusion by Perkins Eastman consultant.
Total square footage for this design was furnished to us by Perkins Eastman.
Permits
Options other than the 3 options - New -Wang site, Option 3 Add/Reno & Full Reno w Adds.

Essential Estimating recommends that the Owner and Architect carefully review this document, including line item descriptions, scope of work, clarifications, exclusions, inclusions and assumptions, contingencies, escalation, and markups. If the project is over budget, or if there are unresolved budgeting issues, alternate system/schemes should be evaluated before proceeding with releasing the bid documents.

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	FOUNDATIONS	3,694,196	1,979,979	213,248	214,737	10.56 /sqft	6,102,159
B10	SUPERSTRUCTURE	5,387,292	13,958,803		996,301	35.19 /sqft	20,342,395
B20	EXTERIOR CLOSURE	11,060,762	9,050,967		93,041	34.96 /sqft	20,204,770
B30	ROOFING	1,608,655	1,829,964		15,741	5.98 /sqft	3,454,359
C10	INTERIOR CONSTRUCTION	8,767,218	6,634,388		74,296	26.77 /sqft	15,475,902
C20	STAIRCASES	386,566	1,111,981		14,335	2.62 /sqft	1,512,882
C30	INTERIOR FINISHES	8,985,600	8,379,966		304,672	30.57 /sqft	17,670,238
D10	CONVEYING SYSTEMS	120,025	359,669		2,285	0.83 /sqft	481,979
D20	PLUMBING	4,878,430	4,604,694			16.41 /sqft	9,483,124
D30	HVAC	16,560,072	10,611,359			47.01 /sqft	27,171,432
D40	FIRE PROTECTION	2,167,549	1,707,289			6.70 /sqft	3,874,837
D50	ELECTRICAL	12,034,231	12,866,974			43.08 /sqft	24,901,205
E10	EQUIPMENT	1,022,656	2,604,895	2,210,000	8	10.10 /sqft	5,837,558
E20	FURNISHINGS	743,383	2,785,725			6.11 /sqft	3,529,108
F10	SPECIAL CONSTRUCTION	526,387	407,990		34,946	1.68 /sqft	969,323
G10	SITE PREPARATION			1,950,572		132,692.00 /acre	1,950,572
G20	SITE IMPROVEMENTS			5,796,916		394,348.00 /acre	5,796,916
G30	SITE CIVIL/MECHANICAL UTILITIES			1,830,018		124,491.00 /acre	1,830,018
G40	SITE ELECTRICAL UTILITIES			1,380,742		93,928.00 /acre	1,380,742

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Ba	Cost per Unit	ent of Total	
Labor	77,943,022		375,191.426 hrs			134.846 /sf	45.32%	
Material	78,894,640					136.493 /sf	45.88%	
Subcontract	13,381,495					23.151 /sf	7.78%	
Equipment	1,750,362		22,005.736 hrs			3.028 /sf	1.02%	
Other								
	171,969,519	171,969,519				297.518 /sf	100.00	100.00%
Total		***171,969,519***				***297.518 /sf***		

Location	UNI 1	UNI 2	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
NEW SCHOOL			**578,013.00 sqft**	**77,943,022**	**78,894,640**	**278.56 /sqft**	**161,011,272**
z SITE			**14.70 acre**			**745,459.00 /acre**	**10,958,247**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Bas	Cost per Unit		ent of Total	
Labor	77,943,022		375,191.426 hrs			134.846	/sf	45.32%	
Material	78,894,640					136.493	/sf	45.88%	
Subcontract	13,381,495					23.151	/sf	7.78%	
Equipment	1,750,362		22,005.736 hrs			3.028	/sf	1.02%	
Other									
	171,969,519	**171,969,519**				**297.518**	**/sf**	**100.00**	**100.00%**
Total		***171,969,519***				***297.518***	***/sf***		

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10		**FOUNDATIONS**					
	A1010	STANDARD FOUNDATIONS	4,245.70 cuyd	2,552,486	1,291,923	949.22 /cuyd	4,030,087
	A1020	SPECIAL FOUNDATIONS	1.00 lsum	49,044	11,155	66,062.94 /lsum	66,063
	A1030	SLAB ON GRADE	176,348.00 sqft	1,092,665	676,900	11.38 /sqft	2,006,009
		A10 FOUNDATIONS	**578,013.00 sqft**	**3,694,196**	**1,979,979**	**10.56 /sqft**	**6,102,159**
B10		**SUPERSTRUCTURE**					
	B1010	FLOOR CONSTRUCTION	387,015.00 sqft	2,944,602	6,956,221	26.72 /sqft	10,341,894
	B1020	ROOF CONSTRUCTION	176,348.00 sqft	2,442,690	7,002,582	56.71 /sqft	10,000,502
		B10 SUPERSTRUCTURE	**578,013.00 sqft**	**5,387,292**	**13,958,803**	**35.19 /sqft**	**20,342,395**
B20		**EXTERIOR CLOSURE**					
	B2010	EXTERIOR WALLS	116,462.00 sqft	8,356,350	4,936,805	114.94 /sqft	13,385,988
	B2020	EXTERIOR WINDOWS	63,038.00 sqft	2,646,793	3,984,654	105.20 /sqft	6,631,447
	B2030	EXTERIOR DOORS	44.00 lvs	57,619	129,508	4,257.59 /lvs	187,334
		B20 EXTERIOR CLOSURE	**578,013.00 sqft**	**11,060,762**	**9,050,967**	**34.96 /sqft**	**20,204,770**
B30		**ROOFING**					
	B3010	ROOF COVERINGS	176,348.00 sqft	1,608,655	1,829,964	19.59 /sqft	3,454,359
		B30 ROOFING	**578,013.00 sqft**	**1,608,655**	**1,829,964**	**5.98 /sqft**	**3,454,359**
C10		**INTERIOR CONSTRUCTION**					
	C1010	PARTITIONS	78,669.00 sqft	6,859,237	2,089,302	114.68 /sqft	9,022,084
	C1020	INTERIOR DOORS	1,089.00 lvs	881,306	2,247,790	2,873.96 /lvs	3,129,746
	C1030	SPECIALTIES/MILLWORK	578,000.00 sqft	1,026,675	2,297,295	5.75 /sqft	3,324,071
		C10 INTERIOR CONSTRUCTION	**578,013.00 sqft**	**8,767,218**	**6,634,388**	**26.77 /sqft**	**15,475,902**
C20		**STAIRCASES**					
	C2010	STAIR CONSTRUCTION	19.00 flt	318,143	1,023,890	71,387.81 /flt	1,356,368
	C2020	STAIR FINISHES	20,512.00 sqft	68,423	88,091	7.63 /sqft	156,514
		C20 STAIRCASES	**578,013.00 sqft**	**386,566**	**1,111,981**	**2.62 /sqft**	**1,512,882**
C30		**INTERIOR FINISHES**					
	C3010	WALL FINISHES	868,599.00 sqft	2,109,900	1,197,350	3.81 /sqft	3,307,250
	C3020	FLOOR FINISHES	578,013.00 sqft	4,339,774	4,480,551	15.79 /sqft	9,124,996
	C3030	CEILING FINISHES	578,013.00 sqft	2,535,926	2,702,065	9.06 /sqft	5,237,991
		C30 INTERIOR FINISHES	**578,013.00 sqft**	**8,985,600**	**8,379,966**	**30.57 /sqft**	**17,670,238**
D10		**CONVEYING SYSTEMS**					
	D1010	ELEVATORS	1.00 each	120,025	359,669	481,978.83 /each	481,979
		D10 CONVEYING SYSTEMS	**578,013.00 sqft**	**120,025**	**359,669**	**0.83 /sqft**	**481,979**
D20		**PLUMBING**					
	D2010	PLUMBING FIXTURES	578,013.00 sqft	1,329,430	1,271,120	4.50 /sqft	2,600,550
	D2020	DOMESTIC WATER	578,013.00 sqft	1,352,550	1,183,886	4.39 /sqft	2,536,437
	D2030	SANITARY WATER	578,013.00 sqft	1,034,643	1,009,419	3.54 /sqft	2,044,062
	D2040	RAINWATER DRAINAGE	578,013.00 sqft	728,296	710,332	2.49 /sqft	1,438,628

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D2050	SPECIAL PLUMBING SYSTEMS	578,013.00 sqft	433,510	429,938	1.49 /sqft	863,447
		D20 PLUMBING	**578,013.00 sqft**	**4,878,430**	**4,604,694**	**16.41 /sqft**	**9,483,124**
D30		**HVAC**					
	D3020	HEAT GENERATING SYSTEMS	578,013.00 sqft	1,346,770	903,492	3.89 /sqft	2,250,262
	D3030	COOLING GENERATING SYSTEMS	578,013.00 sqft	2,705,101	1,738,443	7.69 /sqft	4,443,544
	D3040	DISTRIBUTION SYSTEMS	578,013.00 sqft	9,138,386	5,701,347	25.67 /sqft	14,839,732
	D3050	TERMINAL PACKAGE UNITS	578,013.00 sqft	329,467	199,391	0.92 /sqft	528,859
	D3060	CONTROL & INSTRUMENTATION	578,013.00 sqft	2,179,109	1,364,585	6.13 /sqft	3,543,694
	D3070	SYSTEM TESTING & BALANCING	578,013.00 sqft	190,744	124,620	0.55 /sqft	315,364
	D3090	OTHER HVAC SYSTEMS	578,013.00 sqft	670,495	579,481	2.16 /sqft	1,249,976
		D30 HVAC	**578,013.00 sqft**	**16,560,072**	**10,611,359**	**47.01 /sqft**	**27,171,432**
D40		**FIRE PROTECTION**					
	D4010	SPRINKLER SYSTEMS	578,013.00 sqft	2,167,549	1,707,289	6.70 /sqft	3,874,837
		D40 FIRE PROTECTION	**578,013.00 sqft**	**2,167,549**	**1,707,289**	**6.70 /sqft**	**3,874,837**
D50		**ELECTRICAL**					
	D5010	SERVICE & DISTRIBUTION	578,013.00 sqft	2,046,166	2,448,775	7.78 /sqft	4,494,941
	D5020	LIGHTING & BRANCH WIRING	578,013.00 sqft	4,999,812	5,184,175	17.62 /sqft	10,183,988
	D5030	COMMUNICATION & SECURITY	578,013.00 sqft	3,878,467	4,081,292	13.77 /sqft	7,959,759
	D5040	SPECIAL ELECTRICAL SYSTEMS	578,013.00 sqft	1,109,785	1,152,731	3.91 /sqft	2,262,516
		D50 ELECTRICAL	**578,013.00 sqft**	**12,034,231**	**12,866,974**	**43.08 /sqft**	**24,901,205**
E10		**EQUIPMENT**					
	E1020	INSTITUTIONAL EQUIPMENT	578,013.00 sqft	1,022,656	2,604,895	10.10 /sqft	5,837,558
		E10 EQUIPMENT	**578,013.00 sqft**	**1,022,656**	**2,604,895**	**10.10 /sqft**	**5,837,558**
E20		**FURNISHINGS**					
	E2010	FIXED FURNISHINGS	578,013.00 sqft	743,383	2,785,725	6.11 /sqft	3,529,108
		E20 FURNISHINGS	**578,013.00 sqft**	**743,383**	**2,785,725**	**6.11 /sqft**	**3,529,108**
F10		**SPECIAL CONSTRUCTION**					
	F1030	SPECIAL CONSTRUCTION	578,013.00 sqft	526,387	407,990	1.68 /sqft	969,323
		F10 SPECIAL CONSTRUCTION	**578,013.00 sqft**	**526,387**	**407,990**	**1.68 /sqft**	**969,323**
G10		**SITE PREPARATION**					
	G1030	EARTHWORK	14.70 acre			132,692.00 /acre	1,950,572
		G10 SITE PREPARATION	**14.70 acre**			**######## /acre**	**1,950,572**
G20		**SITE IMPROVEMENTS**					
	G2040	SITE DEVELOPMENT	14.70 acre			394,348.00 /acre	5,796,916

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
		G20 SITE IMPROVEMENTS	**14.70 acre**			**######## /acre**	**5,796,916**
G30		**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030	**STORM SEWER SYSTEM**	**14.70 acre**			**124,491.00 /acre**	**1,830,018**
		G30 SITE CIVIL/MECHANICAL UTILITIES	**14.70 acre**			**######## /acre**	**1,830,018**
G40		**SITE ELECTRICAL UTILITIES**					
	G4010	**ELECTRICAL DISTRIBUTION**	**14.70 acre**			**93,928.00 /acre**	**1,380,742**
		G40 SITE ELECTRICAL UTILITIES	**14.70 acre**			**93,928.00 /acre**	**1,380,742**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Ba	Cost per Unit	ent of Total	
Labor	77,943,022		375,191.426 hrs			134.846 /sf	45.32%	
Material	78,894,640					136.493 /sf	45.88%	
Subcontract	13,381,495					23.151 /sf	7.78%	
Equipment	1,750,362		22,005.736 hrs			3.028 /sf	1.02%	
Other								
	171,969,519	**171,969,519**				**297.518 /sf**	**100.00**	**100.00%**
Total		***171,969,519***				***297.518 /sf***		

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10			**FOUNDATIONS**					
	A1010		**STANDARD FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Dewatering allow	1.00 lsum	-	-	36,900.00 /lsum	36,900
			Division 2 Subcontractors				*/sub*	*36,900*
			Dewater: Gravel At Drain					
			Gravel @ Drains	752.30 cuyd	2,233	16,088	24.83 /cuyd	18,683
			Dewater: Gravel At Drain		*2,233*	*16,088*	*/cuyd*	*18,683*
			Filter Fabric					
			Filter Fabric	32,500.00 sqft	14,088	5,781	0.61 /sqft	19,869
			Filter Fabric		*14,088*	*5,781*	*/sqft*	*19,869*
			Earthwk: Dispose Surplus					
			Dispose Surplus	4,341.00 cuyd	26,476	-	12.16 /cuyd	52,804
			Dispose Surplus	225.00 cuyd	1,372	-	12.06 /cuyd	2,714
			Earthwk: Dispose Surplus		*27,848*		*/cuyd*	*55,518*
			Earthwk: Borrow					
			Borrow - Bank Run Allow	6,531.00 cuyd	28,976	131,955	29.70 /cuyd	193,937
			Earthwk: Borrow		*28,976*	*131,955*	*/cuyd*	*193,937*
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	184.40 cuyd	23,522	-	127.56 /cuyd	23,522
			Excavate Footing By Hand Under Corridor Walls	112.50 cuyd	14,351	-	127.56 /cuyd	14,351
			Excavate Isolated Footing By Hand	404.30 cuyd	51,573	-	127.56 /cuyd	51,573
			Excavate Engaged Footing By Hand	220.80 cuyd	28,165	-	127.56 /cuyd	28,165
			Earthwk: Footings (Hand)		*117,610*		*/cuyd*	*117,610*
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	3,594.00 cuyd	17,671	-	6.27 /cuyd	22,536
			Excavate Footing By Machine Under Corridor Walls	785.00 cuyd	3,860	-	6.25 /cuyd	4,904
			Excavate Isolated Footing Machine	3,243.00 cuyd	34,900	-	13.67 /cuyd	44,328
			Excavate Engaged Footing By Machine	1,419.00 cuyd	11,190	-	10.04 /cuyd	14,248
			Earthwk: Footings (Mach)		*67,621*		*/cuyd*	*86,016*
			Earthwk: Pits, Misc Excav					
			Excavate Grade Beams	784.00 cuyd	4,219	-	6.83 /cuyd	5,358
			Excavate G.B. By Hand	78.40 cuyd	10,001	-	127.56 /cuyd	10,001
			Earthwk: Pits, Misc Excav		*14,219*		*/cuyd*	*15,359*
			Backfill: Footing					
			Backfill Footings-Exist	3,636.70 cuyd	10,794		4.63 /cuyd	16,843
			Backfill Footings-Exist Corridor Walls	673.00 cuyd	1,998		4.60 /cuyd	3,098
			Backfill Isol. Footings - Exist	1,479.00 cuyd	4,829		5.10 /cuyd	7,535
			Backfill: Footing		*17,620*		*/cuyd*	*27,476*
			Backfill: Pit, etc					
			Backfill Grade Beams	471.00 cuyd	1,538	-	5.37 /cuyd	2,529
			Backfill: Pit, etc		*1,538*		*/cuyd*	*2,529*
			Pipe: PVC					
			Pipe PVC 6	3,250.00 lnft	20,074	22,992	13.25 /lnft	43,065
			Pipe: PVC		*20,074*	*22,992*	*/lnft*	*43,065*
			SITEWORK		*311,828*	*176,815*	*/sqft*	*616,962*
		3000.00	**CONCRETE**					
			Forms: Footings					
			Footing Forms 2 Use	8,366.32 sqft	65,508	34,557	11.96 /sqft	100,065
			Footing Forms 2 Use Corridor Walls	6,060.00 sqft	47,450	25,031	11.96 /sqft	72,480
			Engaged Footing Forms 2 use	10,827.50 sqft	92,909	11,060	9.60 /sqft	103,969
			Isolated Footing Forms 2 Use	20,790.00 sqft	191,774	20,314	10.20 /sqft	212,088
			Keyway In Footing	4,174.00 lnft	29,196	2,688	7.64 /lnft	31,884
			Forms: Footings		*426,836*	*93,650*	*/sqft*	*520,486*
			Forms: Walls					
			Wall Forms	31,544.00 sqft	383,348	57,440	13.97 /sqft	440,788
			Forms: Walls		*383,348*	*57,440*	*/sqft*	*440,788*
			Forms: Blockouts					
			Ledge Blockouts	3,250.00 sqft	62,836	2,923	20.23 /sqft	65,758
			Forms: Blockouts		*62,836*	*2,923*	*/sqft*	*65,758*
			Forms: Piers					
			Pier Forms	7,848.00 sqft	133,525	10,108	18.30 /sqft	143,633

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Forms: Piers		*133,525*	*10,108*	*/sqft*	*143,633*
			Forms: Grade Beams					
			Grade Bm Form - All Types	10,580.00 sqft	97,017	19,999	11.06 /sqft	117,016
			Forms: Grade Beams		*97,017*	*19,999*	*/sqft*	*117,016*
			Rebar: Footings					
			Footing Rebar (tons) Corridor Walls	6.06 ton	3,121	6,783	1,634.28 /ton	9,904
			Footing Rebar 4#/plf	8.35 ton	14,902	10,435	3,034.38 /ton	25,337
			Engaged Footing 212@475# each	50.35 ton	98,883	62,919	3,213.53 /ton	161,801
			Isolated Footing 198@1100# each	108.90 ton	207,487	136,083	3,154.92 /ton	343,570
			Rebar: Footings		*324,393*	*216,220*	*/ton*	*540,612*
			Rebar: Walls					
			Wall Rebar #4 10#/plf	20.87 ton	26,087	26,080	2,499.60 /ton	52,167
			Rebar: Walls		*26,087*	*26,080*	*/ton*	*52,167*
			Rebar: Piers					
			Pier Rebar 40#/plf	19.62 ton	31,864	24,518	2,873.69 /ton	56,382
			Rebar: Piers		*31,864*	*24,518*	*/ton*	*56,382*
			Rebar: Grade Beams					
			Grade Beam Rebar #75/plf	79.35 ton	185,961	99,158	3,593.18 /ton	285,119
			Rebar: Grade Beams		*185,961*	*99,158*	*/ton*	*285,119*
			Conc: Footings					
			Footing Conc 3000 psi	368.80 cuyd	20,703	43,557	183.00 /cuyd	67,490
			Footing Conc 3000 psi Corridor Walls	224.30 cuyd	12,591	26,491	182.85 /cuyd	41,014
			Engaged Footing Conc 3000 psi	431.80 cuyd	26,663	50,998	189.49 /cuyd	81,821
			Isolated Footing Conc 3000 psi	2,021.30 cuyd	226,932	238,727	247.89 /cuyd	501,062
			Conc: Footings		*286,888*	*359,774*	*/cuyd*	*691,387*
			Conc: Walls					
			Wall Conc 4000 psi	660.90 cuyd	43,476	79,408	196.19 /cuyd	129,661
			Conc: Walls		*43,476*	*79,408*	*/cuyd*	*129,661*
			Conc: Piers					
			Pier Conc 4000 psi	146.70 cuyd	20,588	17,626	282.38 /cuyd	41,426
			Conc: Piers		*20,588*	*17,626*	*/cuyd*	*41,426*
			Conc: Grade Beams					
			Grade Beam Conc 4000 psi	391.90 cuyd	69,866	47,087	305.18 /cuyd	119,599
			Conc: Grade Beams		*69,866*	*47,087*	*/cuyd*	*119,599*
			Grout					
			Grout Base Pl Metallic 2" (sf)	410.00 sqft	10,574	9,856	49.83 /sqft	20,430
			Grout		*10,574*	*9,856*	*/cuft*	*20,430*
			CONCRETE		*2,103,258*	*1,063,846*	*/sqft*	*3,224,463*
		5000.00	**METALS**					
			Fastener: Col Anchor Bolt					
			3/4" d. 16" long	1,680.00 each	68,387	8,584	45.82 /each	76,971
			Fastener: Col Anchor Bolt		*68,387*	*8,584*	*/each*	*76,971*
			Misc: Embeded Material					
			Bearing Plates	410.00 each	6,516	21,458	68.23 /each	27,974
			Misc: Embeded Material		*6,516*	*21,458*	*/each*	*27,974*
			METALS		*74,903*	*30,042*	*/sqft*	*104,945*
		7000.00	**THERMAL & MOISTURE PROT**					
			Damproofing: Bituminous					
			Ashphalt Ct. Troweled 1/8"	13,000.00 sqft	43,119	13,424	4.35 /sqft	56,543
			Damproofing: Bituminous		*43,119*	*13,424*	*/sqft*	*56,543*
			Insulation: Perimeter					
			Insul Board Polystyrene 2"	13,000.00 sqft	19,379	7,795	2.09 /sqft	27,173
			Insulation: Perimeter		*19,379*	*7,795*	*/sqft*	*27,173*
			THERMAL & MOISTURE PROT		*62,498*	*21,219*	*/sqft*	*83,716*
			A1010 STANDARD FOUNDATIONS	***4,245.70 cuyd***	***2,552,486***	***1,291,923***	***949.22 /cuyd***	***4,030,087***
	A1020		**SPECIAL FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Earthwk: Dispose Surplus					
			Dispose Surplus	44.00 cuyd	268	-	12.27 /cuyd	540
			Earthwk: Dispose Surplus		*268*		*/cuyd*	*540*
			Earthwk: Pits, Misc Excav					
			Excavate Pits & Misc.	120.00 cuyd	16,699	-	176.75 /cuyd	21,210
			Excavate Misc By Hand	5.50 cuyd	702	-	127.56 /cuyd	702

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Earthwk: Pits, Misc Excav		*17,401*		*/cuyd*	*21,912*
			Backfill: Pit, etc					
			Backfill Pits	82.00 cuyd	365		6.95 /cuyd	570
			Backfill: Pit, etc		*365*		*/cuyd*	*570*
			SITEWORK		*18,034*		*/sqft*	*23,021*
		3000.00	**CONCRETE**					
			Forms: Keyway Not @Footng					
			Keyway Not @ Footing	192.00 lnft	1,519	124	8.56 /lnft	1,643
			Forms: Keyway Not @Footng		*1,519*	*124*	*/lnft*	*1,643*
			Forms: Pits & Misc.					
			Pit Forms	888.00 sqft	21,583	3,739	28.52 /sqft	25,322
			Forms: Pits & Misc.		*21,583*	*3,739*	*/sqft*	*25,322*
			Rebar: Pits & Misc					
			Pit-Misc Rebar #5	1.42 ton	1,952	1,774	2,624.11 /ton	3,726
			Rebar: Pits & Misc		*1,952*	*1,774*	*/ton*	*3,726*
			Conc: Pit & Misc					
			Pit Conc 4000 psi	25.22 cuyd	1,718	3,088	200.17 /cuyd	5,048
			Conc: Pit & Misc		*1,718*	*3,088*	*/cuyd*	*5,048*
			CONCRETE		*26,772*	*8,725*	*/sqft*	*35,740*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofing: Cement.					
			W.P. Metallic Allow	573.00 sqft	4,238	2,430	12.74 /sqft	7,302
			Waterproofing: Cement.		*4,238*	*2,430*	*/sqft*	*7,302*
			THERMAL & MOISTURE PROT		*4,238*	*2,430*	*/sqft*	*7,302*
			A1020 SPECIAL FOUNDATIONS	***1.00 lsum***	***49,044***	***11,155***	***####### /lsum***	***66,063***
	A1030		**SLAB ON GRADE**					
		2100.00	**SITEWORK**					
			Earthwk: Fine Grade					
			Fine Grade SOG	19,594.22 sqyd	50,504	-	3.96 /sqyd	77,592
			Earthwk: Fine Grade		*50,504*		*/sqyd*	*77,592*
			Backfill: Slab on Grade					
			Gravel Fill 12"	6,531.41 cuyd	121,448	99,998	35.96 /cuyd	234,892
			Backfill: Slab on Grade		*121,448*	*99,998*	*/cuyd*	*234,892*
			SITEWORK		*171,953*	*99,998*	*/sqft*	*312,484*
		3000.00	**CONCRETE**					
			Forms: Edgeform Slabs					
			EdgeForm (Any Depth, LF)	17,635.00 lnft	100,251	7,441	6.11 /lnft	107,692
			Forms: Edgeform Slabs		*100,251*	*7,441*	*/lnft*	*107,692*
			Forms: Ramps					
			Ramp Forms 2 use	344.00 lnft	3,321	519	11.16 /lnft	3,840
			Forms: Ramps		*3,321*	*519*	*/lnft*	*3,840*
			Rebar: Wiremesh @ S.O.G.					
			Wiremesh - S.O.G. 6x6 6/6	1,763.48 sqs	111,089	55,571	94.51 /sqs	166,660
			Rebar: Wiremesh @ S.O.G.		*111,089*	*55,571*	*/sqs*	*166,660*
			Conc: Ramps					
			Ramp Conc 4000 psi	63.74 cuyd	3,276	8,023	185.04 /cuyd	11,795
			Conc: Ramps		*3,276*	*8,023*	*/cuyd*	*11,795*
			Conc: Slabs On Grade					
			S.O.G. Conc 4000 psi	2,721.42 cuyd	122,452	342,552	177.88 /cuyd	484,071
			Conc: Slabs On Grade		*122,452*	*342,552*	*/cuyd*	*484,071*
			Finish: Protect & Cure					
			Cure Conc S.O.G.	1,763.48 sqs	43,640	21,258	36.80 /sqs	64,898
			Cure Conc Ramp	34.42 sqs	937	415	39.27 /sqs	1,352
			Finish: Protect & Cure		*44,577*	*21,673*	*/sqs*	*66,250*
			Finish: General					
			Trowel Finish	13,780.00 sqft	22,213	-	1.61 /sqft	22,213
			Broom/Float Finish S.O.G.	162,568.00 sqft	144,127	-	0.89 /sqft	144,127
			Broom/Float Finish Ramp	3,442.00 sqft	3,606	-	1.05 /sqft	3,606
			Finish: General		*169,946*		*/sqft*	*169,946*
			Concrete Misc Divisions					
			Misc Moisture SOG Additive Check if Needed?	176,348.00 sqft	0	0	1.00 /sqft	176,348
			Concrete Misc Divisions				*/sqft*	*176,348*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			CONCRETE		*554,913*	*435,780*	*/sqft*	*1,186,602*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 15 mil	1,763.48 sq	82,704	32,308	65.22 /sq	115,012
			Dampproofing: VaprBarrier		*82,704*	*32,308*	*/sqs*	*115,012*
			Insulation: Perimeter					
			Insul Board Polystyrene 2" Slab	176,348.00 sqft	283,096	108,815	2.22 /sqft	391,911
			Insulation: Perimeter		*283,096*	*108,815*	*/sqft*	*391,911*
			THERMAL & MOISTURE PROT		*365,800*	*141,123*	*/sqft*	*506,923*
			A1030 SLAB ON GRADE	***176,348.00 sqft***	***1,092,665***	***676,900***	***11.38 /sqft***	***2,006,009***
			A10 FOUNDATIONS	**######## sqft**	**3,694,196**	**1,979,979**	**10.56 /sqft**	**6,102,159**
B10			**SUPERSTRUCTURE**					
	B1010		**FLOOR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Rebar: Suspended Slab					
			Suspended Slab Rebar #4	22.50 ton	29,091	28,116	2,542.55 /ton	57,207
			Rebar: Suspended Slab		*29,091*	*28,116*	*/ton*	*57,207*
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6	3,870.15 sqs	249,981	121,957	96.10 /sqs	371,937
			Rebar: Mesh On Corruform		*249,981*	*121,957*	*/sqs*	*371,937*
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi	7,465.57 cuyd	340,503	896,997	172.88 /cuyd	1,290,622
			Conc: Slab On Corruform		*340,503*	*896,997*	*/cuyd*	*1,290,622*
			Finish: Protect & Cure					
			Cure Conc Elv. Slab	3,870.15 sqs	115,191	46,654	41.82 /sqs	161,845
			Finish: Protect & Cure		*115,191*	*46,654*	*/sqs*	*161,845*
			Finish: General					
			Trowel Finish	2,869.00 sqft	4,625	-	1.61 /sqft	4,625
			Broom/Float Finish Elv. Slab	384,146.00 sqft	402,493	-	1.05 /sqft	402,493
			Finish: General		*407,118*		*/sqft*	*407,118*
			CONCRETE		*1,141,883*	*1,093,724*	*/sqft*	*2,288,729*
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	1,471.30 ton	1,133,399	4,041,284	3,743.01 /ton	5,507,095
			Shear Studs	45,909.00 each	89,174	33,653	2.96 /each	135,699
			Structural: Framing		*1,222,573*	*4,074,938*	*/ton*	*5,642,795*
			Structural: Joist K					
			Bar Joists	319.70 ton	220,904	525,915	2,414.53 /ton	771,924
			Structural: Joist K		*220,904*	*525,915*	*/ton*	*771,924*
			Structural: Joist LH/DLH					
			Long Span	50.90 ton	17,588	139,370	3,122.92 /ton	158,957
			Structural: Joist LH/DLH		*17,588*	*139,370*	*/ton*	*158,957*
			Structural: Deck Roof/Fl					
			Slab Form 2" 18ga Galv	387,015.00 sqft	341,654	1,122,274	3.82 /sqft	1,479,489
			Structural: Deck Roof/Fl		*341,654*	*1,122,274*	*/sqft*	*1,479,489*
			METALS		*1,802,719*	*5,862,497*	*/sqft*	*8,053,165*
			B1010 FLOOR CONSTRUCTION	***387,015.00 sqft***	***2,944,602***	***6,956,221***	***26.72 /sqft***	***10,341,894***
	B1020		**ROOF CONSTRUCTION**					
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	1,988.50 ton	1,531,818	5,461,900	3,743.01 /ton	7,442,982
			Structural: Framing		*1,531,818*	*5,461,900*	*/ton*	*7,442,982*
			Structural: Joist K					
			Bar Joists	295.50 ton	204,183	486,106	2,414.53 /ton	713,493
			Structural: Joist K		*204,183*	*486,106*	*/ton*	*713,493*
			Structural: Joist LH/DLH					
			Long Span	64.80 ton	22,391	221,299	3,799.91 /ton	246,234
			Structural: Joist LH/DLH		*22,391*	*221,299*	*/ton*	*246,234*
			Structural: Deck Roof/Fl					
			Deck Accoustic Cellular 3" 20-20 ga.	27,135.00 sqft	65,875	163,809	8.59 /sqft	232,957
			Deck Steel 3" deep 18 ga >500 sq	149,213.00 sqft	131,724	307,227	2.98 /sqft	444,950

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Structural: Deck Roof/Fl		*197,599*	*471,035*	*/sqft*	*677,907*
			METALS		*1,955,991*	*6,640,340*	*/sqft*	*9,080,615*
		7000.00	**THERMAL & MOISTURE PROT**					
			Fireproofing: Spray On					
			Fireprfg Sprayd Deck Cem 2hr	176,348.00 sqft	486,698	362,242	5.22 /sqft	919,886
			Fireproofing: Spray On		*486,698*	*362,242*	*/sqft*	*919,886*
			THERMAL & MOISTURE PROT		*486,698*	*362,242*	*/sqft*	*919,886*
			B1020 ROOF CONSTRUCTION	***176,348.00 sqft***	***2,442,690***	***7,002,582***	***56.71 /sqft***	***10,000,502***
			B10 SUPERSTRUCTURE	######## **sqft**	**5,387,292**	########	**35.19 /sqft**	########
B20			**EXTERIOR CLOSURE**					
	B2010		**EXTERIOR WALLS**					
		3000.00	**CONCRETE**					
			Precast Specialties					
			Precast Band 12"	3,250.00 lnft	58,352	90,432	46.90 /lnft	152,428
			Precast Specialties		*58,352*	*90,432*	*/sqft*	*152,428*
			CONCRETE		*58,352*	*90,432*	*/sqft*	*152,428*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Exterior Scaffold	58,231.00 sqft	111,908	22,598	2.59 /sqft	150,777
			Interior Scaffold	20,600.00 sqft	30,274	7,994	2.04 /sqft	42,106
			Misc: Scaffold		*142,182*	*30,593*	*/sqft*	*192,883*
			Misc: Material Handling					
			Concrete Block	25.00 m	-	-	238.91 /m	5,973
			Brick	263.00 m	-	-	80.27 /m	21,112
			Misc: Material Handling				*/m*	*27,085*
			Mortar					
			Mortar Type "N"	242.23 cuyd	32,794	49,167	338.36 /cuyd	81,961
			Mortar Color	8,328.00 lbs	-	79,003	9.49 /lbs	79,003
			Mortar		*32,794*	*128,169*	*/cuyd*	*160,963*
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	148.85 cuyd	44,135	23,150	470.86 /cuyd	70,087
			Mortar: Grout Fill Conc		*44,135*	*23,150*	*/cuyd*	*70,087*
			Access: Control Joint					
			Control Joint PEJ - 4"	2,338.00 lnft	7,840	2,990	4.63 /lnft	10,831
			Control Joint PEJ - 8"	238.00 lnft	1,249	428	7.05 /lnft	1,678
			Control Joint PEJ - 12"	598.00 lnft	3,488	2,152	9.43 /lnft	5,640
			Wall Expansion Jt w PVC Cover	88.00 lnft	1,065	892	22.24 /lnft	1,957
			Access: Control Joint		*13,642*	*6,463*	*/lnft*	*20,105*
			Access: Wall Flashing					
			Flash Shelf Lead Ct. Cop 5 oz.	3,250.00 sqft	12,993	10,791	7.32 /sqft	23,784
			Access: Wall Flashing		*12,993*	*10,791*	*/sqft*	*23,784*
			Access: Weep Holes					
			Weepholes - Metal	1,625.00 each	6,633	148,986	95.77 /each	155,619
			Access: Weep Holes		*6,633*	*148,986*	*/each*	*155,619*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	16,703.30 lbs	36,530	14,081	3.03 /lbs	50,611
			Reinforce: Vertical Wall		*36,530*	*14,081*	*/lbs*	*50,611*
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 8" Hot Dippd	4.73 mlf	3,039	909	834.76 /mlf	3,948
			Horiz Wall Reinf 12" Hot Dippd	11.68 mlf	8,130	2,441	905.00 /mlf	10,570
			Reinforce: Horizontl Wall		*11,169*	*3,350*	*/mlf*	*14,519*
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	32,755.00 each	57,308	5,191	1.91 /each	62,499
			Reinforce: Brick Anchors		*57,308*	*5,191*	*/each*	*62,499*
			Brick: All Types					
			Norman Brick 4"	262.04 m	1,054,258	391,019	5,515.49 /m	1,445,278
			Brick: All Types		*1,054,258*	*391,019*	*/m*	*1,445,278*
			Conc. Block: Backup					
			Blk 8" Standard Face Reg Wt	5,859.00 each	76,914	14,254	15.56 /each	91,168
			Blk 12" Stand Face Reg Wt	16,765.00 each	291,348	56,199	20.73 /each	347,547
			Conc. Block: Backup		*368,262*	*70,453*	*/each*	*438,715*
			Conc. Block: 12" Lintel					
			Lintel 12" Stand Face Reg Wt	1,027.00 each	39,033	8,808	46.58 /each	47,842

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc. Block: 12" Lintel		*39,033*	*8,808*	*/each*	*47,842*
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	537.00 each	11,035	4,142	29.51 /each	15,847
			Conc. Block: 8" Lintel		*11,035*	*4,142*	*/each*	*15,847*
			Pre-cast/Stone Sills					
			Sills - Cast Stone 9" Stock	6,408.00 lnft	255,060	91,943	54.15 /lnft	347,003
			Pre-cast/Stone Sills		*255,060*	*91,943*	*/lnft*	*347,003*
			Cleaning: Masonry					
			Clean Brick - General	582.31 sqs	177,443	3,526	310.78 /sqs	180,969
			Cleaning: Masonry		*177,443*	*3,526*	*/sqs*	*180,969*
			MASONRY		*2,262,478*	*940,665*	*/sqft*	*3,253,808*
		5000.00	**METALS**					
			Struct: Cld-Frm Framing					
			8" Track 14 ga	21,096.00 lnft	231,235	64,540	14.02 /lnft	295,776
			8" Stud 14 ga	112,672.00 lnft	1,092,008	274,197	12.13 /lnft	1,366,205
			Struct: Cld-Frm Framing		*1,323,243*	*338,737*	*/lnft*	*1,661,981*
			Misc: Lintels					
			Stl Angles > 4000 lbs	30,824.00 lb	58,424	38,213	3.14 /lb	96,636
			Relieving Angle	86,494.00 lb	163,941	107,227	3.14 /lb	271,167
			Misc: Lintels		*222,365*	*145,439*	*/lbs*	*367,804*
			METALS		*1,545,608*	*484,176*	*/sqft*	*2,029,784*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Sprayed Elastomeric 25 to 45 mil	116,462.00 sqft	626,051	170,692	6.84 /sqft	796,743
			Waterproofng: Elastomeric		*626,051*	*170,692*	*/sqs*	*796,743*
			Insulation: Batt					
			Mineral Wool 4"	106,161.00 sqft	60,865	132,020	1.82 /sqft	192,885
			Mineral Wool 2"	10,300.00 sqft	3,543	8,463	1.17 /sqft	12,006
			Insulation: Batt		*64,408*	*140,483*	*/sqft*	*204,891*
			Insulation: Sprayed On					
			Insul Sprayd-on Cellulose 4"	95,861.00 sqft	126,991	122,404	3.00 /sqft	287,919
			Insulation: Sprayed On		*126,991*	*122,404*	*/sqft*	*287,919*
			Metal Facing Panels					
			Alluminum Wall Panel	58,231.00 sqft	1,346,904	1,497,136	48.84 /sqft	2,844,040
			Thermal Break Upcharge	58,231.00 sqft	831,422	662,255	25.65 /sqft	1,493,678
			Premium for Market	58,231.00 sqft	831,422	662,255	25.65 /sqft	1,493,678
			Metal Facing Panels		*3,009,748*	*2,821,647*	*/sqft*	*5,831,396*
			THERMAL & MOISTURE PROT		*3,827,198*	*3,255,226*	*/sqft*	*7,120,949*
		9000.00	**FINISHES**					
			GWB Int Frame: Furring					
			Clips for Metal Panels x 12'	3,813.00 each	219,723	42,987	68.90 /each	262,709
			GWB Int Frame: Furring		*219,723*	*42,987*	*/lnft*	*262,709*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	10,557	3,731	14,288.23 /lsum	14,288
			GWB: Fasteners		*10,557*	*3,731*	*/each*	*14,288*
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	82,167.00 sqft	94,804	38,973	1.63 /sqft	133,778
			GWB 5/8" Head Wrap	6,408.00 lnft	47,319	3,039	7.86 /lnft	50,358
			GWB 5/8" Jamb Wrap	12,816.00 lnft	57,670	6,079	4.97 /lnft	63,749
			Ext Dens Glass Gold Sheathing 1/2	95,861.00 sqft	165,907	67,066	2.43 /sqft	232,973
			GWB: Boards & Sheathing		*365,699*	*115,158*	*/sqft*	*480,858*
			GWB: Finish Mud/Tape					
			Labor GWB Wall Finish	68,473.00 sqft	66,735	4,429	1.04 /sqft	71,163
			GWB: Finish Mud/Tape		*66,735*	*4,429*	*/sqft*	*71,163*
			FINISHES		*662,714*	*166,305*	*/sqft*	*829,018*
			B2010 EXTERIOR WALLS	***116,462.00 sqft***	***8,356,350***	***4,936,805***	***114.94 /sqft***	***13,385,988***
	B2020		**EXTERIOR WINDOWS**					
		4000.00	**MASONRY**					
			Access: Wall Flashing					
			Flash Head SS	6,408.00 sqft	47,577	46,959	14.75 /sqft	94,536
			Flash Sill Lead Ct. Cop 5 oz.	6,408.00 sqft	30,193	25,075	8.63 /sqft	55,268
			Access: Wall Flashing		*77,769*	*72,035*	*/sqft*	*149,804*
			MASONRY		*77,769*	*72,035*	*/sqft*	*149,804*
		6000.00	**WOOD & PLASTICS**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	403	403.17 /lsum	403
			Fasteners: Frame Anchors			*403*	*/each*	*403*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	42,024.00 lnft	218,193	42,407	6.20 /lnft	260,600
			Blocking: Rough Bucks		*218,193*	*42,407*	*/mbf*	*260,600*
			WOOD & PLASTICS		*218,193*	*42,810*	*/sqft*	*261,003*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	42,024.00 sqft	300,016	46,661	8.25 /sqft	346,677
			Waterproofng: Elastomeric		*300,016*	*46,661*	*/sqs*	*346,677*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	42,024.00 lnft	153,177	3,266	3.72 /lnft	156,444
			Polyurethane Sealant 1/2"	84,048.00 lnft	980,336	33,596	12.06 /lnft	1,013,932
			Sealant - Jt Filler Gaskt		*1,133,513*	*36,862*	*/lnft*	*1,170,375*
			THERMAL & MOISTURE PROT		*1,433,529*	*83,523*	*/sqft*	*1,517,052*
		8000.00	**DOORS & WINDOWS**					
			Aluminum Storefront					
			Storefront Inc Double Glaze	10,086.00 sqft	129,239	717,055	83.91 /sqft	846,295
			Aluminum Storefront		*129,239*	*717,055*	*/sqft*	*846,295*
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	38,453.00 sqft	546,675	1,939,969	64.67 /sqft	2,486,644
			Window: Aluminum		*546,675*	*1,939,969*	*/sqft*	*2,486,644*
			Alum Window Walls					
			Curtn Wall Avg Ins Gl Bronz	14,499.00 sqft	241,387	1,129,262	94.53 /sqft	1,370,649
			Alum Window Walls		*241,387*	*1,129,262*	*/sqft*	*1,370,649*
			DOORS & WINDOWS		*917,302*	*3,786,286*	*/sqft*	*4,703,588*
			B2020 EXTERIOR WINDOWS	***63,038.00 sqft***	***2,646,793***	***3,984,654***	***105.20 /sqft***	***6,631,447***
	B2030		**EXTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	4.00 each	268	65	87.58 /each	350
			Grout Double Door Frame	13.00 each	1,170	296	118.44 /each	1,540
			Mortar: Grout Fill Conc		*1,438*	*361*	*/cuyd*	*1,890*
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	90.00 sqft	463	374	9.29 /sqft	836
			Access: Wall Flashing		*463*	*374*	*/sqft*	*836*
			MASONRY		*1,901*	*734*	*/sqft*	*2,726*
		5000.00	**METALS**					
			Misc: Channel Jambs					
			Channel Jambs 10"	144.00 lnft	2,482	4,835	51.62 /lnft	7,433
			Misc: Channel Jambs		*2,482*	*4,835*	*/lnft*	*7,433*
			METALS		*2,482*	*4,835*	*/sqft*	*7,433*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.24 /lsum	3
			Fasteners: Frame Anchors			*3*	*/each*	*3*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	490.00 lnft	1,696	494	4.47 /lnft	2,191
			Blocking: Rough Bucks		*1,696*	*494*	*/mbf*	*2,191*
			WOOD & PLASTICS		*1,696*	*498*	*/sqft*	*2,194*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	490.00 sqft	3,498	544	8.25 /sqft	4,042
			Waterproofng: Elastomeric		*3,498*	*544*	*/sqs*	*4,042*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	490.00 lnft	1,786	38	3.72 /lnft	1,824
			Polyurethane Sealant 1/2"	980.00 lnft	11,431	392	12.06 /lnft	11,822
			Sealant - Jt Filler Gaskt		*13,217*	*430*	*/lnft*	*13,647*
			THERMAL & MOISTURE PROT		*16,715*	*974*	*/sqft*	*17,689*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Single	4.00 each	446	724	292.68 /each	1,171

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Double	13.00 each	1,933	2,929	374.03 /each	4,862
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Full Gl	30.00 each	3,960	27,101	1,035.36 /each	31,061
			Metal Sidelight Frame Only Ext	16.00 sqft	212	655	54.18 /sqft	867
			Doors: Steel with Frames		*6,552*	*31,409*	*/each*	*37,961*
			Doors: Overhead					
			Door OH Sectional Steel 12' x 12'	4.00 each	5,421	7,900	3,330.03 /each	13,320
			Doors: Overhead		*5,421*	*7,900*	*/each*	*13,320*
			Doors: Hardware					
			Overhead Door Hardware	4.00 each	1,009	1,509	629.57 /each	2,518
			Overhead Electric Door Operator Deluxe	4.00 each	505	3,156	915.23 /each	3,661
			Doors: Hardware		*1,514*	*4,666*	*/sqft*	*6,179*
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	6.00 each	1,449	2,303	625.19 /each	3,751
			Alum Frame 6' x 7' Bronze Fin	3.00 each	845	1,319	721.46 /each	2,164
			Alum Door Med 3'-0 x 7'-0 Full Gl	14.00 each	4,631	10,761	1,099.41 /each	15,392
			Aluminum Doors & Frames		*6,925*	*14,383*	*/each*	*21,307*
			Hardware: Finishing					
			Finishing Hardware Ext Budget	44.00 each	12,200	63,654	1,723.94 /each	75,853
			Hardware: Finishing		*12,200*	*63,654*	*/set*	*75,853*
			DOORS & WINDOWS		*32,610*	*122,010*	*/sqft*	*154,620*
		9000.00	**FINISHES**					
			Painting: Exterior					
			Paint Ext Door & Frame	30.00 each	2,153	330	82.76 /each	2,483
			Paint Overhead Door	4.00 each		125	31.21 /each	125
			Paint Ext Bor Lt Frame	16.00 sqft	62	2	4.00 /sqft	64
			Painting: Exterior		*2,215*	*456*	*/sqft*	*2,672*
			FINISHES		*2,215*	*456*	*/sqft*	*2,672*
			B2030 EXTERIOR DOORS	***44.00 lvs***	***57,619***	***129,508***	***4,257.59 /lvs***	***187,334***
			B20 EXTERIOR CLOSURE	**######## sqft**	**########**	**9,050,967**	**34.96 /sqft**	**########**
B30			**ROOFING**					
	B3010		**ROOF COVERINGS**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 8 mil Fire Retardant	1,763.48 sq	82,704	22,375	59.59 /sq	105,080
			Dampproofing: VaprBarrier		*82,704*	*22,375*	*/sqs*	*105,080*
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	176,348.00 sqft	267,867	136,285	2.29 /sqft	404,152
			Insulation: Protection Bd		*267,867*	*136,285*	*/sqft*	*404,152*
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	1,763.48 sqs	386,533	499,110	502.21 /sqs	885,643
			Insulation: Roof 1st Lay		*386,533*	*499,110*	*/sqs*	*885,643*
			Insulation: Roof 2nd Lay					
			Tapered Upcharge	264.52 sq	41,546	29,415	268.26 /sq	70,961
			Poly Iso 3.0" Layer 2	1,763.48 sqs	249,652	374,284	353.81 /sqs	623,936
			Insulation: Roof 2nd Lay		*291,198*	*403,698*	*/sqs*	*694,897*
			Membrane: EPDM					
			T.P.O. Membrane	176,348.00 sqft	334,835	391,612	4.21 /sqft	742,188
			Membrane: EPDM		*334,835*	*391,612*	*/sqs*	*742,188*
			Sheetmetal: Fascia					
			Exterior Edge	4,402.00 lnft	86,719	111,279	44.98 /lnft	197,998
			Sheetmetal: Fascia		*86,719*	*111,279*	*/lnft*	*197,998*
			Sheetmetal: Gravel Stop					
			Gravel Stop 6" High Dur Fin	4,402.00 lnft	43,368	38,955	18.70 /lnft	82,323
			Sheetmetal: Gravel Stop		*43,368*	*38,955*	*/lnft*	*82,323*
			Sheetmetal: Exp Joints					
			Interior Edge	1,156.00 lnft	14,912	30,843	39.58 /lnft	45,755
			Sheetmetal: Exp Joints		*14,912*	*30,843*	*/lnft*	*45,755*
			Sheetmetal: Vents/Accsry					
			Misc Accessories	176,348.00 sqft	100,518	195,806	1.68 /sqft	296,325
			Sheetmetal: Vents/Accsry		*100,518*	*195,806*	*/each*	*296,325*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			THERMAL & MOISTURE PROT		*1,608,655*	*1,829,964*	*/sqft*	*3,454,359*
			B3010 ROOF COVERINGS	***176,348.00 sqft***	***1,608,655***	***1,829,964***	***19.59 /sqft***	***3,454,359***
			B30 ROOFING	**######## sqft**	**1,608,655**	**1,829,964**	**5.98 /sqft**	**3,454,359**
C10			**INTERIOR CONSTRUCTION**					
	C1010		**PARTITIONS**					
		4000.00	**MASONRY**					
			Conc. Block: 12"					
			Blk 12" Standard Face Reg Wt	12,660.00 sqft	332,389	79,341	33.07 /sqft	418,690
			Conc. Block: 12"		*332,389*	*79,341*	*/each*	*418,690*
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	91,124.00 sqft	1,857,008	489,351	26.28 /sqft	2,394,492
			Conc. Block: 8"		*1,857,008*	*489,351*	*/each*	*2,394,492*
			Conc. Block: 6"					
			Blk 6" Standard Face Reg Wt	24,668.00 sqft	450,277	108,687	23.22 /sqft	572,793
			Conc. Block: 6"		*450,277*	*108,687*	*/each*	*572,793*
			MASONRY		*2,639,674*	*677,379*	*/sqft*	*3,385,975*
		5000.00	**METALS**					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	25,554.00 lb	83,629	26,927	4.51 /lb	115,180
			Misc: Bolt On Material		*83,629*	*26,927*	*/lbs*	*115,180*
			METALS		*83,629*	*26,927*	*/sqft*	*115,180*
		9000.00	**FINISHES**					
			GWB: Wall Board Systems					
			GWB On Studs 2 Layer 5/8" on 3-5/8"	46,872.00 sqft	386,973	116,720	10.75 /sqft	503,693
			GWB On Studs 4 Layer 5/8" on 6"	242,004.00 sqft	2,969,210	1,033,086	16.54 /sqft	4,002,297
			GWB On Studs 2 Layer 5/8" Additional not Shown	94,447.00 sqft	779,750	235,190	10.75 /sqft	1,014,940
			GWB: Wall Board Systems		*4,135,933*	*1,384,996*	*/sqft*	*5,520,929*
			FINISHES		*4,135,933*	*1,384,996*	*/sqft*	*5,520,929*
			C1010 PARTITIONS	***78,669.00 sqft***	***6,859,237***	***2,089,302***	***114.68 /sqft***	***9,022,084***
	C1020		**INTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	99.00 each	6,637	1,612	87.57 /each	8,670
			Grout Double Door Frame	40.00 each	3,599	910	118.44 /each	4,737
			Mortar: Grout Fill Conc		*10,237*	*2,521*	*/cuyd*	*13,407*
			MASONRY		*10,237*	*2,521*	*/sqft*	*13,407*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	2,483.00 lnft	28,600	607	11.76 /lnft	29,206
			Sealant - Jt Filler Gaskt		*28,600*	*607*	*/lnft*	*29,206*
			THERMAL & MOISTURE PROT		*28,600*	*607*	*/sqft*	*29,206*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	496.00 each	59,060	85,550	291.55 /each	144,610
			H.M. Frame 18ga Interior Single Add	347.00 each	41,318	59,851	291.55 /each	101,169
			H.M. Frame 18ga Interior Double	54.00 each	8,031	12,516	380.50 /each	20,547
			H.M. Frame 18ga Interior Double Add	42.00 each	6,246	9,734	380.50 /each	15,981
			H.M. Door 18 ga 3-0 x 7-0 Vision	179.00 each	20,013	100,340	672.36 /each	120,353
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	128.00 each	14,311	71,752	672.36 /each	86,062
			Metal Sidelight Frame Only Int Allow	8,165.00 sqft	94,208	458,137	67.65 /sqft	552,345
			Doors: Steel with Frames		*243,187*	*797,880*	*/each*	*1,041,067*
			Doors: Wood					
			Door M Core 3-0 x 7-0 Vision	425.00 each	66,395	136,987	478.55 /each	203,382
			Door M Core 3-0 x 7-0 Vision Add	303.00 each	47,336	97,664	478.55 /each	145,000
			Doors: Wood		*113,731*	*234,650*	*/each*	*348,382*
			Aluminum Doors & Frames					
			Alum Frame 6' x 7' Bronze Fin	27.00 each	7,604	11,875	721.46 /each	19,479
			Alum Door Med 3'-0 x 7'-0 Half Gl	54.00 each	17,327	33,821	947.19 /each	51,148
			Aluminum Doors & Frames		*24,931*	*45,696*	*/each*	*70,628*
			Hardware: Finishing					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	1,089.00 each	181,188	1,057,722	1,137.66 /each	1,238,910
			Hardware: Finishing		*181,188*	*1,057,722*	*/set*	*1,238,910*
			Glass: All Types					
			Glass Sheet 1/4" Tempered	8,165.00 sqft	148,045	95,940	29.88 /sqft	243,986
			Glass: All Types		*148,045*	*95,940*	*/sqft*	*243,986*
			DOORS & WINDOWS		*711,083*	*2,231,889*	*/sqft*	*2,942,972*
		9000.00	**FINISHES**					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	16,186.00 lnft	40,119	539	2.51 /lnft	40,658
			GWB: Finish Mud/Tape		*40,119*	*539*	*/sqft*	*40,658*
			Painting: Interior					
			Paint Wd Door & Metal Frame	553.00 each	36,110	6,170	76.46 /each	42,280
			Paint Metal Door & Frame	482.00 each	26,221	4,832	64.43 /each	31,054
			Paint Int Bor. Lt. Frame	8,165.00 sqft	28,937	1,232	3.70 /sqft	30,169
			Painting: Interior		*91,269*	*12,234*	*/sqft*	*103,503*
			FINISHES		*131,387*	*12,774*	*/sqft*	*144,161*
			C1020 INTERIOR DOORS	***1,089.00 lvs***	***881,306***	***2,247,790***	***2,873.96 /lvs***	***3,129,746***
	C1030		**SPECIALTIES/MILLWORK**					
		5000.00	**METALS**					
			Misc: Ladders					
			Ladders	28.00 vlf	1,891	1,585	127.24 /vlf	3,563
			Misc: Ladders		*1,891*	*1,585*	*/vlf*	*3,563*
			Stairs: Grating					
			Grate Weld StlGlv 3/4 x 1/8	27.00 sqft	232	418	24.60 /sqft	664
			Stairs: Grating		*232*	*418*	*/sqft*	*664*
			METALS		*2,123*	*2,002*	*/sqft*	*4,227*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1,147	1,146.99 /lsum	1,147
			Fasteners: Frame Anchors			*1,147*	*/each*	*1,147*
			Blocking: Misc.					
			Block Toilet Partition & Urinal	288.00 each	12,087	2,763	51.56 /each	14,850
			Block H.C. Toilet Partition & Shower	82.00 each	5,171	972	74.92 /each	6,144
			Block Misc Toilet Accessories	1,056.00 each	26,639	4,269	29.27 /each	30,908
			Blocking 2 x 4 R.L.	13,070.00 lnft	50,955	4,443	4.24 /lnft	55,398
			Blocking 2 x 6 R.L.	3,908.00 lnft	18,821	1,900	5.30 /lnft	20,721
			Blocking: Misc.		*113,673*	*14,347*	*/mbf*	*128,021*
			Plywood: Panel Board					
			Panel Board	227.00 each	38,744	7,894	205.46 /each	46,639
			Plywood: Panel Board		*38,744*	*7,894*	*/each*	*46,639*
			I Trim: Shelving					
			Custom Wood Shelving Allow	256.00 lnft	14,680	5,410	78.48 /lnft	20,090
			I Trim: Shelving		*14,680*	*5,410*	*/lnft*	*20,090*
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	6,408.00 lnft	56,369	96,457	23.85 /lnft	152,826
			Apron At Stools	6,408.00 lnft	27,114	14,339	6.47 /lnft	41,453
			I Trim: Dr & Window Matrl		*83,483*	*110,797*	*/lnft*	*194,280*
			WOOD & PLASTICS		*250,581*	*139,595*	*/sqft*	*390,177*
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint Shelves 3 ct	256.00 lnft	794	63	3.35 /lnft	857
			Paint Wood Sill	6,408.00 lnft	19,871	1,312	3.31 /lnft	21,184
			Paint Wood Apron	6,408.00 lnft	17,600	898	2.89 /lnft	18,498
			Paint Ladder	28.00 lnft	127	18	5.17 /lnft	145
			Painting: Interior		*38,392*	*2,292*	*/sqft*	*40,684*
			FINISHES		*38,392*	*2,292*	*/sqft*	*40,684*
		10000.00	**SPECIALTIES**					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	12,192.00 sqft	52,048	166,259	17.91 /sqft	218,307
			Tackboard Alum Fr	12,192.00 sqft	52,048	114,344	13.65 /sqft	166,392
			Chalkboards/Tackboards		*104,097*	*280,603*	*/sqft*	*384,699*
			Toilet Partition Phenolic					
			Toilet Partition Reg Flr Mtd	240.00 each	66,653	220,171	1,195.10 /each	286,823
			Toilet Partition HC Flr Mtd	48.00 each	13,331	64,577	1,623.06 /each	77,907
			Urinal Screens Wall Hung	48.00 each	9,326	21,474	641.67 /each	30,800

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Toilet Partition Phenolic		*89,310*	*306,221*	*/each*	*395,531*
			Shower/Dressing Compart					
			Compartment Showers	32.00 each	15,388	49,329	2,022.42 /each	64,718
			Compartment Showers HC	2.00 each	962	3,083	2,022.43 /each	4,045
			Shower/Dressing Compart		*16,350*	*52,412*	*/each*	*68,762*
			Hospital Cubicles					
			Cubicle Hosp Track Ceil Mountd	128.00 lnft	338	1,594	15.09 /lnft	1,931
			Hospital Cubicles		*338*	*1,594*	*/lnft*	*1,931*
			Corner Gaurds					
			Vinyl Acrylic SM 3"	780.00 lnft	9,391	7,769	22.00 /lnft	17,161
			4" x 4" x 5/16" galv angle in Masonry	186.00 lnft	6,567	3,539	54.33 /lnft	10,106
			Corner Gaurds		*15,958*	*11,308*	*/lnft*	*27,266*
			Directory/Bulletin Boards					
			Buiding Directory	1.00 each	878	1,710	2,587.75 /each	2,588
			Directory/Bulletin Boards		*878*	*1,710*	*/each*	*2,588*
			Plaques					
			Custom Bronze Plaque 30" x 36"	1.00 each	727	4,886	5,612.60 /each	5,613
			Plaques		*727*	*4,886*	*/each*	*5,613*
			Signs					
			Cast Alum Letters 8"	16.00 each	5,607	704	394.40 /each	6,310
			Interior Stock	390.00 each	8,497	6,201	37.69 /each	14,698
			Interior Custom	106.00 each	6,940	6,753	129.18 /each	13,694
			Signs		*21,044*	*13,658*	*/each*	*34,702*
			Lockers					
			Locker Double Tier 6'	3,344.00 opng	190,028	832,716	305.84 /opng	1,022,744
			Locker Double Tier 6' Gym Allow	975.00 opng	55,406	242,793	305.84 /opng	298,198
			Locker HC Double Tier	176.00 opng	11,559	36,618	273.73 /opng	48,177
			Locker HC Double Tier Gym Allow	51.00 opng	3,350	10,611	273.73 /opng	13,960
			Box Lockers 5 Tier Allow	1,026.00 opng	45,999	60,832	104.12 /opng	106,830
			Locker: Bench Allow	272.00 lnft	6,120	8,254	52.85 /lnft	14,374
			Team Lockers Allow	433.00 each	68,933	117,627	430.86 /each	186,561
			Lockers		*381,394*	*1,309,450*	*/each*	*1,690,844*
			Fire Extinguishers					
			Fire Ext Cabinet	71.00 each	16,169	14,466	431.47 /each	30,634
			Fire Blanket	29.00 each	3,302	3,395	230.93 /each	6,697
			Fire Extinguishers		*19,471*	*17,861*	*/each*	*37,331*
			Toilet Accessories					
			Shower Rod	34.00 each	2,503	1,492	117.49 /each	3,995
			Shower Curtain	112.00 lnft	257	924	10.54 /lnft	1,180
			Shower Bench	34.00 each	3,259	4,746	235.46 /each	8,006
			Shower Control HC	2.00 each	106	308	207.14 /each	414
			Grab Bar 1-1/4" S.S. 36"	148.00 each	7,094	6,103	89.16 /each	13,196
			Mirror 1/4" Plate No Frame Dance	720.00 sqft	8,669	13,816	31.23 /sqft	22,484
			Mirror S.S.	112.00 each	6,974	7,564	129.80 /each	14,538
			ADA Mirror S.S.	80.00 each	5,981	5,161	139.28 /each	11,142
			Janitor Utility Unit	14.00 each	671	1,170	131.48 /each	1,841
			Sanitary Napkin Dispenser Recessed	14.00 each	894	10,232	794.75 /each	11,127
			Sanitary Napkin Dispenser Surface	12.00 each	479	2,530	250.76 /each	3,009
			Clothes Hook Single	24.00 each	638	362	41.70 /each	1,001
			Soap Dispenser	192.00 each	18,405	34,565	275.89 /each	52,970
			Toilet Tissue Disp Dbl	312.00 each	12,450	8,661	67.66 /each	21,111
			Towel Dispenser Surface Mtd	24.00 each	1,439	984	100.99 /each	2,424
			Towel Disp/Waste Recpt	28.00 each	5,368	9,417	528.06 /each	14,786
			Hand Dryer	28.00 each	6,710	21,219	997.49 /each	27,930
			Toilet Accessories		*81,898*	*129,255*	*/each*	*211,153*
			SPECIALTIES		*731,464*	*2,128,956*	*/sqft*	*2,860,420*
		11000.00	**EQUIPMENT**					
			Equip: Gym					
			Dance Bar	120.00 lnft	4,114	24,449	238.03 /lnft	28,563
			Equip: Gym		*4,114*	*24,449*	*/lsum*	*28,563*
			EQUIPMENT		*4,114*	*24,449*	*/sqft*	*28,563*
			C1030	***578,000.00 sqft***	***1,026,675***	***2,297,295***	***5.75 /sqft***	***3,324,071***
			SPECIALTIES/MILLWORK					
			C10 INTERIOR CONSTRUCTION	**######## sqft**	**8,767,218**	**6,634,388**	**26.77 /sqft**	**########**

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
C20			**STAIRCASES**					
	C2010		**STAIR CONSTRUCTION**					
		5000.00	**METALS**					
			Stairs: Stair Parts					
			Custom Steel Stairs 6'-0"	608.00 risr	106,386	516,474	1,032.46 /risr	627,737
			Stair Railing Steel 1-1/2" 1 pipe	88.00 lnft	1,382	1,333	31.58 /lnft	2,779
			Wall Rail Steel 1-1/2" 1 pipe	720.00 lnft	17,122	11,254	40.52 /lnft	29,173
			Wall Rail Steel SS 1-1/2" 2 pipe	688.00 lnft	35,725	202,660	348.90 /lnft	240,045
			Ornamental Steel Well Rail Mid	840.00 lnft	64,968	77,920	173.70 /lnft	145,911
			Ornamental Composite Glass Mid	212.00 lnft	32,817	57,865	434.86 /lnft	92,191
			Landing Steel Pan	2,100.00 sqft	52,460	154,052	99.49 /sqft	208,919
			Stairs: Stair Parts		*310,862*	*1,021,558*	*/flt*	*1,346,755*
			METALS		*310,862*	*1,021,558*	*/sqft*	*1,346,755*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	22	21.56 /lsum	22
			Fasteners: Frame Anchors			*22*	*/each*	*22*
			Framing: Stairs					
			Stair Ledger 2x12	42.00 lnft	300	59	8.57 /lnft	360
			Stair Stringer 2x12	208.00 lnft	3,240	294	16.99 /lnft	3,534
			Stair Risers	112.00 lnft	1,772	499	20.28 /lnft	2,272
			Stair Tread Oak	106.00 lnft	1,969	1,458	32.33 /lnft	3,427
			Framing: Stairs		*7,282*	*2,311*	*/mbf*	*9,592*
			WOOD & PLASTICS		*7,282*	*2,332*	*/sqft*	*9,614*
			C2010 STAIR CONSTRUCTION	***19.00 flt***	***318,143***	***1,023,890***	***####### /flt***	***1,356,368***
	C2020		**STAIR FINISHES**					
		9000.00	**FINISHES**					
			Flooring Resilient Tile					
			Radial Rubber Floor 3/16"	2,100.00 sqft	17,468	16,578	16.21 /sqft	34,047
			Floor Resil Tile Safety Tread	3,408.00 lnft	17,224	44,273	18.05 /lnft	61,498
			Floor Resil Rubber Riser	3,648.00 lnft	8,450	22,416	8.46 /lnft	30,866
			Flooring Resilient Tile		*43,143*	*83,267*	*/sqft*	*126,410*
			Painting: Interior					
			Paint Stair Assembly	5,508.00 sqft	18,545	3,563	4.01 /sqft	22,107
			Paint Int Pipe Rails	5,848.00 lnft	6,736	1,261	1.37 /lnft	7,997
			Painting: Interior		*25,280*	*4,823*	*/sqft*	*30,104*
			FINISHES		*68,423*	*88,091*	*/sqft*	*156,514*
			C2020 STAIR FINISHES	***20,512.00 sqft***	***68,423***	***88,091***	***7.63 /sqft***	***156,514***
			C20 STAIRCASES	**######## sqft**	**386,566**	**1,111,981**	**2.62 /sqft**	**1,512,882**
C30			**INTERIOR FINISHES**					
	C3010		**WALL FINISHES**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	218	217.76 /lsum	218
			Fasteners: Frame Anchors			*218*	*/each*	*218*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	306.00 lnft	1,193	104	4.24 /lnft	1,297
			Blocking: Misc.		*1,193*	*104*	*/mbf*	*1,297*
			Prefinished Wood Paneling					
			Raised Wood Panel Arch Grade	1,344.00 sqft	14,816	22,401	27.69 /sqft	37,217
			Prefinished Wood Paneling		*14,816*	*22,401*	*/sqft*	*37,217*
			WOOD & PLASTICS		*16,009*	*22,723*	*/sqft*	*38,732*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Porcelain Tile Wall	59,468.00 sqft	592,440	600,870	20.07 /sqft	1,193,310
			Ceramic Tile Wall Grade 2	36,000.00 sqft	404,517	207,056	16.99 /sqft	611,573
			Backerboard 1/2"	43,127.00 sqft	283,632	45,515	7.63 /sqft	329,146
			Ceramic Tile		*1,280,588*	*853,441*	*/sqft*	*2,134,029*
			Painting: Interior					
			Paint Wall Panel	1,344.00 sqft	834	116	0.71 /sqft	949
			Paint GDW Wall Roller p + 2ct	439,925.00 sqft	311,822	75,878	0.88 /sqft	387,701
			Paint GDW Wall Roller p + 2ct Additional	148,417.00 sqft	105,199	25,599	0.88 /sqft	130,798

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Painting: Interior					
			Epoxy Paint GDW Wall	39,534.00 sqft	84,066	30,259	2.89 /sqft	114,325
			Paint Int CMU Spray p+2ct	65,043.00 sqft	57,629	16,127	1.13 /sqft	73,756
			Epoxy Paint Int CMU	100,152.00 sqft	212,966	48,584	2.61 /sqft	261,549
			Painting: Interior		*772,515*	*196,562*	*/sqft*	*969,078*
			Sound Absorbing Panels					
			Sound Absorbing Panel Allow	11,116.00 sqft	40,788	124,624	14.88 /sqft	165,412
			Sound Absorbing Panels		*40,788*	*124,624*	*/sqft*	*165,412*
			FINISHES		*2,093,892*	*1,174,627*	*/sqft*	*3,268,518*
			C3010 WALL FINISHES	***868,599.00 sqft***	***2,109,900***	***1,197,350***	***3.81 /sqft***	***3,307,250***
	C3020		**FLOOR FINISHES**					
		3000.00	**CONCRETE**					
			Conc: Slurry Coat					
			Leveling Compound Moisture Mitigation?	431,821.00 sqft	1,888,310	513,217	6.27 /sqft	2,706,199
			Conc: Slurry Coat		*1,888,310*	*513,217*	*/sqft*	*2,706,199*
			Finish: Floor Hardner					
			Floor Hardner Med Service	16,649.00 sqft	22,812	6,973	1.79 /sqft	29,784
			Finish: Floor Hardner		*22,812*	*6,973*	*/sqft*	*29,784*
			CONCRETE		*1,911,122*	*520,190*	*/sqft*	*2,735,983*
		6000.00	**WOOD & PLASTICS**					
			I Trim: Wood Base					
			Wood Base 6"	5,681.00 lnft	39,853	51,534	16.09 /lnft	91,387
			I Trim: Wood Base		*39,853*	*51,534*	*/lnft*	*91,387*
			WOOD & PLASTICS		*39,853*	*51,534*	*/sqft*	*91,387*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Ceramic Tile Floor Grade 2	33,586.00 sqft	715,877	227,198	28.08 /sqft	943,075
			Ceramic Trim: Cove Base	6,325.00 lnft	144,341	26,547	27.02 /lnft	170,887
			Porcelain Paving Tile	8,580.00 sqft	108,337	100,354	24.32 /sqft	208,691
			Ceramic Tile		*968,555*	*354,099*	*/sqft*	*1,322,653*
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	7,445.00 sqft	157,826	76,052	31.41 /sqft	233,877
			Tile Quary Shape Cove Base 3/4	1,117.00 lnft	26,526	6,803	29.84 /lnft	33,329
			Floor: Quarry Tile		*184,352*	*82,855*	*/sqft*	*267,207*
			Flooring Wood Strip					
			Oak Select 2-1/4"	2,642.00 sqft	15,450	10,033	9.65 /sqft	25,483
			Floating Wood Floor	25,485.00 sqft	189,947	127,620	12.46 /sqft	317,567
			Sand & Finish Floor	2,642.00 sqft	6,516	2,535	3.43 /sqft	9,050
			Flooring Wood Strip		*211,913*	*140,187*	*/sqft*	*352,100*
			Flooring Resilient Tile					
			Floor LVT 1/8"	428,392.00 sqft	541,280	2,844,451	7.90 /sqft	3,385,732
			Floor Resil Base 4"	72,276.00 lnft	129,373	64,201	2.68 /lnft	193,573
			Synthetic Gym Floor 3/8"	1,800.00 sqft	15,731	8,712	13.58 /sqft	24,443
			Synthetic Gym Floor 1/2"	25,485.00 sqft	222,722	172,529	15.51 /sqft	395,251
			Radial Rubber Floor 3/16"	3,442.00 sqft	28,631	27,173	16.21 /sqft	55,804
			Flooring Resilient Tile		*937,736*	*3,117,067*	*/sqft*	*4,054,803*
			Flooring Carpet					
			Carpet Commercial 32oz	4,746.80 sqyd	73,471	212,204	60.18 /sqyd	285,675
			Flooring Carpet		*73,471*	*212,204*	*/sqyd*	*285,675*
			Painting: Interior					
			Paint Wood Base 3 ct	5,681.00 lnft	6,040	612	1.17 /lnft	6,653
			Paint Floor Lines	7,599.00 lnft	6,733	1,802	1.12 /lnft	8,535
			Painting: Interior		*12,773*	*2,415*	*/sqft*	*15,187*
			FINISHES		*2,388,800*	*3,908,826*	*/sqft*	*6,297,626*
			C3020 FLOOR FINISHES	***578,013.00 sqft***	***4,339,774***	***4,480,551***	***15.79 /sqft***	***9,124,996***
	C3030		**CEILING FINISHES**					
		9000.00	**FINISHES**					
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	23,892.00 lnft	158,897	14,809	7.27 /lnft	173,706
			GWB Int Frame: S Studs		*158,897*	*14,809*	*/each*	*173,706*
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8"	31,856.00 lnft	241,085	22,253	8.27 /lnft	263,338
			GWB Int Frame: Track		*241,085*	*22,253*	*/lnft*	*263,338*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	30,483	10,777	41,260.16 /lsum	41,260

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB: Fasteners		*30,483*	*10,777*	*/each*	*41,260*
			GWB: Boards & Sheathing					
			GWB 5/8" Clgs	3,600.00 sqft	4,569	1,708	1.74 /sqft	6,277
			GWB 5/8" Soffit	31,856.00 sqft	135,995	17,170	4.81 /sqft	153,166
			GWB 5/8" Water Resistant Clgs	33,586.00 sqft	42,627	17,125	1.78 /sqft	59,752
			GWB: Boards & Sheathing		*183,191*	*36,003*	*/sqft*	*219,194*
			GWB: Finish Mud/Tape					
			Labor GWB Ceiling Finish	37,186.00 sqft	46,126	2,806	1.32 /sqft	48,932
			Labor GWB Soffit Finish	31,856.00 sqft	42,337	2,644	1.41 /sqft	44,981
			GWB: Finish Mud/Tape		*88,463*	*5,450*	*/sqft*	*93,913*
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel Heavy Duty w Isolation	25,494.00 sqft	170,962	95,090	10.44 /sqft	266,052
			Susp Clg 1-1/2" Channel	37,186.00 sqft	138,112	79,772	5.86 /sqft	217,884
			Suspended Wood Panels	4,290.00 sqft	29,654	81,930	26.01 /sqft	111,584
			Ceiling: Susp. System		*338,728*	*256,791*	*/sqft*	*595,520*
			Ceiling: 2x4 Tile					
			Upgrade for Ultima Material Allow	232,056.00 sqft		314,347	1.36 /sqft	314,347
			Upgrade for Sound Material Allow	25,485.00 sqft	81,507	158,463	9.42 /sqft	239,970
			MinFbr SqEdge Std 2x4 3/4" 250 - 500 sf	225,546.00 sqft	349,040	761,316	4.92 /sqft	1,110,356
			MinFbr Tegulr Std 2x4 3/4"	221,107.00 sqft	479,039	702,141	5.34 /sqft	1,181,180
			Mylar Faced Std 2x4 3/4"	7,445.00 sqft	11,521	38,770	6.76 /sqft	50,291
			Ceiling: 2x4 Tile		*921,108*	*1,975,036*	*/sqft*	*2,896,144*
			Ceiling: 2x2 Tile					
			MinFbr Tegulr Std 2x2 3/4"	17,458.00 sqft	32,420	71,528	5.95 /sqft	103,948
			Ceiling: 2x2 Tile		*32,420*	*71,528*	*/sqft*	*103,948*
			Ceiling: Metal Systems					
			Metal Ceiling Panels	4,290.00 sqft	46,915	21,967	16.06 /sqft	68,882
			Ceiling: Metal Systems		*46,915*	*21,967*	*/sqft*	*68,882*
			Painting: Interior					
			Paint GDW Clg Roller p+2ct	3,600.00 sqft	4,147	621	1.32 /sqft	4,767
			Epoxy Paint GDW Clg	33,586.00 sqft	71,418	25,706	2.89 /sqft	97,124
			Paint GDW Soffit Roller p+2ct	31,856.00 sqft	36,692	5,495	1.32 /sqft	42,187
			Paint Misc Stl Exp Deck 3 Coat	44,776.00 sqft	27,770	3,861	0.71 /sqft	31,632
			Paint Exist Structure	44,776.00 sqft	59,647	6,275	1.47 /sqft	65,922
			Paint Exist Mechanicals	44,776.00 sqft	15,370	2,413	0.40 /sqft	17,784
			Painting: Interior		*215,044*	*44,371*	*/sqft*	*259,415*
			Sound Absorbing Panels					
			Custom Acoustic Ceiling Panel	21,578.00 sqft	279,592	243,078	24.22 /sqft	522,670
			Sound Absorbing Panels		*279,592*	*243,078*	*/sqft*	*522,670*
			FINISHES		*2,535,926*	*2,702,065*	*/sqft*	*5,237,991*
			C3030 CEILING FINISHES	***578,013.00 sqft***	***2,535,926***	***2,702,065***	***9.06 /sqft***	***5,237,991***
			C30 INTERIOR FINISHES	**######## sqft**	**8,985,600**	**8,379,966**	**30.57 /sqft**	**########**
D10			**CONVEYING SYSTEMS**					
	D1010		**ELEVATORS**					
		5000.00	**METALS**					
			Misc: Embeded Material					
			Embedded Angle in Concrete LF	64.00 lnft	2,540	1,418	61.84 /lnft	3,958
			Misc: Embeded Material		*2,540*	*1,418*	*/each*	*3,958*
			Misc: Ladders					
			Ladders	12.00 vlf	810	679	127.24 /vlf	1,527
			Misc: Ladders		*810*	*679*	*/vlf*	*1,527*
			METALS		*3,351*	*2,097*	*/sqft*	*5,485*
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint Ladder	12.00 lnft	54	8	5.17 /lnft	62
			Painting: Interior		*54*	*8*	*/sqft*	*62*
			FINISHES		*54*	*8*	*/sqft*	*62*
		14000.00	**CONVEYING SYSTEMS**					
			Elevators					
			Elevator Hyd Passenger 2 stop	2.00 each	45,726	85,138	65,912.91 /each	131,826
			Elevator Freight Hydraulic 2000 lb 2 stop	1.00 each	15,111	89,325	104,753.73 /each	104,754
			Capacity Upgrade 3000# Hyd	2.00 lsum	-	10,827	5,415.25 /lsum	10,831
			Capacity Upgrade 3500# GT	1.00 lsum	-	9,569	9,570.93 /lsum	9,571

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Elevators					
			Travel Over Base Hyd	44.00 vlf	7,940	33,819	952.86 /vlf	41,926
			Travel Over Base GT	22.00 vlf	4,214	16,151	929.70 /vlf	20,453
			Additional Stops Hyd	4.00 each	8,357	4,795	3,331.66 /each	13,327
			Additional Stops GT	2.00 each	10,284	11,209	10,854.67 /each	21,709
			Speed Upgrade 125 fpm Hyd	2.00 lsum	-	5,806	2,904.59 /lsum	5,809
			Doors Stainless Steel	2.00 lsum	-	8,764	4,383.60 /lsum	8,767
			Emergency Power	3.00 lsum	-	8,560	2,855.00 /lsum	8,565
			Walls Stainless Steel	2.00 lsum	-	8,980	4,491.40 /lsum	8,983
			Maint Contract 12 mos	3.00 lsum	11,106	-	3,703.53 /lsum	11,111
			Sig Device Hall Latern	12.00 each	-	6,714	561.01 /each	6,732
			Elevators		*102,737*	*299,658*	*/each*	*404,363*
			Lifts					
			Lift Commercial Allow	4.00 each	13,883	57,906	18,017.29 /each	72,069
			Lifts		*13,883*	*57,906*	*/each*	*72,069*
			CONVEYING SYSTEMS		*116,620*	*357,564*	*/sqft*	*476,432*
			D1010 ELEVATORS	***1.00 each***	***120,025***	***359,669***	***####### /each***	***481,979***
			D10 CONVEYING SYSTEMS	**######## sqft**	**120,025**	**359,669**	**0.83 /sqft**	**481,979**
D20			**PLUMBING**					
	D2010		**PLUMBING FIXTURES**					
		15100.00	**PLUMBING**					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	578,013.00 sqft	1,329,430	1,271,120	4.50 /sqft	2,600,550
			Plumbing Fixtures & Equip		*1,329,430*	*1,271,120*	*/each*	*2,600,550*
			PLUMBING		*1,329,430*	*1,271,120*	*/sqft*	*2,600,550*
			D2010 PLUMBING FIXTURES	***578,013.00 sqft***	***1,329,430***	***1,271,120***	***4.50 /sqft***	***2,600,550***
	D2020		**DOMESTIC WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Domestic Water (Sqft)	578,013.00 sqft	1,352,550	1,183,886	4.39 /sqft	2,536,437
			Piping		*1,352,550*	*1,183,886*	*/lnft*	*2,536,437*
			PLUMBING		*1,352,550*	*1,183,886*	*/sqft*	*2,536,437*
			D2020 DOMESTIC WATER	***578,013.00 sqft***	***1,352,550***	***1,183,886***	***4.39 /sqft***	***2,536,437***
	D2030		**SANITARY WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Sanitary Water (Sqft)	578,013.00 sqft	1,034,643	1,009,419	3.54 /sqft	2,044,062
			Piping		*1,034,643*	*1,009,419*	*/lnft*	*2,044,062*
			PLUMBING		*1,034,643*	*1,009,419*	*/sqft*	*2,044,062*
			D2030 SANITARY WATER	***578,013.00 sqft***	***1,034,643***	***1,009,419***	***3.54 /sqft***	***2,044,062***
	D2040		**RAINWATER DRAINAGE**					
		15100.00	**PLUMBING**					
			Piping					
			Rain Water Drainage(Sqft)	578,013.00 sqft	728,296	710,332	2.49 /sqft	1,438,628
			Piping		*728,296*	*710,332*	*/lnft*	*1,438,628*
			PLUMBING		*728,296*	*710,332*	*/sqft*	*1,438,628*
			D2040 RAINWATER DRAINAGE	***578,013.00 sqft***	***728,296***	***710,332***	***2.49 /sqft***	***1,438,628***
	D2050		**SPECIAL PLUMBING SYSTEMS**					
		15100.00	**PLUMBING**					
			Plumbing					
			Special Plumbing Systems (Sqft)	578,013.00 sqft	433,510	429,938	1.49 /sqft	863,447
			Plumbing		*433,510*	*429,938*	*/sqft*	*863,447*
			PLUMBING		*433,510*	*429,938*	*/sqft*	*863,447*
			D2050 SPECIAL PLUMBING SYSTEMS	***578,013.00 sqft***	***433,510***	***429,938***	***1.49 /sqft***	***863,447***
			D20 PLUMBING	**######## sqft**	**4,878,430**	**4,604,694**	**16.41 /sqft**	**9,483,124**
D30			**HVAC**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D3020		**HEAT GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Heat Generation					
			Heat Generating Systems (Sqft)	578,013.00 sqft	1,346,770	903,492	3.89 /sqft	2,250,262
			Heat Generation		*1,346,770*	*903,492*	*/each*	*2,250,262*
			HVAC SYSTEMS		*1,346,770*	*903,492*	*/sqft*	*2,250,262*
			D3020 HEAT GENERATING SYSTEMS	***578,013.00 sqft***	***1,346,770***	***903,492***	***3.89 /sqft***	***2,250,262***
	D3030		**COOLING GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Refrigeration					
			Cooling Generating Systems (Sqft)	578,013.00 sqft	2,705,101	1,738,443	7.69 /sqft	4,443,544
			Refrigeration		*2,705,101*	*1,738,443*	*/each*	*4,443,544*
			HVAC SYSTEMS		*2,705,101*	*1,738,443*	*/sqft*	*4,443,544*
			D3030 COOLING GENERATING SYSTEMS	***578,013.00 sqft***	***2,705,101***	***1,738,443***	***7.69 /sqft***	***4,443,544***
	D3040		**DISTRIBUTION SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Air Distribution					
			Distribution Systems (Sqft)	578,013.00 sqft	9,138,386	5,701,347	25.67 /sqft	14,839,732
			Air Distribution		*9,138,386*	*5,701,347*	*/sqft*	*14,839,732*
			HVAC SYSTEMS		*9,138,386*	*5,701,347*	*/sqft*	*14,839,732*
			D3040 DISTRIBUTION SYSTEMS	***578,013.00 sqft***	***9,138,386***	***5,701,347***	***25.67 /sqft***	***14,839,732***
	D3050		**TERMINAL PACKAGE UNITS**					
		15500.00	**HVAC SYSTEMS**					
			Air Handling					
			Terminal Package Units (Sqft)	578,013.00 sqft	329,467	199,391	0.92 /sqft	528,859
			Air Handling		*329,467*	*199,391*	*/each*	*528,859*
			HVAC SYSTEMS		*329,467*	*199,391*	*/sqft*	*528,859*
			D3050 TERMINAL PACKAGE UNITS	***578,013.00 sqft***	***329,467***	***199,391***	***0.92 /sqft***	***528,859***
	D3060		**CONTROL & INSTRUMENTATION**					
		15500.00	**HVAC SYSTEMS**					
			Controls					
			Control & Instrumentation (Sqft)	578,013.00 sqft	2,179,109	1,364,585	6.13 /sqft	3,543,694
			Controls		*2,179,109*	*1,364,585*	*/sqft*	*3,543,694*
			HVAC SYSTEMS		*2,179,109*	*1,364,585*	*/sqft*	*3,543,694*
			D3060 CONTROL & INSTRUMENTATION	***578,013.00 sqft***	***2,179,109***	***1,364,585***	***6.13 /sqft***	***3,543,694***
	D3070		**SYSTEM TESTING & BALANCING**					
		15500.00	**HVAC SYSTEMS**					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	578,013.00 sqft	190,744	124,620	0.55 /sqft	315,364
			Test & Balancing Misc		*190,744*	*124,620*	*/sqft*	*315,364*
			HVAC SYSTEMS		*190,744*	*124,620*	*/sqft*	*315,364*
			D3070 SYSTEM TESTING & BALANCING	***578,013.00 sqft***	***190,744***	***124,620***	***0.55 /sqft***	***315,364***
	D3090		**OTHER HVAC SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			HVAC					
			HVAC (Sqft) Other	578,013.00 sqft	670,495	579,481	2.16 /sqft	1,249,976
			HVAC		*670,495*	*579,481*	*/sqft*	*1,249,976*
			HVAC SYSTEMS		*670,495*	*579,481*	*/sqft*	*1,249,976*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			D3090 OTHER HVAC SYSTEMS	***578,013.00 sqft***	***670,495***	***579,481***	***2.16 /sqft***	***1,249,976***
			D30 HVAC	**######## sqft**	**########**	**########**	**47.01 /sqft**	**########**
D40			**FIRE PROTECTION**					
	D4010		**SPRINKLER SYSTEMS**					
		15000.00	**FIRE PROTECTION**					
			Sprinkler					
			Fire Protection (Sqft)	578,013.00 sqft	2,167,549	1,707,289	6.70 /sqft	3,874,837
			Sprinkler		*2,167,549*	*1,707,289*	*/sqft*	*3,874,837*
			FIRE PROTECTION		*2,167,549*	*1,707,289*	*/sqft*	*3,874,837*
			D4010 SPRINKLER SYSTEMS	***578,013.00 sqft***	***2,167,549***	***1,707,289***	***6.70 /sqft***	***3,874,837***
			D40 FIRE PROTECTION	**######## sqft**	**2,167,549**	**1,707,289**	**6.70 /sqft**	**3,874,837**
D50			**ELECTRICAL**					
	D5010		**SERVICE & DISTRIBUTION**					
		16000.00	**ELECTRICAL**					
			Service Distribution					
			Service & Distribution (Sqft)	578,013.00 sqft	2,046,166	2,448,775	7.78 /sqft	4,494,941
			Service Distribution		*2,046,166*	*2,448,775*	*/sqft*	*4,494,941*
			ELECTRICAL		*2,046,166*	*2,448,775*	*/sqft*	*4,494,941*
			D5010 SERVICE & DISTRIBUTION	***578,013.00 sqft***	***2,046,166***	***2,448,775***	***7.78 /sqft***	***4,494,941***
	D5020		**LIGHTING & BRANCH WIRING**					
		16000.00	**ELECTRICAL**					
			Lighting					
			Lighting & Branch Wiring (Sqft)	578,013.00 sqft	4,999,812	5,184,175	17.62 /sqft	10,183,988
			Lighting		*4,999,812*	*5,184,175*	*/each*	*10,183,988*
			ELECTRICAL		*4,999,812*	*5,184,175*	*/sqft*	*10,183,988*
			D5020 LIGHTING & BRANCH WIRING	***578,013.00 sqft***	***4,999,812***	***5,184,175***	***17.62 /sqft***	***10,183,988***
	D5030		**COMMUNICATION & SECURITY**					
		16000.00	**ELECTRICAL**					
			Communications					
			Communication & Security (Sqft)	578,013.00 sqft	3,878,467	4,081,292	13.77 /sqft	7,959,759
			Communications		*3,878,467*	*4,081,292*	*/sqft*	*7,959,759*
			ELECTRICAL		*3,878,467*	*4,081,292*	*/sqft*	*7,959,759*
			D5030 COMMUNICATION & SECURITY	***578,013.00 sqft***	***3,878,467***	***4,081,292***	***13.77 /sqft***	***7,959,759***
	D5040		**SPECIAL ELECTRICAL SYSTEMS**					
		16000.00	**ELECTRICAL**					
			Special Systems					
			Special Electrical Systems(Sqft)	578,013.00 sqft	1,109,785	1,152,731	3.91 /sqft	2,262,516
			Special Systems		*1,109,785*	*1,152,731*	*/each*	*2,262,516*
			ELECTRICAL		*1,109,785*	*1,152,731*	*/sqft*	*2,262,516*
			D5040 SPECIAL ELECTRICAL SYSTEMS	***578,013.00 sqft***	***1,109,785***	***1,152,731***	***3.91 /sqft***	***2,262,516***
			D50 ELECTRICAL	**######## sqft**	**########**	**########**	**43.08 /sqft**	**########**
E10			**EQUIPMENT**					
	E1020		**INSTITUTIONAL EQUIPMENT**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	6	6.46 /lsum	6
			Fasteners: Frame Anchors			*6*	*/each*	*6*
			Blocking: Misc.					
			Blocking 2 x 6 R.L.	1,321.00 lnft	6,362	642	5.30 /lnft	7,004
			Blocking: Misc.		*6,362*	*642*	*/mbf*	*7,004*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			WOOD & PLASTICS		*6,362*	*649*	*/sqft*	*7,011*
		10000.00	**SPECIALTIES**					
			Partitions Operable					
			Operable Partition 2-1/4" t Avg	3,248.00 sqft	19,862	241,593	80.50 /sqft	261,455
			Operable Partition Track	116.00 lnft	-	15,112	130.28 /lnft	15,112
			Partitions Operable		*19,862*	*256,705*	*/each*	*276,567*
			SPECIALTIES		*19,862*	*256,705*	*/sqft*	*276,567*
		11000.00	**EQUIPMENT**					
			Division 11 Subcontractrs					
			Kitchen Equipment Sub Allow per Base Reno	1.00 lsum	-	-	######### /lsum	2,210,000
			Division 11 Subcontractrs				*/sub*	*2,210,000*
			Equip: Projection Screens					
			Elec Operated Deluxe 50 sf - 200 sf	290.00 sqft	2,945	6,518	32.63 /sqft	9,463
			Equip: Projection Screens		*2,945*	*6,518*	*/sqft*	*9,463*
			Equip: Residental Food					
			Electric Range & Oven	12.00 each	2,857	6,183	753.40 /each	9,041
			Microwave	12.00 each	3,796	5,951	812.20 /each	9,746
			Refrigerator 21-29 cf	12.00 each	3,878	15,640	1,626.45 /each	19,517
			Dishwasher Built-In	12.00 each	7,848	7,050	1,241.55 /each	14,899
			Garbage Disposer	12.00 each	2,093	1,552	303.77 /each	3,645
			Ice Maker	12.00 each	1,544	10,517	1,005.08 /each	12,061
			Equip: Residental Food		*22,016*	*46,893*	*/each*	*68,909*
			Equip: Gym					
			Basketball Backboard Wall Swing	10.00 each	15,976	17,097	3,307.36 /each	33,074
			Basketball Backboard Clg Swing	2.00 each	6,042	13,104	9,573.24 /each	19,146
			Bleacher Manual to 15 tier	1,414.00 seat	83,831	202,731	202.66 /seat	286,562
			Power Operation Avg	1,414.00 seat	6,679	99,689	75.23 /seat	106,368
			Gym Divider Curtain Electric	6,456.00 sqft	48,716	69,944	18.38 /sqft	118,660
			Wall Pads	2,832.00 sqft	6,535	20,149	9.42 /sqft	26,684
			Floor Sleeves	4.00 each	344	742	271.42 /each	1,086
			Scoreboard Basketball Min	1.00 each	1,129	2,288	3,421.11 /each	3,421
			Shotclock Min	2.00 each	1,129	2,288	1,710.56 /each	3,421
			Wrestling Mats	960.00 sqft	-	5,537	5.77 /sqft	5,537
			Scorers Table	8.00 lnft	332	1,319	206.44 /lnft	1,652
			Equip: Gym		*170,716*	*434,886*	*/lsum*	*605,610*
			Equip: Shop					
			Shop Eq Kiln	1.00 each	462	2,411	2,873.01 /each	2,873
			Equip: Shop		*462*	*2,411*	*/each*	*2,873*
			Equip: Laboratory/Science					
			Science Casework Avg	578,013.00 sqft	800,294	1,856,832	4.60 /sqft	2,657,126
			Equip: Laboratory/Science		*800,294*	*1,856,832*	*/lnft*	*2,657,126*
			EQUIPMENT		*996,432*	*2,347,541*	*/sqft*	*5,553,981*
			E1020 INSTITUTIONAL EQUIPMENT	***578,013.00 sqft***	***1,022,656***	***2,604,895***	***10.10 /sqft***	***5,837,558***
			E10 EQUIPMENT	**######## sqft**	**1,022,656**	**2,604,895**	**10.10 /sqft**	**5,837,558**
E20			**FURNISHINGS**					
	E2010		**FIXED FURNISHINGS**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	2	2.16 /lsum	2
			Fasteners: Frame Anchors			*2*	*/each*	*2*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	346.00 lnft	1,349	118	4.24 /lnft	1,467
			Blocking 2 x 6 R.L.	198.00 lnft	954	96	5.30 /lnft	1,050
			Blocking: Misc.		*2,302*	*214*	*/mbf*	*2,516*
			WOOD & PLASTICS		*2,302*	*216*	*/sqft*	*2,519*
		12000.00	**FURNISHINGS**					
			Casework					
			School Casework	578,013.00 sqft	533,529	1,869,294	4.16 /sqft	2,402,823
			Casework		*533,529*	*1,869,294*	*/lnft*	*2,402,823*
			Display Casework					
			Display Case	173.00 lnft	13,314	97,723	641.83 /lnft	111,037
			Display case 7' h	77.00 lnft	10,368	109,402	1,555.45 /lnft	119,770

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Display Casework		*23,682*	*207,125*	*/lnft*	*230,807*
			Shades					
			Vinyl Heavy Wt	38,453.00 sqft	48,502	179,489	5.93 /sqft	227,990
			Vinyl Heavy Wt Int	8,165.00 sqft	10,299	38,112	5.93 /sqft	48,411
			Shades		*58,801*	*217,601*	*/sqft*	*276,401*
			Furniture					
			Library Charge Desk	46.00 lnft	6,029	23,554	643.11 /lnft	29,583
			Reception Desk	75.00 lnft	9,830	28,378	509.44 /lnft	38,208
			Furniture		*15,859*	*51,933*	*/lnft*	*67,791*
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	228.00 sqft	2,928	6,796	42.65 /sqft	9,724
			Floor Mats		*2,928*	*6,796*	*/sqft*	*9,724*
			Misc Seating					
			Aud Seat Veneer Back/Pad Seat	1,556.00 each	106,283	432,761	346.43 /each	539,043
			Misc Seating		*106,283*	*432,761*	*/each*	*539,043*
			FURNISHINGS		*741,081*	*2,785,509*	*/sqft*	*3,526,590*
			E2010 FIXED FURNISHINGS	***578,013.00 sqft***	***743,383***	***2,785,725***	***6.11 /sqft***	***3,529,108***
			E20 FURNISHINGS	**######## sqft**	**743,383**	**2,785,725**	**6.11 /sqft**	**3,529,108**
F10			**SPECIAL CONSTRUCTION**					
	F1030		**SPECIAL CONSTRUCTION**					
		13000.00	**SPECIAL CONSTRUCTION**					
			Penthouse					
			Penthouse Roof	240.00 sqft	5,380	7,322	52.92 /sqft	12,702
			Penthouse Walls	544.00 sqft	17,088	35,802	97.22 /sqft	52,890
			Penthouse		*22,468*	*43,123*	*/sqft*	*65,591*
			Swimming Pool Equipment					
			Diving Stand 3 Meter	1.00 each	4,615	12,246	16,861.28 /each	16,861
			Diving Stand 1 Meter	1.00 each	684	6,908	7,591.56 /each	7,592
			Starting Platform	6.00 each	2,051	22,806	4,142.90 /each	24,857
			Pool Ladder 4 Step	2.00 each	615	1,677	1,146.41 /each	2,293
			Access Ramp	1.00 each	680	11,566	12,246.18 /each	12,246
			Concrete Bottom & Sides Tile Finish	6,750.00 sqft	454,578	199,012	101.55 /sqft	685,447
			Stainless Steel Gutters	270.00 lnft	-	78,877	292.14 /lnft	78,877
			Filtration & Chlorination System	4,500.00 sqft	40,696	31,774	16.79 /sqft	75,559
			Swimming Pool Equipment		*503,920*	*364,867*	*/each*	*903,732*
			SPECIAL CONSTRUCTION		*526,387*	*407,990*	*/sqft*	*969,323*
			F1030 SPECIAL CONSTRUCTION	***578,013.00 sqft***	***526,387***	***407,990***	***1.68 /sqft***	***969,323***
			F10 SPECIAL CONSTRUCTION	**######## sqft**	**526,387**	**407,990**	**1.68 /sqft**	**969,323**
G10			**SITE PREPARATION**					
	G1030		**EARTHWORK**					
		2100.00	**SITEWORK**					
			Site Clearing					
			Site Preparation	14.70 acre		-	132,692.00 /acre	1,950,572
			Site Clearing				*/acre*	*1,950,572*
			SITEWORK				*/sqft*	*1,950,572*
			G1030 EARTHWORK	***14.70 acre***			***####### /acre***	***1,950,572***
			G10 SITE PREPARATION	**14.70 acre**			**###### /acre**	**1,950,572**
G20			**SITE IMPROVEMENTS**					
	G2040		**SITE DEVELOPMENT**					
		2100.00	**SITEWORK**					
			Improvmnts: Misc					
			Site Improvemnts	14.70 acre	-	-	394,348.00 /acre	5,796,916
			Improvmnts: Misc				*/lsum*	*5,796,916*
			SITEWORK				*/sqft*	*5,796,916*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			G2040 SITE DEVELOPMENT	***14.70 acre***			******* /acre***	***5,796,916***
			G20 SITE IMPROVEMENTS	**14.70 acre**			****** /acre**	**5,796,916**
G30			**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030		**STORM SEWER SYSTEM**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Utilities	14.70 acre	-	-	124,491.00 /acre	1,830,018
			Division 2 Subcontractors				*/sub*	*1,830,018*
			SITEWORK				*/sqft*	*1,830,018*
			G3030 STORM SEWER SYSTEM	***14.70 acre***			******* /acre***	***1,830,018***
			G30 SITE CIVIL/MECHANICAL UTILITIES	**14.70 acre**			****** /acre**	**1,830,018**
G40			**SITE ELECTRICAL UTILITIES**					
	G4010		**ELECTRICAL DISTRIBUTION**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Electrical	14.70 acre	-	-	93,928.00 /acre	1,380,742
			Division 2 Subcontractors				*/sub*	*1,380,742*
			SITEWORK				*/sqft*	*1,380,742*
			G4010 ELECTRICAL DISTRIBUTION	***14.70 acre***			******* /acre***	***1,380,742***
			G40 SITE ELECTRICAL UTILITIES	**14.70 acre**			****** /acre**	**1,380,742**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Bas	Cost per Unit	ent of Total	
Labor	77,943,022		375,191.426 hrs			134.846 /sf	45.32%	
Material	78,894,640					136.493 /sf	45.88%	
Subcontract	13,381,495					23.151 /sf	7.78%	
Equipment	1,750,362		22,005.736 hrs			3.028 /sf	1.02%	
Other								
	171,969,519	**171,969,519**				**297.518 /sf**	**100.00**	**100.00%**
Total		***171,969,519***				***297.518 /sf***		

LOWELL H.S. FULL RENO ADDITIONS
FEASIBILITY STUDY ESTIMATE - 1-13-17
LOWELL, MA

Project name	L H.S.Full Reno Adds Lowell MA
Client	Perkins Eastman
Architect	Perkins Eastman
Estimator	Essential Estimating
Labor rate table	Lowell13
Equipment rate table	Lowell E
Job size	17927 sf

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	**FOUNDATIONS**	**181,289**	**85,591**	**36,412**	**9,913**	**17.47 /sqft**	**313,205**
B10	**SUPERSTRUCTURE**	**189,732**	**438,310**		**31,271**	**36.78 /sqft**	**659,314**
B20	**EXTERIOR CLOSURE**	**554,821**	**575,103**		**3,191**	**63.21 /sqft**	**1,133,115**
B30	**ROOFING**	**108,211**	**119,411**		**1,170**	**12.76 /sqft**	**228,792**
C10	**INTERIOR CONSTRUCTION**	**103,334**	**62,322**		**349**	**9.26 /sqft**	**166,005**
C20	**STAIRCASES**	**11,980**	**52,671**		**495**	**3.63 /sqft**	**65,145**
C30	**INTERIOR FINISHES**	**144,818**	**238,817**		**1,553**	**21.49 /sqft**	**385,188**
D20	**PLUMBING**	**151,304**	**142,814**			**16.41 /sqft**	**294,118**
D30	**HVAC**	**513,609**	**329,110**			**47.01 /sqft**	**842,719**
D40	**FIRE PROTECTION**	**67,226**	**52,951**			**6.70 /sqft**	**120,178**
D50	**ELECTRICAL**	**373,240**	**399,068**			**43.08 /sqft**	**772,308**
E20	**FURNISHINGS**	**24,526**	**89,256**			**6.35 /sqft**	**113,782**
G10	**SITE PREPARATION**			**577,837**		**87,551.00 /acre**	**577,837**
G20	**SITE IMPROVEMENTS**			**1,456,514**		**######## /acre**	**1,456,514**
G30	**SITE CIVIL/MECHANICAL UTILITIES**			**628,129**		**95,171.00 /acre**	**628,129**
G40	**SITE ELECTRICAL UTILITIES**			**629,977**		**95,451.00 /acre**	**629,977**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total	
Labor	2,424,091		11,182.929 hrs			135.220 /sf	28.91%	
Material	2,585,423					144.220 /sf	30.83%	
Subcontract	3,328,868					185.690 /sf	39.69%	
Equipment	47,942		692.975 hrs			2.674 /sf	0.57%	
Other								
	8,386,324	**8,386,324**				**467.804 /sf**	**100.00**	**100.00%**
Total		***8,386,324***				***467.804 /sf***		

Location	UNI 1	UNI 2	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
Lord			**17,927.00 sqft**	**2,424,091**	**2,585,423**	**284.15 /sqft**	**5,093,868**
SITE			**6.60 acre**			**498,857.00 /acre**	**3,292,456**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total	
Labor	2,424,091		11,182.929 hrs			135.220 /sf	28.91%	
Material	2,585,423					144.220 /sf	30.83%	
Subcontract	3,328,868					185.690 /sf	39.69%	
Equipment	47,942		692.975 hrs			2.674 /sf	0.57%	
Other								
	8,386,324	**8,386,324**				**467.804 /sf**	**100.00**	**100.00%**
Total		***8,386,324***				***467.804 /sf***		

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	FOUNDATIONS	156,244	85,918		6,387	0.41 /sqft	248,549
B10	SUPERSTRUCTURE	249,211	128,452	3,288,205	12,646	6.09 /sqft	3,678,513
B20	EXTERIOR CLOSURE	2,962,435	4,130,773		68,707	11.86 /sqft	7,161,915
B30	ROOFING	4,477,627	3,657,229		217,809	13.83 /sqft	8,352,665
C10	INTERIOR CONSTRUCTION	5,142,580	5,964,258		7,424	18.40 /sqft	11,114,261
C20	STAIRCASES	594,730	1,484,229		21,166	3.48 /sqft	2,100,124
C30	INTERIOR FINISHES	7,851,310	7,320,681		314,526	25.63 /sqft	15,486,517
D10	CONVEYING SYSTEMS	117,046	372,205		2,324	0.81 /sqft	491,575
D20	PLUMBING	4,885,480	4,012,087			14.73 /sqft	8,897,568
D30	HVAC	15,761,921	10,095,947			42.80 /sqft	25,857,869
D40	FIRE PROTECTION	2,176,760	1,714,326			6.44 /sqft	3,891,086
D50	ELECTRICAL	12,602,020	13,163,283			42.65 /sqft	25,765,303
E10	EQUIPMENT	712,108	1,660,745	2,210,000		7.59 /sqft	4,582,853
E20	FURNISHINGS	739,107	2,708,924			5.71 /sqft	3,448,032
F10	SPECIAL CONSTRUCTION	26,907	10,079			134.49 /sqft	36,986
F20	SELECTIVE DEMOLITION	5,282,080	41,591	4,010,000	282,254	15.92 /sqft	9,615,925

Estimate Totals

Description	Amount	Totals	Hours	Rate	ost per Unit	t of Total	
Labor	63,737,565		262,246.584 hrs		102.186 /sf	48.76%	
Material	56,550,727				90.664 /sf	43.26%	
Subcontract	9,508,205				15.244 /sf	7.27%	
Equipment	933,243		33,245.366 hrs		1.496 /sf	0.71%	
Other							
	130,729,740	**130,729,740**			**209.589 /sf**	**100.00**	**100.00%**
Total		***130,729,740***			***209.589 /sf***		

Location	UNI 1	UNI 2	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
1922 BLDG			**312,828.00 sqft**	**31,403,250**	**28,286,368**	**204.50 /sqft**	**63,971,713**
Bridges			**4,400.00 sqft**	**613,350**	**928,126**	**356.26 /sqft**	**1,567,526**
FIELD HOUSE			**75,051.00 sqft**	**6,275,580**	**5,223,672**	**162.00 /sqft**	**12,157,932**
FRESHMAN ACAD			**90,236.00 sqft**	**9,849,918**	**8,779,265**	**221.02 /sqft**	**19,943,580**
LORD			**141,228.00 sqft**	**15,595,468**	**13,333,297**	**234.30 /sqft**	**33,088,990**

Estimate Totals

Description	Amount	Totals	Hours	Rate	ost per Unit	t of Total	
Labor	63,737,565		262,246.584 hrs		102.186 /sf	48.76%	
Material	56,550,727				90.664 /sf	43.26%	
Subcontract	9,508,205				15.244 /sf	7.27%	
Equipment	933,243		33,245.366 hrs		1.496 /sf	0.71%	
Other							
	130,729,740	**130,729,740**			**209.589 /sf**	**100.00**	**100.00%**
Total		***130,729,740***			***209.589 /sf***		

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10		**FOUNDATIONS**					
	A1010	STANDARD FOUNDATIONS	164.50 cuyd	139,626	64,385	1,291.55 /cuyd	212,460
	A1020	SPECIAL FOUNDATIONS	1.00 lsum			33,184.00 /lsum	33,184
	A1030	SLAB ON GRADE	3,228.00 sqft	41,663	21,206	20.93 /sqft	67,561
		A10 FOUNDATIONS	**17,927.00 sqft**	**181,289**	**85,591**	**17.47 /sqft**	**313,205**
B10		**SUPERSTRUCTURE**					
	B1010	FLOOR CONSTRUCTION	14,738.00 sqft	115,446	262,603	26.75 /sqft	394,253
	B1020	ROOF CONSTRUCTION	9,828.00 sqft	74,286	175,707	26.97 /sqft	265,060
		B10 SUPERSTRUCTURE	**17,927.00 sqft**	**189,732**	**438,310**	**36.78 /sqft**	**659,314**
B20		**EXTERIOR CLOSURE**					
	B2010	EXTERIOR WALLS	11,714.00 sqft	461,525	388,630	72.85 /sqft	853,330
	B2020	EXTERIOR WINDOWS	2,754.00 sqft	86,451	170,657	93.36 /sqft	257,108
	B2030	EXTERIOR DOORS	5.00 lvs	6,845	15,816	4,535.40 /lvs	22,677
		B20 EXTERIOR CLOSURE	**17,927.00 sqft**	**554,821**	**575,103**	**63.21 /sqft**	**1,133,115**
B30		**ROOFING**					
	B3010	ROOF COVERINGS	9,828.00 sqft	108,211	119,411	23.28 /sqft	228,792
		B30 ROOFING	**17,927.00 sqft**	**108,211**	**119,411**	**12.76 /sqft**	**228,792**
C10		**INTERIOR CONSTRUCTION**					
	C1010	PARTITIONS	5,696.00 sqft	84,028	25,374	19.27 /sqft	109,747
	C1020	INTERIOR DOORS	18.00 lvs	10,995	28,903	2,216.80 /lvs	39,902
	C1030	SPECIALTIES/MILLWORK	17,927.00 sqft	8,311	8,045	0.91 /sqft	16,356
		C10 INTERIOR CONSTRUCTION	**17,927.00 sqft**	**103,334**	**62,322**	**9.26 /sqft**	**166,005**
C20		**STAIRCASES**					
	C2010	STAIR CONSTRUCTION	1.00 flt	7,959	47,381	55,835.61 /flt	55,836
	C2020	STAIR FINISHES	1,215.00 sqft	4,020	5,289	7.66 /sqft	9,310
		C20 STAIRCASES	**17,927.00 sqft**	**11,980**	**52,671**	**3.63 /sqft**	**65,145**
C30		**INTERIOR FINISHES**					
	C3010	WALL FINISHES	12,635.00 sqft	9,555	2,434	0.95 /sqft	11,989
	C3020	FLOOR FINISHES	17,927.00 sqft	74,242	113,046	10.53 /sqft	188,840
	C3030	CEILING FINISHES	17,927.00 sqft	61,022	123,337	10.28 /sqft	184,359
		C30 INTERIOR FINISHES	**17,927.00 sqft**	**144,818**	**238,817**	**21.49 /sqft**	**385,188**
D20		**PLUMBING**					
	D2010	PLUMBING FIXTURES	17,927.00 sqft	41,232	39,424	4.50 /sqft	80,656
	D2020	DOMESTIC WATER	17,927.00 sqft	41,949	36,718	4.39 /sqft	78,667
	D2030	SANITARY WATER	17,927.00 sqft	32,089	31,307	3.54 /sqft	63,396
	D2040	RAINWATER DRAINAGE	17,927.00 sqft	22,588	22,031	2.49 /sqft	44,619
	D2050	SPECIAL PLUMBING SYSTEMS	17,927.00 sqft	13,445	13,334	1.49 /sqft	26,780
		D20 PLUMBING	**17,927.00 sqft**	**151,304**	**142,814**	**16.41 /sqft**	**294,118**
D30		**HVAC**					
	D3020	HEAT GENERATING SYSTEMS	17,927.00 sqft	41,770	28,022	3.89 /sqft	69,792
	D3030	COOLING GENERATING SYSTEMS	17,927.00 sqft	83,898	53,918	7.69 /sqft	137,816
	D3040	DISTRIBUTION SYSTEMS	17,927.00 sqft	283,426	176,827	25.67 /sqft	460,252

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D3050	TERMINAL PACKAGE UNITS	17,927.00 sqft	10,218	6,184	0.92 /sqft	16,402
	D3060	CONTROL & INSTRUMENTATION	17,927.00 sqft	67,585	42,322	6.13 /sqft	109,907
	D3070	SYSTEM TESTING & BALANCING	17,927.00 sqft	5,916	3,865	0.55 /sqft	9,781
	D3090	OTHER HVAC SYSTEMS	17,927.00 sqft	20,795	17,973	2.16 /sqft	38,768
		D30 HVAC	**17,927.00 sqft**	**513,609**	**329,110**	**47.01 /sqft**	**842,719**
D40		**FIRE PROTECTION**					
	D4010	SPRINKLER SYSTEMS	17,927.00 sqft	67,226	52,951	6.70 /sqft	120,178
		D40 FIRE PROTECTION	**17,927.00 sqft**	**67,226**	**52,951**	**6.70 /sqft**	**120,178**
D50		**ELECTRICAL**					
	D5010	SERVICE & DISTRIBUTION	17,927.00 sqft	63,462	75,948	7.78 /sqft	139,410
	D5020	LIGHTING & BRANCH WIRING	17,927.00 sqft	155,069	160,787	17.62 /sqft	315,855
	D5030	COMMUNICATION & SECURITY	17,927.00 sqft	120,290	126,581	13.77 /sqft	246,871
	D5040	SPECIAL ELECTRICAL SYSTEMS	17,927.00 sqft	34,420	35,752	3.91 /sqft	70,172
		D50 ELECTRICAL	**17,927.00 sqft**	**373,240**	**399,068**	**43.08 /sqft**	**772,308**
E20		**FURNISHINGS**					
	E2010	FIXED FURNISHINGS	17,927.00 sqft	24,526	89,256	6.35 /sqft	113,782
		E20 FURNISHINGS	**17,927.00 sqft**	**24,526**	**89,256**	**6.35 /sqft**	**113,782**
G10		**SITE PREPARATION**					
	G1030	EARTHWORK	6.60 acre			87,551.00 /acre	577,837
		G10 SITE PREPARATION	**6.60 acre**			**87,551.00 /acre**	**577,837**
G20		**SITE IMPROVEMENTS**					
	G2040	SITE DEVELOPMENT	6.60 acre			220,684.00 /acre	1,456,514
		G20 SITE IMPROVEMENTS	**6.60 acre**			**######## /acre**	**1,456,514**
G30		**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030	STORM SEWER SYSTEM	6.60 acre			95,171.00 /acre	628,129
		G30 SITE CIVIL/MECHANICAL UTILITIES	**6.60 acre**			**95,171.00 /acre**	**628,129**
G40		**SITE ELECTRICAL UTILITIES**					
	G4010	ELECTRICAL DISTRIBUTION	6.60 acre			95,451.00 /acre	629,977
		G40 SITE ELECTRICAL UTILITIES	**6.60 acre**			**95,451.00 /acre**	**629,977**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total
Labor	2,424,091		11,182.929 hrs			135.220 /sf	28.91%
Material	2,585,423					144.220 /sf	30.83%
Subcontract	3,328,868					185.690 /sf	39.69%
Equipment	47,942		692.975 hrs			2.674 /sf	0.57%
Other							

Estimate Totals

8,386,324	**8,386,324**		**467.804 /sf**	**100.00**	**100.00%**
Total	***8,386,324***		***467.804 /sf***		

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10			**FOUNDATIONS**					
	A1010		**STANDARD FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Dewater: Gravel At Drain					
			Gravel @ Drains	44.00 cuyd	131	941	24.83 /cuyd	1,093
			Dewater: Gravel At Drain		*131*	*941*	*/cuyd*	*1,093*
			Filter Fabric					
			Filter Fabric	1,900.00 sqft	824	338	0.61 /sqft	1,162
			Filter Fabric		*824*	*338*	*/sqft*	*1,162*
			Earthwk: Dispose Surplus					
			Dispose Surplus	590.00 cuyd	3,598	-	12.16 /cuyd	7,177
			Earthwk: Dispose Surplus		*3,598*		*/cuyd*	*7,177*
			Earthwk: Borrow					
			Borrow - Bank Run Allow	119.56 cuyd	530	2,416	29.70 /cuyd	3,550
			Earthwk: Borrow		*530*	*2,416*	*/cuyd*	*3,550*
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	8.80 cuyd	1,123	-	127.56 /cuyd	1,123
			Excavate Isolated Footing By Hand	17.20 cuyd	2,194	-	127.56 /cuyd	2,194
			Excavate Engaged Footing By Hand	14.40 cuyd	1,837	-	127.56 /cuyd	1,837
			Earthwk: Footings (Hand)		*5,153*		*/cuyd*	*5,153*
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	164.00 cuyd	806	-	6.27 /cuyd	1,028
			Excavate Isolated Footing Machine	257.00 cuyd	2,766	-	13.67 /cuyd	3,513
			Excavate Engaged Footing By Machine	113.00 cuyd	891	-	10.04 /cuyd	1,135
			Earthwk: Footings (Mach)		*4,463*		*/cuyd*	*5,676*
			Earthwk: Pits, Misc Excav					
			Excavate Grade Beams	14.00 cuyd	75	-	6.84 /cuyd	96
			Excavate G.B. By Hand	1.40 cuyd	179	-	127.56 /cuyd	179
			Earthwk: Pits, Misc Excav		*254*		*/cuyd*	*274*
			Backfill: Footing					
			Backfill Footings	216.90 cuyd	644	4,800	26.76 /cuyd	5,804
			Backfill Isol. Footings	200.20 cuyd	654	3,852	24.34 /cuyd	4,872
			Backfill: Footing		*1,297*	*8,652*	*/cuyd*	*10,677*
			Backfill: Pit, etc					
			Backfill Grade Beams	8.20 cuyd	27	158	24.61 /cuyd	202
			Backfill: Pit, etc		*27*	*158*	*/cuyd*	*202*
			Pipe: PVC					
			Pipe PVC 6	190.00 lnft	1,174	1,344	13.25 /lnft	2,518
			Pipe: PVC		*1,174*	*1,344*	*/lnft*	*2,518*
			SITEWORK		*17,451*	*13,848*	*/sqft*	*37,481*
		3000.00	**CONCRETE**					
			Forms: Footings					
			Footing Forms 2 Use	385.00 sqft	3,015	1,590	11.96 /sqft	4,605
			Engaged Footing Forms 2 use	820.00 sqft	7,036	838	9.60 /sqft	7,874
			Isolated Footing Forms 2 Use	887.00 sqft	8,182	906	10.25 /sqft	9,088
			Keyway In Footing	190.00 lnft	1,329	122	7.64 /lnft	1,451
			Forms: Footings		*19,562*	*3,456*	*/sqft*	*23,018*
			Forms: Walls					
			Wall Forms	1,520.00 sqft	18,472	2,768	13.97 /sqft	21,240
			Forms: Walls		*18,472*	*2,768*	*/sqft*	*21,240*
			Forms: Blockouts					
			Ledge Blockouts	190.00 sqft	3,673	171	20.23 /sqft	3,844
			Forms: Blockouts		*3,673*	*171*	*/sqft*	*3,844*
			Forms: Piers					
			Pier Forms	1,504.00 sqft	25,589	1,937	18.30 /sqft	27,526
			Forms: Piers		*25,589*	*1,937*	*/sqft*	*27,526*
			Forms: Grade Beams					
			Grade Bm Form - All Types	195.00 sqft	1,788	369	11.06 /sqft	2,157
			Forms: Grade Beams		*1,788*	*369*	*/sqft*	*2,157*
			Rebar: Footings					
			Footing Rebar #4/plf	0.38 ton	678	475	3,034.24 /ton	1,153
			Engaged Footing	2.56 ton	5,028	3,253	3,234.58 /ton	8,281
			Isolated Footing	3.80 ton	7,240	4,749	3,154.92 /ton	11,989
			Rebar: Footings		*12,946*	*8,476*	*/ton*	*21,422*
			Rebar: Walls					
			Wall Rebar #4 10#/plf	0.95 ton	1,188	1,188	2,500.68 /ton	2,376

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Rebar: Walls		*1,188*	*1,188*	*/ton*	*2,376*
			Rebar: Piers					
			Pier Rebar 40#/plf	3.76 ton	6,107	4,699	2,873.69 /ton	10,805
			Rebar: Piers		*6,107*	*4,699*	*/ton*	*10,805*
			Rebar: Grade Beams					
			Grade Beam Rebar #75/plf	1.46 ton	3,422	1,824	3,593.16 /ton	5,246
			Rebar: Grade Beams		*3,422*	*1,824*	*/ton*	*5,246*
			Conc: Footings					
			Footing Conc 3000 psi	17.60 cuyd	988	2,079	183.00 /cuyd	3,221
			Engaged Footing Conc 3000 psi	32.90 cuyd	2,032	3,886	189.49 /cuyd	6,234
			Isolated Footing Conc 3000 psi	46.20 cuyd	5,187	5,456	247.89 /cuyd	11,453
			Conc: Footings		*8,206*	*11,421*	*/cuyd*	*20,907*
			Conc: Walls					
			Wall Conc 4000 psi	32.80 cuyd	2,158	3,941	196.02 /cuyd	6,429
			Conc: Walls		*2,158*	*3,941*	*/cuyd*	*6,429*
			Conc: Piers					
			Pier Conc 4000 psi	27.80 cuyd	3,901	3,340	282.38 /cuyd	7,850
			Conc: Piers		*3,901*	*3,340*	*/cuyd*	*7,850*
			Conc: Grade Beams					
			Grade Beam Conc 4000 psi	7.20 cuyd	1,284	865	305.18 /cuyd	2,197
			Conc: Grade Beams		*1,284*	*865*	*/cuyd*	*2,197*
			Grout					
			Grout Base Pl Metallic 2" (sf)	50.00 sqft	1,290	1,202	49.83 /sqft	2,492
			Grout		*1,290*	*1,202*	*/cuft*	*2,492*
			CONCRETE		*109,585*	*45,657*	*/sqft*	*157,510*
		5000.00	**METALS**					
			Fastener: Col Anchor Bolt					
			3/4" d. 16" long	200.00 each	8,141	1,022	45.82 /each	9,163
			Fastener: Col Anchor Bolt		*8,141*	*1,022*	*/each*	*9,163*
			Misc: Embeded Material					
			Bearing Plates	50.00 each	795	2,617	68.23 /each	3,411
			Misc: Embeded Material		*795*	*2,617*	*/each*	*3,411*
			METALS		*8,936*	*3,639*	*/sqft*	*12,575*
		7000.00	**THERMAL & MOISTURE PROT**					
			Damproofing: Bituminous					
			Ashphalt Ct. Troweled 1/8"	760.00 sqft	2,521	785	4.35 /sqft	3,306
			Damproofing: Bituminous		*2,521*	*785*	*/sqft*	*3,306*
			Insulation: Perimeter					
			Insul Board Polystyrene 2"	760.00 sqft	1,133	456	2.09 /sqft	1,589
			Insulation: Perimeter		*1,133*	*456*	*/sqft*	*1,589*
			THERMAL & MOISTURE PROT		*3,654*	*1,240*	*/sqft*	*4,894*
			A1010 STANDARD FOUNDATIONS	***164.50 cuyd***	***139,626***	***64,385***	***###### /cuyd***	***212,460***
	A1020		**SPECIAL FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - RAPS Lord	1.00 lsum	-	-	33,184.00 /lsum	33,184
			Division 2 Subcontractors				*/sub*	*33,184*
			SITEWORK				*/sqft*	*33,184*
			A1020 SPECIAL FOUNDATIONS	***1.00 lsum***			***###### /lsum***	***33,184***
	A1030		**SLAB ON GRADE**					
		2100.00	**SITEWORK**					
			Earthwk: Fine Grade					
			Fine Grade SOG	358.67 sqyd	924	-	3.96 /sqyd	1,420
			Earthwk: Fine Grade		*924*		*/sqyd*	*1,420*
			Backfill: Slab on Grade					
			Gravel Fill 24"	239.11 cuyd	4,446	3,661	35.96 /cuyd	8,599
			Backfill: Slab on Grade		*4,446*	*3,661*	*/cuyd*	*8,599*
			SITEWORK		*5,371*	*3,661*	*/sqft*	*10,020*
		3000.00	**CONCRETE**					
			Forms: Edgeform Slabs					
			EdgeForm (Any Depth, LF)	322.00 lnft	1,831	136	6.11 /lnft	1,966
			Forms: Edgeform Slabs		*1,831*	*136*	*/lnft*	*1,966*
			Forms: Ramps					
			Ramp Forms 2 use	***0.00 lnft***	***0***	***0***	***0.00 /lnft***	***0***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Rebar: Slab On Grade					
			S.O.G. Rebar #4	2.79 ton	4,549	3,487	2,880.35 /ton	8,036
			Rebar: Slab On Grade		*4,549*	*3,487*	*/ton*	*8,036*
			Conc: Ramps					
			Ramp Conc 4000 psi	***0.00 cuyd***	***0***	***0***	***0.00 /cuyd***	***0***
			Conc: Slabs On Grade					
			S.O.G. Conc 4000 psi	49.81 cuyd	2,241	6,270	177.88 /cuyd	8,860
			Conc: Slabs On Grade		*2,241*	*6,270*	*/cuyd*	*8,860*
			Finish: Protect & Cure					
			Cure Conc S.O.G.	32.28 sqs	799	389	36.80 /sqs	1,188
			Cure Conc Ramp	***0.00 sqs***	***0***	***0***	***0.00 /sqs***	***0***
			Finish: Protect & Cure		*799*	*389*	*/sqs*	*1,188*
			Finish: General					
			Trowel Finish	***0.00 sqft***	***0***	***-***	***0.00 /sqft***	***0***
			Broom/Float Finish S.O.G.	3,228.00 sqft	2,862	-	0.89 /sqft	2,862
			Broom/Float Finish Ramp	***0.00 sqft***	***0***	***-***	***0.00 /sqft***	***0***
			Finish: General		*2,862*		*/sqft*	*2,862*
			Misc: Saw Concrete					
			Saw New Concrete	258.00 lnft	366	142	2.46 /lnft	635
			Misc: Saw Concrete		*366*	*142*	*/lnft*	*635*
			Concrete Misc Divisions					
			Misc Moisture SOG Additive Check if Needed?	3,228.00 sqft	13,271	0	5.11 /sqft	16,499
			Concrete Misc Divisions		*13,271*		*/sqft*	*16,499*
			CONCRETE		*25,918*	*10,424*	*/sqft*	*40,046*
		5000.00	**METALS**					
			Expansion Joint					
			Embedded Floor Joint 2" Alum	192.00 lnft	3,678	4,595	43.09 /lnft	8,273
			Expansion Joint		*3,678*	*4,595*	*/lnft*	*8,273*
			METALS		*3,678*	*4,595*	*/sqft*	*8,273*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 15 mil	32.28 sq	1,514	591	65.22 /sq	2,105
			Dampproofing: VaprBarrier		*1,514*	*591*	*/sqs*	*2,105*
			Insulation: Perimeter					
			Insul Board Polystyrene 2" Slab	3,228.00 sqft	5,182	1,935	2.21 /sqft	7,117
			Insulation: Perimeter		*5,182*	*1,935*	*/sqft*	*7,117*
			THERMAL & MOISTURE PROT		*6,696*	*2,527*	*/sqft*	*9,223*
			A1030 SLAB ON GRADE	***3,228.00 sqft***	***41,663***	***21,206***	***20.93 /sqft***	***67,561***
			A10 FOUNDATIONS	**17,927.00 sqft**	**181,289**	**85,591**	**17.47 /sqft**	**313,205**
B10			**SUPERSTRUCTURE**					
	B1010		**FLOOR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Rebar: Suspended Slab					
			Suspended Slab Rebar #4	0.88 ton	1,138	1,100	2,542.56 /ton	2,237
			Rebar: Suspended Slab		*1,138*	*1,100*	*/ton*	*2,237*
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6	147.38 sqs	9,520	4,644	96.10 /sqs	14,164
			Rebar: Mesh On Corruform		*9,520*	*4,644*	*/sqs*	*14,164*
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi	284.30 cuyd	12,967	34,159	172.88 /cuyd	49,149
			Conc: Slab On Corruform		*12,967*	*34,159*	*/cuyd*	*49,149*
			Finish: Protect & Cure					
			Cure Conc Elv. Slab	147.38 sqs	4,387	1,777	41.82 /sqs	6,163
			Finish: Protect & Cure		*4,387*	*1,777*	*/sqs*	*6,163*
			Finish: General					
			Broom/Float Finish Elv. Slab	14,738.00 sqft	15,442	-	1.05 /sqft	15,442
			Finish: General		*15,442*		*/sqft*	*15,442*
			CONCRETE		*43,453*	*41,680*	*/sqft*	*87,155*
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	49.00 ton	37,747	134,590	3,743.01 /ton	183,408
			Shear Studs	1,755.00 each	3,409	1,154	2.88 /each	5,055

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Structural: Framing		*41,156*	*135,745*	*/ton*	*188,463*
			Structural: Joist K					
			Bar Joists	25.80 ton	17,827	42,442	2,414.53 /ton	62,295
			Structural: Joist K		*17,827*	*42,442*	*/ton*	*62,295*
			Structural: Deck Roof/Fl					
			Slab Form 2" 18ga Galv	14,738.00 sqft	13,011	42,738	3.82 /sqft	56,341
			Structural: Deck Roof/Fl		*13,011*	*42,738*	*/sqft*	*56,341*
			METALS		*71,993*	*220,924*	*/sqft*	*307,098*
			B1010 FLOOR CONSTRUCTION	***14,738.00 sqft***	***115,446***	***262,603***	***26.75 /sqft***	***394,253***
	B1020		**ROOF CONSTRUCTION**					
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	45.00 ton	34,665	123,603	3,743.01 /ton	168,436
			Structural: Framing		*34,665*	*123,603*	*/ton*	*168,436*
			Structural: Joist K					
			Bar Joists	7.10 ton	4,906	11,680	2,414.53 /ton	17,143
			Structural: Joist K		*4,906*	*11,680*	*/ton*	*17,143*
			Structural: Deck Roof/Fl					
			Deck Steel 3 " Deep 20 ga 50 - 500 sq	9,828.00 sqft	8,676	20,236	2.98 /sqft	29,301
			Structural: Deck Roof/Fl		*8,676*	*20,236*	*/sqft*	*29,301*
			METALS		*48,247*	*155,519*	*/sqft*	*214,879*
		7000.00	**THERMAL & MOISTURE PROT**					
			Fireproofing: Spray On					
			Fireprfg Sprayd Beams Cemt 2hr	9,828.00 sqft	26,039	20,188	5.11 /sqft	50,181
			Fireproofing: Spray On		*26,039*	*20,188*	*/sqft*	*50,181*
			THERMAL & MOISTURE PROT		*26,039*	*20,188*	*/sqft*	*50,181*
			B1020 ROOF CONSTRUCTION	***9,828.00 sqft***	***74,286***	***175,707***	***26.97 /sqft***	***265,060***
			B10 SUPERSTRUCTURE	**17,927.00 sqft**	**189,732**	**438,310**	**36.78 /sqft**	**659,314**
B20			**EXTERIOR CLOSURE**					
	B2010		**EXTERIOR WALLS**					
		3000.00	**CONCRETE**					
			Precast Specialties					
			Precast Band 12"	362.00 lnft	6,500	10,073	46.90 /lnft	16,978
			Precast Specialties		*6,500*	*10,073*	*/sqft*	*16,978*
			CONCRETE		*6,500*	*10,073*	*/sqft*	*16,978*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Exterior Scaffold	2,557.00 sqft	4,914	992	2.59 /sqft	6,621
			Interior Scaffold	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Misc: Scaffold		*4,914*	*992*	*/sqft*	*6,621*
			Misc: Material Handling					
			Concrete Block	***0.00 m***	***-***	***-***	***0.00 /m***	***0***
			Brick	***0.00 m***	***-***	***-***	***0.00 /m***	***0***
			Mortar					
			Mortar Type "N"	***0.00 cuyd***	***0***	***0***	***0.00 /cuyd***	***0***
			Mortar Color	***0.00 lbs***	***-***	***0***	***0.00 /lbs***	***0***
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	***0.00 cuyd***	***0***	***0***	***0.00 /cuyd***	***0***
			Access: Control Joint					
			Control Joint PEJ - 4"	112.00 lnft	376	143	4.63 /lnft	519
			Control Joint PEJ - 8"	***0.00 lnft***	***0***	***0***	***0.00 /lnft***	***0***
			Wall Expansion Jt w PVC Cover	98.00 lnft	1,186	993	22.24 /lnft	2,179
			Access: Control Joint		*1,562*	*1,136*	*/lnft*	*2,698*
			Access: Wall Flashing					
			Flash Shelf Lead Ct. Cop 5 oz.	190.00 sqft	760	631	7.32 /sqft	1,390
			Access: Wall Flashing		*760*	*631*	*/sqft*	*1,390*
			Access: Weep Holes					
			Weepholes - Metal	95.00 each	388	87	5.00 /each	475
			Access: Weep Holes		*388*	*87*	*/each*	*475*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	***0.00 lbs***	***0***	***0***	***0.00 /lbs***	***0***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 8" Hot Dippd	***0.00 mlf***	***0***	***0***	***0.00 /mlf***	***0***
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	1,438.00 each	2,516	228	1.91 /each	2,744
			Reinforce: Brick Anchors		*2,516*	*228*	*/each*	*2,744*
			Brick: All Types					
			Norman Brick 4"	11.51 m	46,292	17,169	5,515.45 /m	63,461
			Brick: All Types		*46,292*	*17,169*	*/m*	*63,461*
			Conc. Block: Backup					
			Blk 8" Standard Face Reg Wt	***0.00 each***	***0***	***0***	***0.00 /each***	***0***
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	***0.00 each***	***0***	***0***	***0.00 /each***	***0***
			Pre-cast/Stone Sills					
			Sills - Cast Stone 9" Stock	282.00 lnft	11,225	4,046	54.15 /lnft	15,271
			Pre-cast/Stone Sills		*11,225*	*4,046*	*/lnft*	*15,271*
			Cleaning: Masonry					
			Clean Brick - General	25.57 sqs	7,792	155	310.78 /sqs	7,947
			Cleaning: Masonry		*7,792*	*155*	*/sqs*	*7,947*
			MASONRY		*75,447*	*24,445*	*/sqft*	*100,606*
		5000.00	**METALS**					
			Struct: Cld-Frm Framing					
			8" Track 14 ga	1,124.00 lnft	12,320	3,439	14.02 /lnft	15,759
			8" Stud 14 ga	6,104.00 lnft	59,159	14,855	12.13 /lnft	74,014
			Struct: Cld-Frm Framing		*71,480*	*18,293*	*/lnft*	*89,773*
			Misc: Lintels					
			Stl Angles > 4000 lbs	2,526.00 lb	4,788	3,131	3.14 /lb	7,919
			Relieving Angle	4,608.00 lb	8,734	5,713	3.14 /lb	14,447
			Misc: Lintels		*13,522*	*8,844*	*/lbs*	*22,366*
			METALS		*85,002*	*27,137*	*/sqft*	*112,139*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Sprayed Elastomeric 25 to 45 mil	5,114.00 sqft	27,491	7,495	6.84 /sqft	34,986
			Waterproofng: Elastomeric		*27,491*	*7,495*	*/sqs*	*34,986*
			Insulation: Batt					
			Mineral Wool 4"	5,114.00 sqft	2,932	6,360	1.82 /sqft	9,292
			Mineral Wool 2"	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Insulation: Batt		*2,932*	*6,360*	*/sqft*	*9,292*
			Insulation: Sprayed On					
			Insul Sprayd-on Cellulose 4"	5,114.00 sqft	6,775	6,530	3.00 /sqft	15,360
			Insulation: Sprayed On		*6,775*	*6,530*	*/sqft*	*15,360*
			Metal Facing Panels					
			Alluminum Wall Panel	2,557.00 sqft	59,144	65,741	48.84 /sqft	124,886
			Thermal Break Upcharge	2,557.00 sqft	36,509	29,081	25.65 /sqft	65,589
			Premium for Market	2,557.00 sqft	36,509	29,081	25.65 /sqft	65,589
			Metal Facing Panels		*132,162*	*123,902*	*/sqft*	*256,064*
			Sheetmetal: Soffits					
			Soffit	6,600.00 sqft	94,235	174,779	40.76 /sqft	269,013
			Sheetmetal: Soffits		*94,235*	*174,779*	*/sqft*	*269,013*
			THERMAL & MOISTURE PROT		*263,594*	*319,066*	*/sqft*	*584,715*
		9000.00	**FINISHES**					
			GWB Int Frame: Furring					
			Clips for Metal Panels x 12'	168.00 each	9,681	1,894	68.90 /each	11,575
			GWB Int Frame: Furring		*9,681*	*1,894*	*/lnft*	*11,575*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	750	267	1,017.31 /lsum	1,017
			GWB: Fasteners		*750*	*267*	*/each*	*1,017*
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	4,327.00 sqft	4,992	2,052	1.63 /sqft	7,045
			GWB 5/8" Head Wrap	282.00 lnft	2,082	134	7.86 /lnft	2,216
			GWB 5/8" Jamb Wrap	564.00 lnft	2,538	268	4.97 /lnft	2,805
			Ext Dens Glass Gold Sheathing 1/2	4,327.00 sqft	7,489	3,027	2.43 /sqft	10,516
			GWB: Boards & Sheathing		*17,102*	*5,481*	*/sqft*	*22,582*
			GWB: Finish Mud/Tape					
			Labor GWB Wall Finish	3,540.00 sqft	3,450	267	1.05 /sqft	3,717
			GWB: Finish Mud/Tape		*3,450*	*267*	*/sqft*	*3,717*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			FINISHES		*30,983*	*7,909*	*/sqft*	*38,892*
			B2010 EXTERIOR WALLS	***11,714.00 sqft***	***461,525***	***388,630***	***72.85 /sqft***	***853,330***
	B2020		**EXTERIOR WINDOWS**					
		4000.00	**MASONRY**					
			Access: Wall Flashing					
			Flash Head SS	282.00 sqft	1,450	2,067	12.47 /sqft	3,516
			Flash Sill Lead Ct. Cop 5 oz.	282.00 sqft	1,329	1,104	8.63 /sqft	2,432
			Access: Wall Flashing		*2,778*	*3,170*	*/sqft*	*5,948*
			MASONRY		*2,778*	*3,170*	*/sqft*	*5,948*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	***0.00 lsum***	***-***	***0***	***0.00 /lsum***	***0***
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	1,128.00 lnft	5,857	1,138	6.20 /lnft	6,995
			Blocking: Rough Bucks		*5,857*	*1,138*	*/mbf*	*6,995*
			WOOD & PLASTICS		*5,857*	*1,138*	*/sqft*	*6,995*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	1,128.00 sqft	8,053	1,252	8.25 /sqft	9,305
			Waterproofng: Elastomeric		*8,053*	*1,252*	*/sqs*	*9,305*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	1,128.00 lnft	4,112	88	3.72 /lnft	4,199
			Polyurethane Sealant 1/2"	2,256.00 lnft	26,314	902	12.06 /lnft	27,216
			Sealant - Jt Filler Gaskt		*30,426*	*989*	*/lnft*	*31,415*
			THERMAL & MOISTURE PROT		*38,479*	*2,242*	*/sqft*	*40,720*
		8000.00	**DOORS & WINDOWS**					
			Aluminum Storefront					
			Storefront Inc Double Glaze	633.00 sqft	8,111	45,003	83.91 /sqft	53,114
			Aluminum Storefront		*8,111*	*45,003*	*/sqft*	*53,114*
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	1,680.00 sqft	23,884	84,757	64.67 /sqft	108,641
			Window: Aluminum		*23,884*	*84,757*	*/sqft*	*108,641*
			Alum Window Walls					
			Curtn Wall Avg Ins Gl Bronz	441.00 sqft	7,342	34,348	94.53 /sqft	41,690
			Alum Window Walls		*7,342*	*34,348*	*/sqft*	*41,690*
			DOORS & WINDOWS		*39,337*	*164,107*	*/sqft*	*203,444*
			B2020 EXTERIOR WINDOWS	***2,754.00 sqft***	***86,451***	***170,657***	***93.36 /sqft***	***257,108***
	B2030		**EXTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	1.00 each	67	16	87.30 /each	87
			Grout Double Door Frame	2.00 each	180	45	118.44 /each	237
			Mortar: Grout Fill Conc		*247*	*62*	*/cuyd*	*324*
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	15.00 sqft	77	110	12.47 /sqft	187
			Access: Wall Flashing		*77*	*110*	*/sqft*	*187*
			MASONRY		*324*	*171*	*/sqft*	*511*
		6000.00	**WOOD & PLASTICS**					
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	57.00 lnft	197	58	4.47 /lnft	255
			Blocking: Rough Bucks		*197*	*58*	*/mbf*	*255*
			WOOD & PLASTICS		*197*	*58*	*/sqft*	*255*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	57.00 sqft	407	63	8.25 /sqft	470
			Waterproofng: Elastomeric		*407*	*63*	*/sqs*	*470*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	57.00 lnft	208	4	3.72 /lnft	212
			Polyurethane Sealant 1/2"	114.00 lnft	1,330	46	12.06 /lnft	1,375
			Sealant - Jt Filler Gaskt		*1,537*	*50*	*/lnft*	*1,587*
			THERMAL & MOISTURE PROT		*1,944*	*113*	*/sqft*	*2,058*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Single	1.00 each	112	181	292.67 /each	293

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Double	2.00 each	297	451	374.03 /each	748
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Hlf Gl	5.00 each	626	3,644	853.92 /each	4,270
			Doors: Steel with Frames		*1,035*	*4,275*	*/each*	*5,310*
			Aluminum Doors & Frames					
			Alum Frame 6' x 7' Bronze Fin	2.00 each	563	880	721.46 /each	1,443
			Alum Door Med 3'-0 x 7'-0 Full Gl	4.00 each	1,323	3,074	1,099.41 /each	4,398
			Aluminum Doors & Frames		*1,886*	*3,954*	*/each*	*5,841*
			Hardware: Finishing					
			Finishing Hardware Ext Budget	5.00 each	1,386	7,233	1,723.94 /each	8,620
			Hardware: Finishing		*1,386*	*7,233*	*/set*	*8,620*
			DOORS & WINDOWS		*4,308*	*15,463*	*/sqft*	*19,771*
		9000.00	**FINISHES**					
			Painting: Exterior					
			Paint Ext Door & Frame	1.00 each	72	11	82.77 /each	83
			Painting: Exterior		*72*	*11*	*/sqft*	*83*
			FINISHES		*72*	*11*	*/sqft*	*83*
			B2030 EXTERIOR DOORS	***5.00 lvs***	***6,845***	***15,816***	***###### /lvs***	***22,677***
			B20 EXTERIOR CLOSURE	**17,927.00 sqft**	**554,821**	**575,103**	**63.21 /sqft**	**1,133,115**
B30			**ROOFING**					
	B3010		**ROOF COVERINGS**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 8 mil Fire Retardant	98.28 sq	4,609	1,247	59.59 /sq	5,856
			Dampproofing: VaprBarrier		*4,609*	*1,247*	*/sqs*	*5,856*
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	9,828.00 sqft	14,928	7,595	2.29 /sqft	22,524
			Insulation: Protection Bd		*14,928*	*7,595*	*/sqft*	*22,524*
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	98.28 sqs	21,542	27,816	502.21 /sqs	49,357
			Insulation: Roof 1st Lay		*21,542*	*27,816*	*/sqs*	*49,357*
			Insulation: Roof 2nd Lay					
			Perlite Tapered	14.74 sq	2,315	1,639	268.26 /sq	3,954
			Poly Iso 3.0" Layer 2	98.28 sqs	13,913	20,859	353.81 /sqs	34,772
			Insulation: Roof 2nd Lay		*16,228*	*22,498*	*/sqs*	*38,726*
			Membrane: EPDM					
			T.P.O. Membrane	9,828.00 sqft	24,402	21,825	4.82 /sqft	47,397
			Membrane: EPDM		*24,402*	*21,825*	*/sqs*	*47,397*
			Sheetmetal: Fascia					
			Exterior Edge	578.00 lnft	11,387	14,611	44.98 /lnft	25,998
			Sheetmetal: Fascia		*11,387*	*14,611*	*/lnft*	*25,998*
			Sheetmetal: Gravel Stop					
			Gravel Stop 6" High Dur Fin	578.00 lnft	5,694	5,115	18.70 /lnft	10,809
			Sheetmetal: Gravel Stop		*5,694*	*5,115*	*/lnft*	*10,809*
			Sheetmetal: Exp Joints					
			Interior Edge	296.00 lnft	3,818	7,897	39.58 /lnft	11,716
			Sheetmetal: Exp Joints		*3,818*	*7,897*	*/lnft*	*11,716*
			Sheetmetal: Vents/Accsry					
			Misc Accessories	9,828.00 sqft	5,602	10,806	1.67 /sqft	16,408
			Sheetmetal: Vents/Accsry		*5,602*	*10,806*	*/each*	*16,408*
			THERMAL & MOISTURE PROT		*108,211*	*119,411*	*/sqft*	*228,792*
			B3010 ROOF COVERINGS	***9,828.00 sqft***	***108,211***	***119,411***	***23.28 /sqft***	***228,792***
			B30 ROOFING	**17,927.00 sqft**	**108,211**	**119,411**	**12.76 /sqft**	**228,792**
C10			**INTERIOR CONSTRUCTION**					
	C1010		**PARTITIONS**					
		4000.00	**MASONRY**					
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	1,560.00 sqft	31,791	8,377	25.75 /sqft	40,169
			Conc. Block: 8"		*31,791*	*8,377*	*/each*	*40,169*
			Conc. Block: 6"					
			Blk 6" Standard Face Reg Wt Additinal Not Shown	437.00 sqft	7,977	1,925	23.22 /sqft	10,147

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc. Block: 6"		*7,977*	*1,925*	*/each*	*10,147*
			MASONRY		*39,768*	*10,303*	*/sqft*	*50,316*
		5000.00	**METALS**					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	558.00 lb	1,826	588	4.50 /lb	2,513
			Misc: Bolt On Material		*1,826*	*588*	*/lbs*	*2,513*
			METALS		*1,826*	*588*	*/sqft*	*2,513*
		9000.00	**FINISHES**					
			GWB: Wall Board Systems					
			GWB On Studs 4 Layer 5/8" on 6"	2,964.00 sqft	36,366	12,653	16.54 /sqft	49,019
			GWB On Studs 2 Layer 5/8" on 3-5/8"	735.00 sqft	6,068	1,830	10.75 /sqft	7,898
			GWB: Wall Board Systems		*42,434*	*14,483*	*/sqft*	*56,917*
			FINISHES		*42,434*	*14,483*	*/sqft*	*56,917*
			C1010 PARTITIONS	***5,696.00 sqft***	***84,028***	***25,374***	***19.27 /sqft***	***109,747***
	C1020		**INTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	1.00 each	67	16	87.57 /each	88
			Grout Double Door Frame	***0.00 each***	***0***	***0***	***0.00 /each***	***0***
			Mortar: Grout Fill Conc		*67*	*16*	*/cuyd*	*88*
			MASONRY		*67*	*16*	*/sqft*	*88*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	17.00 lnft	196	4	11.76 /lnft	200
			Sealant - Jt Filler Gaskt		*196*	*4*	*/lnft*	*200*
			THERMAL & MOISTURE PROT		*196*	*4*	*/sqft*	*200*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	7.00 each	834	1,207	291.55 /each	2,041
			H.M. Frame 18ga Interior Single Add	5.00 each	595	862	291.55 /each	1,458
			H.M. Frame 18ga Interior Double	2.00 each	297	464	380.50 /each	761
			H.M. Frame 18ga Interior Double Add	1.00 each	149	232	380.49 /each	380
			H.M. Door 18 ga 3-0 x 7-0 Vision	5.00 each	559	2,803	672.36 /each	3,362
			Metal Sidelight Frame Only Int	28.00 sqft	323	1,105	50.99 /sqft	1,428
			Doors: Steel with Frames		*2,757*	*6,673*	*/each*	*9,430*
			Doors: Wood					
			Door M Core 3-0 x 7-0 Vision	13.00 each	2,031	4,190	478.55 /each	6,221
			Doors: Wood		*2,031*	*4,190*	*/each*	*6,221*
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	11.00 each	1,830	10,684	1,137.66 /each	12,514
			Finishing Hardware Int Budget w Closer Add	7.00 each	1,165	6,799	1,137.66 /each	7,964
			Hardware: Finishing		*2,995*	*17,483*	*/set*	*20,478*
			Glass: All Types					
			Glass Sheet 1/4" Tempered	28.00 sqft	508	329	29.88 /sqft	837
			Glass: All Types		*508*	*329*	*/sqft*	*837*
			DOORS & WINDOWS		*8,291*	*28,675*	*/sqft*	*36,965*
		9000.00	**FINISHES**					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	528.00 lnft	1,309	18	2.51 /lnft	1,326
			GWB: Finish Mud/Tape		*1,309*	*18*	*/sqft*	*1,326*
			Painting: Interior					
			Paint Wd Door & Metal Frame	3.00 each	196	33	76.46 /each	229
			Paint Wd Door & Metal Frame Add	2.00 each	131	22	76.46 /each	153
			Paint Metal Door & Frame	8.00 each	435	80	64.43 /each	515
			Paint Metal Door & Frame Add	5.00 each	272	50	64.43 /each	322
			Paint Int Bor. Lt. Frame	28.00 sqft	99	4	3.70 /sqft	103
			Painting: Interior		*1,133*	*190*	*/sqft*	*1,323*
			FINISHES		*2,442*	*208*	*/sqft*	*2,650*
			C1020 INTERIOR DOORS	***18.00 lvs***	***10,995***	***28,903***	***###### /lvs***	***39,902***
	C1030		**SPECIALTIES/MILLWORK**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.07 /lsum	1

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Fasteners: Frame Anchors			*1*	*/each*	*1*
			Wood Blocking					
			Blocking 2 x 4 R.L.	96.00 lnft	374	33	4.24 /lnft	407
			Blocking 2 x 6 R.L.	18.00 lnft	87	9	5.30 /lnft	95
			Wood Blocking		*461*	*41*	*/mbf*	*502*
			Plywood: Panel Board					
			Panel Board	6.00 each	1,024	209	205.46 /each	1,233
			Plywood: Panel Board		*1,024*	*209*	*/each*	*1,233*
			I Trim: Shelving					
			Custom Wood Shelving	***0.00 lnft***	***0***	***0***	***0.00 /lnft***	***0***
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	282.00 lnft	2,481	4,245	23.85 /lnft	6,726
			Apron At Stools	282.00 lnft	1,193	631	6.47 /lnft	1,824
			I Trim: Dr & Window Matrl		*3,674*	*4,876*	*/lnft*	*8,550*
			WOOD & PLASTICS		*5,159*	*5,127*	*/sqft*	*10,286*
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint Shelves 3 ct	***0.00 lnft***	***0***	***0***	***0.00 /lnft***	***0***
			Paint Wood Sill	282.00 lnft	874	58	3.31 /lnft	932
			Paint Wood Apron	282.00 lnft	775	40	2.89 /lnft	814
			Painting: Interior		*1,649*	*97*	*/sqft*	*1,746*
			FINISHES		*1,649*	*97*	*/sqft*	*1,746*
		10000.00	**SPECIALTIES**					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	96.00 sqft	410	1,309	17.91 /sqft	1,719
			Tackboard Alum Fr	96.00 sqft	410	900	13.65 /sqft	1,310
			Chalkboards/Tackboards		*820*	*2,209*	*/sqft*	*3,029*
			Fire Extinguishers					
			Fire Ext Cabinet	3.00 each	683	611	431.47 /each	1,294
			Fire Extinguishers		*683*	*611*	*/each*	*1,294*
			SPECIALTIES		*1,503*	*2,821*	*/sqft*	*4,324*
			C1030 SPECIALTIES/MILLWORK	***17,927.00 sqft***	***8,311***	***8,045***	***0.91 /sqft***	***16,356***
			C10 INTERIOR CONSTRUCTION	**17,927.00 sqft**	**103,334**	**62,322**	**9.26 /sqft**	**166,005**
C20			**STAIRCASES**					
	C2010		**STAIR CONSTRUCTION**					
		5000.00	**METALS**					
			Stairs: Stair Parts					
			Custom Steel Stair 11'-0"	26.00 risr	2,771	38,454	1,595.55 /risr	41,484
			Wall Rail Steel 1-1/2" 1 pipe	35.00 lnft	832	587	41.63 /lnft	1,457
			Ornamental Steel Well Rail Mid	35.00 lnft	2,707	3,484	180.44 /lnft	6,315
			Landing Steel Pan	66.00 sqft	1,649	4,856	99.68 /sqft	6,579
			Stairs: Stair Parts		*7,959*	*47,381*	*/flt*	*55,836*
			METALS		*7,959*	*47,381*	*/sqft*	*55,836*
			C2010 STAIR CONSTRUCTION	***1.00 flt***	***7,959***	***47,381***	***###### /flt***	***55,836***
	C2020		**STAIR FINISHES**					
		9000.00	**FINISHES**					
			Flooring Resilient Tile					
			Radial Rubber Floor 3/16"	66.00 sqft	549	521	16.21 /sqft	1,070
			Floor Resil Tile Safety Tread	265.00 lnft	1,339	2,972	16.27 /lnft	4,311
			Floor Resil Rubber Riser	287.00 lnft	665	1,516	7.60 /lnft	2,181
			Flooring Resilient Tile		*2,553*	*5,009*	*/sqft*	*7,562*
			Painting: Interior					
			Paint Stair Assembly	352.00 sqft	1,185	228	4.01 /sqft	1,413
			Paint Int Pipe Rails	245.00 lnft	282	53	1.37 /lnft	335
			Painting: Interior		*1,467*	*281*	*/sqft*	*1,748*
			FINISHES		*4,020*	*5,289*	*/sqft*	*9,310*
			C2020 STAIR FINISHES	***1,215.00 sqft***	***4,020***	***5,289***	***7.66 /sqft***	***9,310***
			C20 STAIRCASES	**17,927.00 sqft**	**11,980**	**52,671**	**3.63 /sqft**	**65,145**
C30			**INTERIOR FINISHES**					
	C3010		**WALL FINISHES**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint GDW Wall Roller p + 2ct	9,255.00 sqft	6,560	1,596	0.88 /sqft	8,156
			Paint Int CMU Spray p+2ct	3,380.00 sqft	2,995	838	1.13 /sqft	3,833
			Painting: Interior		*9,555*	*2,434*	*/sqft*	*11,989*
			FINISHES		*9,555*	*2,434*	*/sqft*	*11,989*
			C3010 WALL FINISHES	***12,635.00 sqft***	***9,555***	***2,434***	***0.95 /sqft***	***11,989***
	C3020		**FLOOR FINISHES**					
		3000.00	**CONCRETE**					
			Conc: Slurry Coat					
			Leveling Compound Moisture Mitigation?	2,201.00 sqft	9,625	2,616	6.27 /sqft	13,794
			Conc: Slurry Coat		*9,625*	*2,616*	*/sqft*	*13,794*
			Finish: Floor Hardner					
			Floor Hardner Med Service	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			CONCRETE		*9,625*	*2,616*	*/sqft*	*13,794*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Ceramic Trim: Cove Base	327.00 lnft	7,462	1,380	27.04 /lnft	8,842
			Porcelain Paving Tile	2,180.00 sqft	27,526	25,498	24.32 /sqft	53,024
			Ceramic Tile		*34,989*	*26,878*	*/sqft*	*61,866*
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Tile Quary Shape Cove Base 3/4	***0.00 lnft***	***0***	***0***	***0.00 /lnft***	***0***
			Flooring Resilient Tile					
			Floor LVT 1/8"	2,455.00 sqft	3,102	16,301	7.90 /sqft	19,403
			Floor Resil Base 4"	2,137.00 lnft	3,825	1,685	2.58 /lnft	5,510
			Flooring Resilient Tile		*6,927*	*17,985*	*/sqft*	*24,913*
			Flooring Carpet					
			Carpet Commercial 32oz	1,466.67 sqyd	22,701	65,567	60.18 /sqyd	88,268
			Flooring Carpet		*22,701*	*65,567*	*/sqyd*	*88,268*
			FINISHES		*64,617*	*110,430*	*/sqft*	*175,047*
			C3020 FLOOR FINISHES	***17,927.00 sqft***	***74,242***	***113,046***	***10.53 /sqft***	***188,840***
	C3030		**CEILING FINISHES**					
		9000.00	**FINISHES**					
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	428.00 lnft	2,846	265	7.27 /lnft	3,112
			GWB Int Frame: S Studs		*2,846*	*265*	*/each*	*3,112*
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8"	568.00 lnft	4,299	397	8.27 /lnft	4,695
			GWB Int Frame: Track		*4,299*	*397*	*/lnft*	*4,695*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	104	36	139.42 /lsum	139
			GWB: Fasteners		*104*	*36*	*/each*	*139*
			GWB: Boards & Sheathing					
			GWB 5/8" Soffit	568.00 sqft	2,425	306	4.81 /sqft	2,731
			GWB: Boards & Sheathing		*2,425*	*306*	*/sqft*	*2,731*
			GWB: Finish Mud/Tape					
			Labor GWB Soffit Finish	568.00 sqft	755	47	1.41 /sqft	802
			GWB: Finish Mud/Tape		*755*	*47*	*/sqft*	*802*
			Ceiling: 2x4 Tile					
			Upgrade for Ultima Material Allow	17,297.00 sqft	0	23,431	1.36 /sqft	23,431
			Insulation Clg @ Soffit	6,600.00 sqft	21,108	41,038	9.42 /sqft	62,147
			MinFbr SqEdge Std 2x4 3/4"	13,964.00 sqft	21,610	47,135	4.92 /sqft	68,744
			MinFbr Tegulr Std 2x4 3/4" 250-500 sf	3,333.00 sqft	7,221	10,584	5.34 /sqft	17,805
			Mylar Faced Std 2x4 3/4"	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Ceiling: 2x4 Tile		*49,939*	*122,188*	*/sqft*	*172,127*
			Painting: Interior					
			Paint GDW Soffit Roller p+2ct	568.00 sqft	654	98	1.32 /sqft	752
			Paint Misc Stl Exp Deck 3 Coat	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Paint Exist Structure	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Paint Exist Mechanicals	***0.00 sqft***	***0***	***0***	***0.00 /sqft***	***0***
			Painting: Interior		*654*	*98*	*/sqft*	*752*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			FINISHES		*61,022*	*123,337*	*/sqft*	*184,359*
			C3030 CEILING FINISHES	***17,927.00 sqft***	***61,022***	***123,337***	***10.28 /sqft***	***184,359***
			C30 INTERIOR FINISHES	**17,927.00 sqft**	**144,818**	**238,817**	**21.49 /sqft**	**385,188**
D20			**PLUMBING**					
	D2010		**PLUMBING FIXTURES**					
		15100.00	**PLUMBING**					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	17,927.00 sqft	41,232	39,424	4.50 /sqft	80,656
			Plumbing Fixtures & Equip		*41,232*	*39,424*	*/each*	*80,656*
			PLUMBING		*41,232*	*39,424*	*/sqft*	*80,656*
			D2010 PLUMBING FIXTURES	***17,927.00 sqft***	***41,232***	***39,424***	***4.50 /sqft***	***80,656***
	D2020		**DOMESTIC WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Domestic Water (Sqft)	17,927.00 sqft	41,949	36,718	4.39 /sqft	78,667
			Piping		*41,949*	*36,718*	*/lnft*	*78,667*
			PLUMBING		*41,949*	*36,718*	*/sqft*	*78,667*
			D2020 DOMESTIC WATER	***17,927.00 sqft***	***41,949***	***36,718***	***4.39 /sqft***	***78,667***
	D2030		**SANITARY WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Sanitary Water (Sqft)	17,927.00 sqft	32,089	31,307	3.54 /sqft	63,396
			Piping		*32,089*	*31,307*	*/lnft*	*63,396*
			PLUMBING		*32,089*	*31,307*	*/sqft*	*63,396*
			D2030 SANITARY WATER	***17,927.00 sqft***	***32,089***	***31,307***	***3.54 /sqft***	***63,396***
	D2040		**RAINWATER DRAINAGE**					
		15100.00	**PLUMBING**					
			Piping					
			Rain Water Drainage(Sqft)	17,927.00 sqft	22,588	22,031	2.49 /sqft	44,619
			Piping		*22,588*	*22,031*	*/lnft*	*44,619*
			PLUMBING		*22,588*	*22,031*	*/sqft*	*44,619*
			D2040 RAINWATER DRAINAGE	***17,927.00 sqft***	***22,588***	***22,031***	***2.49 /sqft***	***44,619***
	D2050		**SPECIAL PLUMBING SYSTEMS**					
		15100.00	**PLUMBING**					
			Plumbing					
			Special Plumbing Systems (Sqft)	17,927.00 sqft	13,445	13,334	1.49 /sqft	26,780
			Plumbing		*13,445*	*13,334*	*/sqft*	*26,780*
			PLUMBING		*13,445*	*13,334*	*/sqft*	*26,780*
			D2050 SPECIAL PLUMBING SYSTEMS	***17,927.00 sqft***	***13,445***	***13,334***	***1.49 /sqft***	***26,780***
			D20 PLUMBING	**17,927.00 sqft**	**151,304**	**142,814**	**16.41 /sqft**	**294,118**
D30			**HVAC**					
	D3020		**HEAT GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Heat Generation					
			Heat Generating Systems (Sqft)	17,927.00 sqft	41,770	28,022	3.89 /sqft	69,792
			Heat Generation		*41,770*	*28,022*	*/each*	*69,792*
			HVAC SYSTEMS		*41,770*	*28,022*	*/sqft*	*69,792*
			D3020 HEAT GENERATING SYSTEMS	***17,927.00 sqft***	***41,770***	***28,022***	***3.89 /sqft***	***69,792***
	D3030		**COOLING GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Refrigeration					
			Cooling Generating Systems (Sqft)	17,927.00 sqft	83,898	53,918	7.69 /sqft	137,816
			Refrigeration		*83,898*	*53,918*	*/each*	*137,816*
			HVAC SYSTEMS		*83,898*	*53,918*	*/sqft*	*137,816*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			D3030 COOLING GENERATING SYSTEMS	***17,927.00 sqft***	***83,898***	***53,918***	***7.69 /sqft***	***137,816***
	D3040		**DISTRIBUTION SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Air Distribution					
			Distribution Systems (Sqft)	17,927.00 sqft	283,426	176,827	25.67 /sqft	460,252
			Air Distribution		*283,426*	*176,827*	*/sqft*	*460,252*
			HVAC SYSTEMS		*283,426*	*176,827*	*/sqft*	*460,252*
			D3040 DISTRIBUTION SYSTEMS	***17,927.00 sqft***	***283,426***	***176,827***	***25.67 /sqft***	***460,252***
	D3050		**TERMINAL PACKAGE UNITS**					
		15500.00	**HVAC SYSTEMS**					
			Air Handling					
			Terminal Package Units (Sqft)	17,927.00 sqft	10,218	6,184	0.92 /sqft	16,402
			Air Handling		*10,218*	*6,184*	*/each*	*16,402*
			HVAC SYSTEMS		*10,218*	*6,184*	*/sqft*	*16,402*
			D3050 TERMINAL PACKAGE UNITS	***17,927.00 sqft***	***10,218***	***6,184***	***0.92 /sqft***	***16,402***
	D3060		**CONTROL & INSTRUMENTATION**					
		15500.00	**HVAC SYSTEMS**					
			Controls					
			Control & Instrumentation (Sqft)	17,927.00 sqft	67,585	42,322	6.13 /sqft	109,907
			Controls		*67,585*	*42,322*	*/sqft*	*109,907*
			HVAC SYSTEMS		*67,585*	*42,322*	*/sqft*	*109,907*
			D3060 CONTROL & INSTRUMENTATION	***17,927.00 sqft***	***67,585***	***42,322***	***6.13 /sqft***	***109,907***
	D3070		**SYSTEM TESTING & BALANCING**					
		15500.00	**HVAC SYSTEMS**					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	17,927.00 sqft	5,916	3,865	0.55 /sqft	9,781
			Test & Balancing Misc		*5,916*	*3,865*	*/sqft*	*9,781*
			HVAC SYSTEMS		*5,916*	*3,865*	*/sqft*	*9,781*
			D3070 SYSTEM TESTING & BALANCING	***17,927.00 sqft***	***5,916***	***3,865***	***0.55 /sqft***	***9,781***
	D3090		**OTHER HVAC SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			HVAC					
			HVAC (Sqft) Other	17,927.00 sqft	20,795	17,973	2.16 /sqft	38,768
			HVAC		*20,795*	*17,973*	*/sqft*	*38,768*
			HVAC SYSTEMS		*20,795*	*17,973*	*/sqft*	*38,768*
			D3090 OTHER HVAC SYSTEMS	***17,927.00 sqft***	***20,795***	***17,973***	***2.16 /sqft***	***38,768***
			D30 HVAC	**17,927.00 sqft**	**513,609**	**329,110**	**47.01 /sqft**	**842,719**
D40			**FIRE PROTECTION**					
	D4010		**SPRINKLER SYSTEMS**					
		15000.00	**FIRE PROTECTION**					
			Sprinkler					
			Fire Protection (Sqft)	17,927.00 sqft	67,226	52,951	6.70 /sqft	120,178
			Sprinkler		*67,226*	*52,951*	*/sqft*	*120,178*
			FIRE PROTECTION		*67,226*	*52,951*	*/sqft*	*120,178*
			D4010 SPRINKLER SYSTEMS	***17,927.00 sqft***	***67,226***	***52,951***	***6.70 /sqft***	***120,178***
			D40 FIRE PROTECTION	**17,927.00 sqft**	**67,226**	**52,951**	**6.70 /sqft**	**120,178**
D50			**ELECTRICAL**					
	D5010		**SERVICE & DISTRIBUTION**					
		16000.00	**ELECTRICAL**					
			Service Distribution					
			Service & Distribution (Sqft)	17,927.00 sqft	63,462	75,948	7.78 /sqft	139,410

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Service Distribution		*63,462*	*75,948*	*/sqft*	*139,410*
			ELECTRICAL		*63,462*	*75,948*	*/sqft*	*139,410*
			D5010 SERVICE & DISTRIBUTION	***17,927.00 sqft***	***63,462***	***75,948***	***7.78 /sqft***	***139,410***
	D5020		**LIGHTING & BRANCH WIRING**					
		16000.00	**ELECTRICAL**					
			Lighting					
			Lighting & Branch Wiring (Sqft)	17,927.00 sqft	155,069	160,787	17.62 /sqft	315,855
			Lighting		*155,069*	*160,787*	*/each*	*315,855*
			ELECTRICAL		*155,069*	*160,787*	*/sqft*	*315,855*
			D5020 LIGHTING & BRANCH WIRING	***17,927.00 sqft***	***155,069***	***160,787***	***17.62 /sqft***	***315,855***
	D5030		**COMMUNICATION & SECURITY**					
		16000.00	**ELECTRICAL**					
			Communications					
			Communication & Security (Sqft)	17,927.00 sqft	120,290	126,581	13.77 /sqft	246,871
			Communications		*120,290*	*126,581*	*/sqft*	*246,871*
			ELECTRICAL		*120,290*	*126,581*	*/sqft*	*246,871*
			D5030 COMMUNICATION & SECURITY	***17,927.00 sqft***	***120,290***	***126,581***	***13.77 /sqft***	***246,871***
	D5040		**SPECIAL ELECTRICAL SYSTEMS**					
		16000.00	**ELECTRICAL**					
			Special Systems					
			Special Electrical Systems(Sqft)	17,927.00 sqft	34,420	35,752	3.91 /sqft	70,172
			Special Systems		*34,420*	*35,752*	*/each*	*70,172*
			ELECTRICAL		*34,420*	*35,752*	*/sqft*	*70,172*
			D5040 SPECIAL ELECTRICAL SYSTEMS	***17,927.00 sqft***	***34,420***	***35,752***	***3.91 /sqft***	***70,172***
			D50 ELECTRICAL	**17,927.00 sqft**	**373,240**	**399,068**	**43.08 /sqft**	**772,308**
E20			**FURNISHINGS**					
	E2010		**FIXED FURNISHINGS**					
		6000.00	**WOOD & PLASTICS**					
			Wood Blocking					
			Blocking 2 x 4 R.L.	10.00 lnft	39	3	4.24 /lnft	42
			Blocking 2 x 6 R.L.	31.00 lnft	149	15	5.30 /lnft	164
			Wood Blocking		*188*	*18*	*/mbf*	*207*
			WOOD & PLASTICS		*188*	*18*	*/sqft*	*207*
		12000.00	**FURNISHINGS**					
			Casework					
			School Casework	17,927.00 sqft	16,547	57,976	4.16 /sqft	74,523
			Casework		*16,547*	*57,976*	*/lnft*	*74,523*
			Display Casework					
			Display Case	5.00 lnft	385	2,824	641.83 /lnft	3,209
			Display case 7' h	2.00 lnft	269	2,842	1,555.46 /lnft	3,111
			Display Casework		*654*	*5,666*	*/lnft*	*6,320*
			Shades					
			Vinyl Heavy Wt	1,680.00 sqft	2,119	7,842	5.93 /sqft	9,961
			Vinyl Heavy Wt Int	28.00 sqft	35	131	5.93 /sqft	166
			Shades		*2,154*	*7,973*	*/sqft*	*10,127*
			Furniture					
			Library Charge Desk	29.00 lnft	3,801	14,881	644.19 /lnft	18,682
			Furniture		*3,801*	*14,881*	*/lnft*	*18,682*
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	92.00 sqft	1,182	2,742	42.65 /sqft	3,924
			Floor Mats		*1,182*	*2,742*	*/sqft*	*3,924*
			FURNISHINGS		*24,338*	*89,237*	*/sqft*	*113,575*
			E2010 FIXED FURNISHINGS	***17,927.00 sqft***	***24,526***	***89,256***	***6.35 /sqft***	***113,782***
			E20 FURNISHINGS	**17,927.00 sqft**	**24,526**	**89,256**	**6.35 /sqft**	**113,782**
G10			**SITE PREPARATION**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	G1030		**EARTHWORK**					
		2100.00	**SITEWORK**					
			Site Clearing					
			Site Preparation	6.60 acre		-	87,551.00 /acre	577,837
			Site Clearing				*/acre*	*577,837*
			SITEWORK				*/sqft*	*577,837*
			G1030 EARTHWORK	***6.60 acre***			###### ***/acre***	***577,837***
			G10 SITE PREPARATION	**6.60 acre**			##### **/acre**	**577,837**
G20			**SITE IMPROVEMENTS**					
	G2040		**SITE DEVELOPMENT**					
		2100.00	**SITEWORK**					
			Improvmnts: Misc					
			Site Development	6.60 acre	-	-	######## /acre	1,456,514
			Improvmnts: Misc				*/lsum*	*1,456,514*
			SITEWORK				*/sqft*	*1,456,514*
			G2040 SITE DEVELOPMENT	***6.60 acre***			###### ***/acre***	***1,456,514***
			G20 SITE IMPROVEMENTS	**6.60 acre**			##### **/acre**	**1,456,514**
G30			**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030		**STORM SEWER SYSTEM**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Utilities	6.60 acre	-	-	95,171.00 /acre	628,129
			Division 2 Subcontractors				*/sub*	*628,129*
			SITEWORK				*/sqft*	*628,129*
			G3030 STORM SEWER SYSTEM	***6.60 acre***			###### ***/acre***	***628,129***
			G30 SITE CIVIL/MECHANICAL UTILITIES	**6.60 acre**			##### **/acre**	**628,129**
G40			**SITE ELECTRICAL UTILITIES**					
	G4010		**ELECTRICAL DISTRIBUTION**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Utilities	6.60 acre	-	-	95,451.00 /acre	629,977
			Division 2 Subcontractors				*/sub*	*629,977*
			SITEWORK				*/sqft*	*629,977*
			G4010 ELECTRICAL DISTRIBUTION	***6.60 acre***			###### ***/acre***	***629,977***
			G40 SITE ELECTRICAL UTILITIES	**6.60 acre**			##### **/acre**	**629,977**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total
Labor	2,424,091		11,182.929 hrs			135.220 /sf	28.91%
Material	2,585,423					144.220 /sf	30.83%
Subcontract	3,328,868					185.690 /sf	39.69%
Equipment	47,942		692.975 hrs			2.674 /sf	0.57%
Other							
	8,386,324	**8,386,324**				**467.804 /sf**	**100.00 100.00%**
	Total	***8,386,324***				***467.804 /sf***	

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10		**FOUNDATIONS**					
	A1010	STANDARD FOUNDATIONS	216.20 cuyd	140,447	59,639	955.01 /cuyd	206,473
	A1030	SLAB ON GRADE	2,450.00 sqft	15,797	26,279	17.17 /sqft	42,076
		A10 FOUNDATIONS	**604,150.00 sqft**	**156,244**	**85,918**	**0.41 /sqft**	**248,549**
B10		**SUPERSTRUCTURE**					
	B1010	FLOOR CONSTRUCTION	4,058.00 sqft	249,211	128,452	96.18 /sqft	390,309
	B1020	ROOF CONSTRUCTION	604,150.00 sqft			5.44 /sqft	3,288,205
		B10 SUPERSTRUCTURE	**604,150.00 sqft**	**249,211**	**128,452**	**6.09 /sqft**	**3,678,513**
B20		**EXTERIOR CLOSURE**					
	B2010	EXTERIOR WALLS	113,858.00 sqft	1,134,505	579,393	15.66 /sqft	1,782,411
	B2020	EXTERIOR WINDOWS	40,716.00 sqft	1,739,692	3,353,968	125.10 /sqft	5,093,660
	B2030	EXTERIOR DOORS	69.00 lvs	88,238	197,412	4,142.66 /lvs	285,844
		B20 EXTERIOR CLOSURE	**604,150.00 sqft**	**2,962,435**	**4,130,773**	**11.86 /sqft**	**7,161,915**
B30		**ROOFING**					
	B3010	ROOF COVERINGS	188,825.00 sqft	4,400,237	3,534,070	43.17 /sqft	8,152,116
	B3020	ROOF OPENINGS	1,931.00 sqft	77,390	123,159	103.86 /sqft	200,549
		B30 ROOFING	**604,150.00 sqft**	**4,477,627**	**3,657,229**	**13.83 /sqft**	**8,352,665**
C10		**INTERIOR CONSTRUCTION**					
	C1010	PARTITIONS		2,917,388	896,834	/sqft	3,821,176
	C1020	INTERIOR DOORS	1,397.00 lvs	1,158,945	3,179,826	3,106.09 /lvs	4,339,202
	C1030	SPECIALTIES/MILLWORK	604,150.00 sqft	1,066,247	1,887,599	4.89 /sqft	2,953,883
		C10 INTERIOR CONSTRUCTION	**604,150.00 sqft**	**5,142,580**	**5,964,258**	**18.40 /sqft**	**11,114,261**
C20		**STAIRCASES**					
	C2010	STAIR CONSTRUCTION	31.00 flt	477,036	1,340,366	59,308.64 /flt	1,838,568
	C2020	STAIR FINISHES	38,800.00 sqft	117,694	143,863	6.74 /sqft	261,557
		C20 STAIRCASES	**604,150.00 sqft**	**594,730**	**1,484,229**	**3.48 /sqft**	**2,100,124**
C30		**INTERIOR FINISHES**					
	C3010	WALL FINISHES	785,973.00 sqft	1,547,246	608,795	2.76 /sqft	2,171,211
	C3020	FLOOR FINISHES	604,150.00 sqft	3,967,746	4,182,700	13.93 /sqft	8,417,661
	C3030	CEILING FINISHES	604,150.00 sqft	2,336,317	2,529,186	8.11 /sqft	4,897,646
		C30 INTERIOR FINISHES	**604,150.00 sqft**	**7,851,310**	**7,320,681**	**25.63 /sqft**	**15,486,517**
D10		**CONVEYING SYSTEMS**					
	D1010	ELEVATORS	2.00 each	117,046	372,205	245,787.39 /each	491,575
		D10 CONVEYING SYSTEMS	**604,150.00 sqft**	**117,046**	**372,205**	**0.81 /sqft**	**491,575**
D20		**PLUMBING**					
	D2010	PLUMBING FIXTURES	604,150.00 sqft	1,342,446	1,049,629	3.96 /sqft	2,392,075
	D2020	DOMESTIC WATER	604,150.00 sqft	1,348,261	1,254,461	4.31 /sqft	2,602,721
	D2030	SANITARY WATER	604,150.00 sqft	1,031,081	801,324	3.03 /sqft	1,832,405
	D2040	RAINWATER DRAINAGE	604,150.00 sqft	725,901	565,154	2.14 /sqft	1,291,055

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D2050	SPECIAL PLUMBING SYSTEMS	604,150.00 sqft	437,792	341,519	1.29 /sqft	779,311
		D20 PLUMBING	**604,150.00 sqft**	**4,885,480**	**4,012,087**	**14.73 /sqft**	**8,897,568**
D30		**HVAC**					
	D3020	HEAT GENERATING SYSTEMS	604,150.00 sqft	1,375,343	916,576	3.79 /sqft	2,291,919
	D3030	COOLING GENERATING SYSTEMS	604,150.00 sqft	1,628,984	1,050,353	4.44 /sqft	2,679,337
	D3040	DISTRIBUTION SYSTEMS	604,150.00 sqft	9,333,383	5,823,124	25.09 /sqft	15,156,507
	D3050	TERMINAL PACKAGE UNITS	604,150.00 sqft	336,142	203,283	0.89 /sqft	539,425
	D3060	CONTROL & INSTRUMENTATION	604,150.00 sqft	2,208,523	1,383,004	5.95 /sqft	3,591,526
	D3070	SYSTEM TESTING & BALANCING	604,150.00 sqft	194,804	127,902	0.53 /sqft	322,706
	D3090	OTHER HVAC SYSTEMS	604,150.00 sqft	684,743	591,705	2.11 /sqft	1,276,448
		D30 HVAC	**604,150.00 sqft**	**15,761,921**	**10,095,947**	**42.80 /sqft**	**25,857,869**
D40		**FIRE PROTECTION**					
	D4010	SPRINKLER SYSTEMS	604,150.00 sqft	2,176,760	1,714,326	6.44 /sqft	3,891,086
		D40 FIRE PROTECTION	**604,150.00 sqft**	**2,176,760**	**1,714,326**	**6.44 /sqft**	**3,891,086**
D50		**ELECTRICAL**					
	D5010	SERVICE & DISTRIBUTION	604,150.00 sqft	2,047,428	2,159,535	6.96 /sqft	4,206,963
	D5020	LIGHTING & BRANCH WIRING	604,150.00 sqft	5,002,335	5,186,920	16.87 /sqft	10,189,255
	D5030	COMMUNICATION & SECURITY	604,150.00 sqft	4,320,435	4,544,958	14.67 /sqft	8,865,393
	D5040	SPECIAL ELECTRICAL SYSTEMS	604,150.00 sqft	1,231,823	1,271,870	4.14 /sqft	2,503,693
		D50 ELECTRICAL	**604,150.00 sqft**	**12,602,020**	**13,163,283**	**42.65 /sqft**	**25,765,303**
E10		**EQUIPMENT**					
	E1020	INSTITUTIONAL EQUIPMENT	604,150.00 sqft	712,108	1,660,745	7.59 /sqft	4,582,852
		E10 EQUIPMENT	**604,150.00 sqft**	**712,108**	**1,660,745**	**7.59 /sqft**	**4,582,852**
E20		**FURNISHINGS**					
	E2010	FIXED FURNISHINGS	604,150.00 sqft	739,107	2,708,924	5.71 /sqft	3,448,032
		E20 FURNISHINGS	**604,150.00 sqft**	**739,107**	**2,708,924**	**5.71 /sqft**	**3,448,032**
F10		**SPECIAL CONSTRUCTION**					
	F1030	SPECIAL CONSTRUCTION	275.00 sqft	26,907	10,079	134.49 /sqft	36,986
		F10 SPECIAL CONSTRUCTION	**275.00 sqft**	**26,907**	**10,079**	**134.49 /sqft**	**36,986**
F20		**SELECTIVE DEMOLITION**					
	F2010	SELECTIVE DEMOLITION	604,150.00 sqft	5,282,080	41,591	15.92 /sqft	9,615,925
		F20 SELECTIVE DEMOLITION	**604,150.00 sqft**	**5,282,080**	**41,591**	**15.92 /sqft**	**9,615,925**

Estimate Totals

Description	Amount	Totals	Hours	Rate	ost per Unit	t of Total	
Labor	63,737,565		262,246.584 hrs		102.186 /sf	48.76%	
Material	56,550,728				90.664 /sf	43.26%	
Subcontract	9,508,205				15.244 /sf	7.27%	
Equipment	933,243		33,245.366 hrs		1.496 /sf	0.71%	
Other							
	130,729,741	**130,729,741**			**209.589 /sf**	**100.00**	**100.00%**
Total		***130,729,741***			***209.589 /sf***		

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10			**FOUNDATIONS**					
	A1010		**STANDARD FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Earthwk: Dispose Surplus					
			Dispose Surplus	531.00 cuyd	3,239	-	12.18 /cuyd	6,465
			Earthwk: Dispose Surplus		*3,239*		*/cuyd*	*6,465*
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	23.70 cuyd	3,023	-	127.56 /cuyd	3,023
			Excavate Isolated Footing By Hand	3.60 cuyd	459	-	127.56 /cuyd	459
			Earthwk: Footings (Hand)		*3,482*		*/cuyd*	*3,482*
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	507.00 cuyd	2,493	-	6.27 /cuyd	3,180
			Excavate Isolated Footing Machine	28.00 cuyd	301	-	13.67 /cuyd	383
			Earthwk: Footings (Mach)		*2,794*		*/cuyd*	*3,563*
			Backfill: Footing					
			Backfill Footings-	365.00 cuyd	1,083	8,077	26.76 /cuyd	9,769
			Backfill: Footing		*1,083*	*8,077*	*/cuyd*	*9,769*
			SITEWORK		*10,599*	*8,077*	*/sqft*	*23,279*
		3000.00	**CONCRETE**					
			Forms: Footings					
			Footing Forms 2 Use	1,284.00 sqft	10,054	5,304	11.96 /sqft	15,357
			Engaged Footing Forms 2 use	550.00 sqft	4,719	544	9.57 /sqft	5,263
			Keyway In Footing	640.00 lnft	4,477	412	7.64 /lnft	4,889
			Forms: Footings		*19,250*	*6,259*	*/sqft*	*25,509*
			Forms: Walls					
			Wall Forms	5,120.00 sqft	62,222	9,380	13.99 /sqft	71,602
			Forms: Walls		*62,222*	*9,380*	*/sqft*	*71,602*
			Forms: Ramps					
			Ramp Forms 2 use	192.00 lnft	1,853	290	11.16 /lnft	2,143
			Forms: Ramps		*1,853*	*290*	*/lnft*	*2,143*
			Forms: Stairs					
			Stair Forms	780.00 sqft	17,235	2,191	24.91 /sqft	19,426
			Forms: Stairs		*17,235*	*2,191*	*/sqft*	*19,426*
			Forms: Pits & Misc.					
			Pad Forms	122.00 sqft	674	397	8.78 /sqft	1,071
			Forms: Pits & Misc.		*674*	*397*	*/sqft*	*1,071*
			Rebar: Footings					
			Footing Rebar #5	1.00 ton	1,785	1,250	3,034.22 /ton	3,034
			Rebar: Footings		*1,785*	*1,250*	*/ton*	*3,034*
			Rebar: Walls					
			Wall Rebar #4	3.42 ton	4,275	4,274	2,499.54 /ton	8,548
			Rebar: Walls		*4,275*	*4,274*	*/ton*	*8,548*
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.16 ton	375	200	3,593.19 /ton	575
			Rebar: Steps & Stairs		*375*	*200*	*/ton*	*575*
			Rebar: WWM @ Ramp/Misc					
			Wiremesh - Ramp 6x6 6/6	19.20 sqs	1,330	605	100.78 /sqs	1,935
			Wiremesh - Pad 6x6 6/6	12.20 sqs	870	384	102.84 /sqs	1,255
			Rebar: WWM @ Ramp/Misc		*2,200*	*989*	*/sqs*	*3,190*
			Conc: Footings					
			Footing Conc 3000 psi	47.41 cuyd	2,661	5,599	183.08 /cuyd	8,680
			Conc: Footings		*2,661*	*5,599*	*/cuyd*	*8,680*
			Conc: Walls					
			Wall Conc 4000 psi	94.81 cuyd	6,237	11,392	196.28 /cuyd	18,609
			Conc: Walls		*6,237*	*11,392*	*/cuyd*	*18,609*
			Conc: Ramps					
			Ramp Conc 4000 psi	35.56 cuyd	1,828	4,476	185.11 /cuyd	6,583
			Conc: Ramps		*1,828*	*4,476*	*/cuyd*	*6,583*
			Conc: Pit & Misc					
			Pad Conc 4000 psi	22.59 cuyd	410	2,585	132.87 /cuyd	3,001
			Conc: Pit & Misc		*410*	*2,585*	*/cuyd*	*3,001*
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	15.80 cuyd	624	1,898	165.84 /cuyd	2,620
			Conc: Stairs & Steps		*624*	*1,898*	*/cuyd*	*2,620*
			Finish: Protect & Cure					
			Cure Conc Ext Stair	2.55 sqs	69	27	37.85 /sqs	97

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Finish: Protect & Cure					
			Cure Conc Ramp	19.20 sqs	522	204	37.85 /sqs	727
			Conc Cure Pad	12.20 sqs	365	130	40.57 /sqs	495
			Finish: Protect & Cure		*957*	*361*	*/sqs*	*1,318*
			Finish: General					
			Trowel Finish Pad	1,220.00 sqft	2,950	-	2.42 /sqft	2,950
			Broom/Float Finish Ramp	1,920.00 sqft	2,012	-	1.05 /sqft	2,012
			Stair Finish	255.00 sqft	822	1	3.23 /sqft	823
			Rub Risers	306.00 lnft	1,480	20	4.90 /lnft	1,500
			Finish: General		*7,263*	*21*	*/sqft*	*7,284*
			CONCRETE		*129,849*	*51,562*	*/sqft*	*183,194*
			A1010 STANDARD FOUNDATIONS	***216.20 cuyd***	***140,447***	***59,639***	***955.01 /cuyd***	***206,473***
	A1030		**SLAB ON GRADE**					
		3000.00	**CONCRETE**					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	2,450.00 sqft	15,797	26,279	17.17 /sqft	42,076
			Conc: Slabs On Grade		*15,797*	*26,279*	*/cuyd*	*42,076*
			CONCRETE		*15,797*	*26,279*	*/sqft*	*42,076*
			A1030 SLAB ON GRADE	***2,450.00 sqft***	***15,797***	***26,279***	***17.17 /sqft***	***42,076***
			A10 FOUNDATIONS	######## **sqft**	**156,244**	**85,918**	**0.41 /sqft**	**248,549**
B10			**SUPERSTRUCTURE**					
	B1010		**FLOOR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6 Ramp	0.45 sqs	44	14	128.40 /sqs	58
			Wiremesh-Corruform 6x6 6/6 Infill	40.13 sqs	3,888	1,265	128.40 /sqs	5,153
			Rebar: Mesh On Corruform		*3,932*	*1,279*	*/sqs*	*5,211*
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi Ramp	0.83 cuyd	57	100	199.40 /cuyd	166
			Conc @ Curruform 4000 psi Infill	77.41 cuyd	5,296	9,471	201.55 /cuyd	15,602
			Conc: Slab On Corruform		*5,353*	*9,571*	*/cuyd*	*15,768*
			Finish: Protect & Cure					
			Cure Conc Elv. Slab ramp	0.45 sqs	20	5	55.30 /sqs	25
			Cure Conc Elv. Slab Infill	15.38 sqs	687	185	56.70 /sqs	872
			Cure Conc Elv. Slab Infill	24.75 sqs	1,105	291	56.42 /sqs	1,396
			Finish: Protect & Cure		*1,812*	*482*	*/sqs*	*2,293*
			Finish: General					
			Broom/Float Finish S.O.G. Infill	1,538.00 sqft	2,479	-	1.61 /sqft	2,479
			Broom/Float Finish Elv. Slab Ramp	45.00 sqft	109	-	2.42 /sqft	109
			Broom/Float Finish Elv. Slab Infill	2,475.00 sqft	3,990	-	1.61 /sqft	3,990
			Finish: General		*6,578*		*/sqft*	*6,578*
			CONCRETE		*17,674*	*11,331*	*/sqft*	*29,849*
		5000.00	**METALS**					
			Structural: Framing					
			Angle Framing < 4" Allow	10,824.00 lb	105,692	7,118	11.01 /lb	119,138
			Floor Structure Cols & Beams Infill	4,013.00 sqft	8,829	48,884	15.42 /sqft	61,866
			Structural: Framing		*114,521*	*56,002*	*/ton*	*181,003*
			Struct: Cld-Frm Framing					
			6" Track 16 ga Ramp Framing	1,880.00 lnft	15,925	3,420	10.29 /lnft	19,345
			6" Stud 16 ga Ramp Framing	1,278.00 lnft	10,294	2,105	9.70 /lnft	12,400
			10" Track 16 ga	884.00 lnft	9,745	3,155	14.59 /lnft	12,900
			10" Stud 16 ga	1,347.00 lnft	13,521	4,162	13.13 /lnft	17,684
			C Stud 12" 16 ga.	6,168.00 lnft	55,510	25,692	13.17 /lnft	81,202
			Struct: Cld-Frm Framing		*104,996*	*38,535*	*/lnft*	*143,531*
			Structural: Joist K					
			Floor Structure Steel Joist Infill	4,013.00 sqft	4,655	8,176	3.48 /sqft	13,956
			Structural: Joist K		*4,655*	*8,176*	*/ton*	*13,956*
			Structural: Deck Roof/Fl					
			Slab Form 2" 20ga Galv Ramp	45.00 sqft	55	133	4.23 /sqft	190
			Slab Form 2" 18ga Galv Infill	4,013.00 sqft	5,314	13,021	4.62 /sqft	18,530
			Structural: Deck Roof/Fl		*5,369*	*13,154*	*/sqft*	*18,720*
			METALS		*229,540*	*115,867*	*/sqft*	*357,210*
		6000.00	**WOOD & PLASTICS**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Fastners & Misc	1.00 lsum	-	8	7.54 /lsum	8
			Fasteners: Frame Anchors			*13*	*/each*	*13*
			Plywood: Subfloor					
			Subfloor 3/4" T & G Plywood	1,236.00 sqft	1,997	1,240	2.62 /sqft	3,237
			Plywood: Subfloor		*1,997*	*1,240*	*/sqft*	*3,237*
			WOOD & PLASTICS		*1,997*	*1,253*	*/sqft*	*3,250*
			B1010 FLOOR CONSTRUCTION	***4,058.00 sqft***	***249,211***	***128,452***	***96.18 /sqft***	***390,309***
	B1020		**ROOF CONSTRUCTION**					
		5000.00	**METALS**					
			Structural: Framing					
			Misc Remedial Structural Allowance	312,828.00 sqft			5.64 /sqft	1,764,350
			Misc Remedial Structural Allowance	175,551.00 sqft			5.64 /sqft	990,108
			Misc Remedial Structural Allowance	94,636.00 sqft			5.64 /sqft	533,747
			Structural: Framing				*/ton*	*3,288,205*
			METALS				*/sqft*	*3,288,205*
			B1020 ROOF CONSTRUCTION	***604,150.00 sqft***			***5.44 /sqft***	***3,288,205***
			B10 SUPERSTRUCTURE	**######## sqft**	**249,211**	**128,452**	**6.09 /sqft**	**3,678,513**
B20			**EXTERIOR CLOSURE**					
	B2010		**EXTERIOR WALLS**					
		3000.00	**CONCRETE**					
			Precast Specialties					
			Precast Coping	344.00 lnft	7,747	13,937	64.47 /lnft	22,177
			Precast Specialties		*7,747*	*13,937*	*/sqft*	*22,177*
			CONCRETE		*7,747*	*13,937*	*/sqft*	*22,177*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Exterior Scaffold	3,950.00 sqft	7,591	1,533	2.59 /sqft	10,237
			Interior Scaffold	1,300.00 sqft	1,910	490	2.03 /sqft	2,639
			Misc: Scaffold		*9,502*	*2,023*	*/sqft*	*12,876*
			Misc: Material Handling					
			Concrete Block	2.00 m	-	-	234.87 /m	470
			Brick	27.00 m	-	-	80.95 /m	2,186
			Misc: Material Handling				*/m*	*2,655*
			Mortar: All Types					
			Mortar Type "N"	19.84 cuyd	2,686	4,027	338.36 /cuyd	6,713
			Mortar Color	768.00 lbs	-	7,422	9.66 /lbs	7,422
			Mortar: All Types		*2,686*	*11,449*	*/cuyd*	*14,135*
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	11.11 cuyd	3,295	1,697	467.75 /cuyd	5,197
			Mortar: Grout Fill Conc		*3,295*	*1,697*	*/cuyd*	*5,197*
			Access: Control Joint					
			Control Joint Sealant	6,611.00 lnft	85,786	3,891	13.57 /lnft	89,677
			Access: Control Joint		*85,786*	*3,891*	*/lnft*	*89,677*
			Access: Wall Flashing					
			Flash Shelf Lead Ct. Cop 5 oz.	50.00 sqft	200	163	7.26 /sqft	363
			Access: Wall Flashing		*200*	*163*	*/sqft*	*363*
			Access: Weep Holes					
			Weepholes - Metal	25.00 each	102	23	4.99 /each	125
			Access: Weep Holes		*102*	*23*	*/each*	*125*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	1,982.64 lbs	4,336	1,647	3.02 /lbs	5,983
			Reinforce: Vertical Wall		*4,336*	*1,647*	*/lbs*	*5,983*
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 12" Hot Dippd	1.00 mlf	696	205	901.32 /mlf	901
			Reinforce: Horizontl Wall		*696*	*205*	*/mlf*	*901*
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	2,223.00 each	3,889	377	1.92 /each	4,267
			Reinforce: Brick Anchors		*3,889*	*377*	*/each*	*4,267*
			Brick: All Types					
			Standard Size Face Brick Infill	26.66 m	225,340	20,393	9,217.28 /m	245,733
			Brick: All Types		*225,340*	*20,393*	*/m*	*245,733*
			Conc. Block: Backup					
			Blk 12" Stand Face Reg Wt Infill	1,463.00 each	38,228	5,144	29.65 /each	43,372

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc. Block: Backup		*38,228*	*5,144*	*/each*	*43,372*
			Conc. Block: 12" Lintel					
			Lintel 12" Stand Face Reg Wt Infill	75.00 each	4,276	637	65.50 /each	4,912
			Conc. Block: 12" Lintel		*4,276*	*637*	*/each*	*4,912*
			Stone Coping					
			Terra Cotta Coping Patch	24.00 lnft	1,050	749	74.95 /lnft	1,799
			Stone Coping		*1,050*	*749*	*/lnft*	*1,799*
			Stone Veneer					
			Terra Cotta Highlight Panels	36.00 sqft	365	480	26.94 /sqft	970
			Stone Veneer		*365*	*480*	*/sqft*	*970*
			Masonry Restoration					
			Cut & Repoint Brick Soft Mortr	15,153.70 sqft	120,127	9,777	11.21 /sqft	169,835
			Repoint Stone Hard Mortar Stairs	640.00 sqft	7,610	650	12.91 /sqft	8,260
			Remove Individual Brick	99.00 each	7,305	-	98.25 /each	9,727
			Patch Individual Brick	99.00 each	1,857	115	19.92 /each	1,972
			Masonry Restoration		*136,898*	*10,542*	*/m*	*189,793*
			Cleaning: Masonry					
			Clean Exist Brick Smooth Allow	693.67 sqs	172,944	13,310	268.51 /sqs	186,255
			Clean Exist Brick Smooth	39.10 sqs	9,748	750	268.51 /sqs	10,499
			Clean Brick - General	39.50 sqs	12,037	250	311.05 /sqs	12,286
			Clean TC Cornice Allow	4,195.00 sqft	19,572	398	4.76 /sqft	19,970
			Clean Brick - Acid Graffiti	50.00 sqft	547	22	11.37 /sqft	568
			Cleaning: Masonry		*214,848*	*14,730*	*/sqs*	*229,578*
			MASONRY		*731,496*	*74,150*	*/sqft*	*852,336*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.07 /lsum	1
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Fastners & Misc	1.00 lsum	-	16	16.17 /lsum	16
			Fasteners: Frame Anchors			*23*	*/each*	*23*
			Blocking: Rough Bucks					
			2 x 6 PT Louvers	360.00 lnft	1,329	363	4.70 /lnft	1,692
			Blocking: Rough Bucks		*1,329*	*363*	*/mbf*	*1,692*
			Wood Siding					
			Hardboard Siding	1,026.00 sqft	3,765	2,275	5.89 /sqft	6,040
			Wood Siding		*3,765*	*2,275*	*/sqft*	*6,040*
			WOOD & PLASTICS		*5,094*	*2,661*	*/sqft*	*7,755*
		7000.00	**THERMAL & MOISTURE PROT**					
			Insulation: Batt					
			Insul Fibrgls Soffit	4,400.00 sqft	14,127	34,101	10.96 /sqft	48,228
			Insulation: Batt		*14,127*	*34,101*	*/sqft*	*48,228*
			Metal Facing Panels					
			Alluminum Wall Panel	650.00 sqft	15,035	7,392	34.50 /sqft	22,427
			Upcharge Thermally Broke	650.00 sqft	9,281	7,392	25.65 /sqft	16,673
			Market Premium	650.00 sqft	9,281	7,392	25.65 /sqft	16,673
			Metal Facing Panels		*33,596*	*22,177*	*/sqft*	*55,773*
			Cladding: Siding					
			Exterior Cement Board	1,952.00 sqft	9,685	4,187	7.11 /sqft	13,872
			Exterior Cement Board Soffit	220.00 sqft	1,650	472	9.65 /sqft	2,122
			Exterior Cement Board	2,352.00 sqft	11,669	5,046	7.11 /sqft	16,715
			Exterior Cement Board Soffit	288.00 sqft	2,160	618	9.65 /sqft	2,778
			Cladding: Siding		*25,163*	*10,323*	*/sqft*	*35,486*
			Sheetmetal: Soffits					
			Bridge Soffit Aluminum Allow	1,777.00 sqft	24,103	27,288	28.92 /sqft	51,391
			Bridge Soffit Aluminum Allow	4,400.00 sqft	62,823	63,267	28.66 /sqft	126,090
			Sheetmetal: Soffits		*86,927*	*90,555*	*/sqft*	*177,482*
			Metal Framed Skylights					
			Bridge Glazing Allowance	3,612.00 sqft	122,610	298,650	116.63 /sqft	421,260
			Metal Framed Skylights		*122,610*	*298,650*	*/sqft*	*421,260*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	360.00 lnft	1,312	32	3.73 /lnft	1,344
			Polyurethane Sealant 1/2"	624.00 lnft	7,278	319	12.18 /lnft	7,597
			Rake Out Masonry Jt. Filler	7,375.00 lnft	27,689	2,703	7.01 /lnft	51,723
			Sealant - Jt Filler Gaskt		*36,280*	*3,054*	*/lnft*	*60,665*
			THERMAL & MOISTURE PROT		*318,703*	*458,859*	*/sqft*	*798,893*
		9000.00	**FINISHES**					
			GWB Ext Frame: C Studs					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB Ext Frame: C Studs					
			Bridge Soffit C Stud 800	1,333.00 lnft	6,460	2,134	6.45 /lnft	8,594
			GWB Ext Frame: C Studs		*6,460*	*2,134*	*/each*	*8,594*
			GWB Ext Frame: Track					
			Bridge Regular Leg Track 800 20 ga	344.00 lnft	6,747	493	21.05 /lnft	7,241
			GWB Ext Frame: Track		*6,747*	*493*	*/lnft*	*7,241*
			GWB Int Frame: Furring					
			Clips for Metal Panels	44.00 each	2,535	496	68.90 /each	3,032
			GWB Int Frame: Furring		*2,535*	*496*	*/lnft*	*3,032*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	46	17	63.40 /lsum	63
			GWB: Fasteners		*46*	*17*	*/each*	*63*
			Painting: Exterior					
			Scrape & Prep Ext Misc Surfaces	3,812.00 sqft	6,417	-	1.68 /sqft	6,417
			Scrape & Prep Ext Cornice	758.00 sqft	1,948	-	2.57 /sqft	1,948
			Scrape & Prep Ext Misc Surfaces	680.00 sqft	1,145	-	1.68 /sqft	1,145
			Paint Ornate Ext Cornice	379.00 lnft	9,065	106	24.20 /lnft	9,171
			Paint Louvers	524.00 sqft	658	311	1.85 /sqft	968
			Paint Ext Misc Exposed Metal	3,812.00 sqft	6,463	1,110	1.99 /sqft	7,572
			Paint Ext Misc Exposed Metal	680.00 sqft	1,153	176	1.95 /sqft	1,329
			Paint Ext Soffit 3 ct	4,400.00 sqft	4,288	427	1.07 /sqft	4,715
			Painting: Exterior		*31,136*	*2,129*	*/sqft*	*33,265*
			FINISHES		*46,925*	*5,270*	*/sqft*	*52,195*
		15500.00	**HVAC SYSTEMS**					
			Louvers/Filters					
			Fixed Blade Stormproof	524.00 sqft	24,540	24,515	93.62 /sqft	49,055
			Louvers/Filters		*24,540*	*24,515*	*/sqft*	*49,055*
			HVAC SYSTEMS		*24,540*	*24,515*	*/sqft*	*49,055*
			B2010 EXTERIOR WALLS	***113,858.00 sqft***	***1,134,505***	***579,393***	***15.66 /sqft***	***1,782,411***
	B2020		**EXTERIOR WINDOWS**					
		4000.00	**MASONRY**					
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	4,654.00 sqft	23,922	19,316	9.29 /sqft	43,237
			Flash Sill Lead Ct. Cop 5 oz.	4,654.00 sqft	21,928	19,591	8.92 /sqft	41,520
			Access: Wall Flashing		*45,850*	*38,907*	*/sqft*	*84,757*
			MASONRY		*45,850*	*38,907*	*/sqft*	*84,757*
		5000.00	**METALS**					
			Misc: Lintels					
			Stl Angles Allow 10%	3,018.00 lb	5,720	4,116	3.26 /lb	9,836
			Misc: Lintels		*5,720*	*4,116*	*/lbs*	*9,836*
			METALS		*5,720*	*4,116*	*/sqft*	*9,836*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	194	194.04 /lsum	194
			Fastners & Misc	1.00 lsum	-	46	46.36 /lsum	46
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3
			Fastners & Misc	1.00 lsum	-	39	38.81 /lsum	39
			Fasteners: Frame Anchors			*282*	*/each*	*282*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	26,787.00 lnft	139,081	27,031	6.20 /lnft	166,112
			Blocking: Rough Bucks		*139,081*	*27,031*	*/mbf*	*166,112*
			WOOD & PLASTICS		*139,081*	*27,314*	*/sqft*	*166,394*
		7000.00	**THERMAL & MOISTURE PROT**					
			Metal Framed Skylights					
			Skyroof Bridges Allowance	7,480.00 sqft	204,491	641,043	113.04 /sqft	845,535
			Metal Framed Skylights		*204,491*	*641,043*	*/sqft*	*845,535*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	26,787.00 lnft	97,639	2,379	3.73 /lnft	100,018
			Polyurethane Sealant 1/2"	53,654.00 lnft	625,820	27,404	12.18 /lnft	653,224
			Sealant - Jt Filler Gaskt		*723,459*	*29,784*	*/lnft*	*753,242*
			THERMAL & MOISTURE PROT		*927,950*	*670,827*	*/sqft*	*1,598,777*
		8000.00	**DOORS & WINDOWS**					
			Aluminum Storefront					
			Storefront Inc Double Glaze	7,243.00 sqft	92,810	514,935	83.91 /sqft	607,745

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Aluminum Storefront		*92,810*	*514,935*	*/sqft*	*607,745*
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	21,038.00 sqft	299,091	1,273,424	74.75 /sqft	1,572,515
			Special Custom Proj 4" .125 w Ins Gl Kynar	3,035.00 sqft	86,295	183,708	88.96 /sqft	270,003
			Circular Custom Proj 4" .125 w Ins Gl Kynar	99.00 sqft	3,093	5,992	91.77 /sqft	9,085
			Custom Proj 4" .125 w Ins Gl Kynar	9,301.00 sqft	132,230	562,987	74.75 /sqft	695,216
			Window: Aluminum		*520,709*	*2,026,111*	*/sqft*	*2,546,820*
			Windows: Screens					
			Security Screens SS	2,447.00 sqft	4,891	59,220	26.20 /sqft	64,111
			Windows: Screens		*4,891*	*59,220*	*/each*	*64,111*
			Alum Window Walls					
			Curtn Wall Avg Ins Gl Bronz	161.00 sqft	2,680	12,540	94.53 /sqft	15,220
			Alum Window Walls		*2,680*	*12,540*	*/sqft*	*15,220*
			DOORS & WINDOWS		*621,091*	*2,612,805*	*/sqft*	*3,233,896*
			B2020 EXTERIOR WINDOWS	***40,716.00 sqft***	***1,739,692***	***3,353,968***	***125.10 /sqft***	***5,093,660***
	B2030		**EXTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	5.00 each	335	88	89.00 /each	445
			Grout Double Door Frame	30.00 each	2,699	742	120.47 /each	3,614
			Mortar: Grout Fill Conc		*3,035*	*831*	*/cuyd*	*4,059*
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	158.00 sqft	812	656	9.29 /sqft	1,468
			Flash Sill Lead Ct. Cop 5 oz.	54.00 sqft	254	227	8.92 /sqft	482
			Access: Wall Flashing		*1,067*	*883*	*/sqft*	*1,950*
			MASONRY		*4,101*	*1,714*	*/sqft*	*6,009*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	4	4.32 /lsum	4
			Fastners & Misc	1.00 lsum	-	2	2.15 /lsum	2
			Fastners & Misc	2.00 lsum	-	2	1.08 /lsum	2
			Fasteners: Frame Anchors			*9*	*/each*	*9*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	918.00 lnft	3,178	926	4.47 /lnft	4,104
			Blocking: Rough Bucks		*3,178*	*926*	*/mbf*	*4,104*
			WOOD & PLASTICS		*3,178*	*935*	*/sqft*	*4,113*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	758.00 lnft	2,763	67	3.73 /lnft	2,830
			Backer Rod ½"	120.00 lnft	437	9	3.72 /lnft	447
			Polyurethane Sealant 1/2"	1,756.00 lnft	20,482	897	12.18 /lnft	21,379
			Sealant - Jt Filler Gaskt		*23,682*	*974*	*/lnft*	*24,656*
			THERMAL & MOISTURE PROT		*23,682*	*974*	*/sqft*	*24,656*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Single	2.00 each	223	336	279.74 /each	559
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Hlf Gl	2.00 each	250	1,401	825.89 /each	1,652
			Doors: Steel with Frames		*474*	*1,738*	*/each*	*2,211*
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	5.00 each	1,207	1,903	621.95 /each	3,110
			Alum Frame 6' x 7' Bronze Fin	32.00 each	9,012	13,936	717.15 /each	22,949
			Alum Door Med 3'-0 x 7'-0 Half Gl	30.00 each	9,626	18,790	947.19 /each	28,416
			Alum Door Med 3'-0 x 7'-0 Full Gl	38.00 each	12,570	29,207	1,099.41 /each	41,778
			Aluminum Doors & Frames		*32,416*	*63,836*	*/each*	*96,252*
			Aluminum Storefront					
			Storefront Inc Double Glaze	399.00 sqft	5,113	28,367	83.91 /sqft	33,479
			Aluminum Storefront		*5,113*	*28,367*	*/sqft*	*33,479*
			Hardware: Finishing					
			Finishing Hardware Ext Budget	69.00 each	19,131	99,821	1,723.94 /each	118,952
			Hardware: Finishing		*19,131*	*99,821*	*/set*	*118,952*
			DOORS & WINDOWS		*57,133*	*193,761*	*/sqft*	*250,894*
		9000.00	**FINISHES**					
			Painting: Exterior					
			Paint Ext Door & Frame	2.00 each	144	29	86.27 /each	173
			Painting: Exterior		*144*	*29*	*/sqft*	*173*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			FINISHES		*144*	*29*	*/sqft*	*173*
			B2030 EXTERIOR DOORS	***69.00 lvs***	***88,238***	***197,412***	***###### /lvs***	***285,843***
			B20 EXTERIOR CLOSURE	######## **sqft**	**2,962,435**	**4,130,773**	**11.86 /sqft**	**7,161,915**
B30			**ROOFING**					
	B3010		**ROOF COVERINGS**					
		2050.00	**DEMOLITION**					
			Demo: General					
			General Disposal	1,860.80 cuyd	42,486	-	31.41 /cuyd	58,439
			Demo: General		*42,486*		*/cuyd*	*58,439*
			Demo: Concrete					
			Remove Precast Concrete Coping	284.00 sqft	1,377	-	203.43 /sqft	57,773
			Demo: Concrete		*1,377*		*/cuyd*	*57,773*
			Demo: Roofing					
			Remove Metal Roof	345.60 sqs	64,658	-	187.09 /sqs	64,658
			Remove Membrane Roof	153,185.00 sqft	316,295	-	2.07 /sqft	316,295
			Remove Skylights	2,864.00 sqft	24,355	-	8.50 /sqft	24,355
			Remove Roof Drains	64.00 each	3,483	-	54.43 /each	3,483
			Remove Gutter/Downspouts	948.00 lnft	2,419	-	2.55 /lnft	2,419
			Remove Coping	1,548.00 lnft	6,450	-	4.17 /lnft	6,450
			Demo: Roofing		*417,660*		*/sqs*	*417,660*
			DEMOLITION		*461,523*		*/sqft*	*533,872*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	590	589.67 /lsum	590
			Fasteners: Frame Anchors			*590*	*/each*	*590*
			Plywood: Roof Sheathing					
			Roof Sheathing 3/4" Fire Ret	34,560.00 sqft	59,733	61,390	3.51 /sqft	121,123
			Plywood: Roof Sheathing		*59,733*	*61,390*	*/sqft*	*121,123*
			WOOD & PLASTICS		*59,733*	*61,980*	*/sqft*	*121,713*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Vapor Retarder Check spec?	653.56 sq	142,388	92,573	359.51 /sq	234,961
			Rosin Slip Sheet	345.60 sq	8,877	1,291	29.42 /sq	10,168
			Vapor Retarder Check spec?	510.07 sq	111,127	72,248	359.51 /sq	183,375
			Poly Vapor Barrier 8 mil Fire Retardant	713.42 sq	33,458	10,702	61.90 /sq	44,160
			Dampproofing: VaprBarrier		*295,850*	*176,813*	*/sqs*	*472,663*
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	153,185.00 sqft	232,683	118,384	2.29 /sqft	351,068
			Insulation: Protection Bd		*232,683*	*118,384*	*/sqft*	*351,068*
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	1,877.45 sqs	411,513	531,367	502.21 /sqs	942,880
			Insulation: Roof 1st Lay		*411,513*	*531,367*	*/sqs*	*942,880*
			Insulation: Roof 2nd Lay					
			Tapered Upcharge	229.85 sq	36,101	30,141	288.19 /sq	66,241
			Poly Iso 4.0" Layer 2	1,877.45 sqs	197,629	531,367	388.29 /sqs	728,996
			Insulation: Roof 2nd Lay		*233,730*	*561,507*	*/sqs*	*795,237*
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet Check Spec	65,356.00 sqft	376,492	140,055	8.35 /sqft	545,951
			160 Mil SBS Gran Cap Sheet	87,829.00 sqft	505,951	188,214	8.35 /sqft	733,680
			SBS Membrane Base Sheet Check Spec	65,356.00 sqft	254,132	132,798	6.24 /sqft	407,686
			SBS Membrane Smooth 145 mil	87,829.00 sqft	720,981	178,462	10.88 /sqft	955,227
			Membrane: Mod Bit		*1,857,557*	*639,529*	*/sqs*	*2,642,545*
			Sheetmetal: Metal Roofing					
			Standing Seam L.C.C. Roof	345.60 sq	399,890	857,644	3,638.70 /sq	1,257,534
			Sheetmetal: Metal Roofing		*399,890*	*857,644*	*/sq*	*1,257,534*
			Sheetmetal: Guttr DwnSpt					
			Downspout Copper Circular 5"	312.00 lnft	3,386	6,305	31.06 /lnft	9,691
			Gutter L.C.C. 5"	636.00 lnft	6,538	10,804	27.27 /lnft	17,343
			Sheetmetal: Guttr DwnSpt		*9,924*	*17,109*	*/lnft*	*27,033*
			Sheetmetal: Coping					
			Coping - L. C. Copper	1,546.00 lnft	53,198	153,463	133.67 /lnft	206,661
			Sheetmetal: Coping		*53,198*	*153,463*	*/lnft*	*206,661*
			Sheetmetal: Exp Joints					
			Roof to Roof Joint Alum Cover	346.00 lnft	8,462	20,608	84.02 /lnft	29,069
			Expansion Joint Filler 9"	346.00 lnft	3,784	2,294	17.57 /lnft	6,078

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Sheetmetal: Exp Joints					
			Interior Edge	2,366.00 lnft	30,521	74,476	44.38 /lnft	104,997
			Sheetmetal: Exp Joints		*42,767*	*97,377*	*/lnft*	*140,145*
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	187,745.00 sqft	313,697	273,084	3.13 /sqft	586,781
			Sheetmetal: Vents/Accsry		*313,697*	*273,084*	*/each*	*586,781*
			Metal Framed Skylights					
			Lean to Skyroof Translucent Panel	1,080.00 sqft	28,172	45,813	68.51 /sqft	73,985
			Metal Framed Skylights		*28,172*	*45,813*	*/sqft*	*73,985*
			THERMAL & MOISTURE PROT		*3,878,981*	*3,472,091*	*/sqft*	*7,496,531*
			B3010 ROOF COVERINGS	***188,825.00 sqft***	***4,400,237***	***3,534,070***	***43.17 /sqft***	***8,152,116***
	B3020		**ROOF OPENINGS**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Membrane: Base Flashing					
			Flash Vents PVC	45.00 each	1,032	946	43.96 /each	1,978
			Flash Drains PVC	61.00 each	1,566	1,282	46.69 /each	2,848
			Membrane: Base Flashing		*2,598*	*2,228*	*/lnft*	*4,826*
			Sheetmetal: Flashing					
			Flash Roof Fans	24.00 each	2,385	3,389	240.59 /each	5,774
			Flash AHU etc	17.00 each	3,379	4,801	481.19 /each	8,180
			Flash Roof Fans	12.00 each	1,193	1,695	240.59 /each	2,887
			Flash AHU etc	32.00 each	6,360	9,038	481.19 /each	15,398
			Flash Roof Fans	13.00 each	1,292	1,836	240.59 /each	3,128
			Flash AHU etc	14.00 each	2,783	3,954	481.19 /each	6,737
			Flash Skylights	702.00 lnft	6,415	2,361	12.50 /lnft	8,776
			Sheetmetal: Flashing		*23,805*	*27,074*	*/lnft*	*50,880*
			Plastic Skylights					
			Skylight 7' x 7'	3.00 each	2,179	8,315	3,497.94 /each	10,494
			Skylight Curb Pre Fab	84.00 lnft	718	1,177	22.56 /lnft	1,895
			Plastic Skylights		*2,897*	*9,492*	*/each*	*12,389*
			Metal Framed Skylights					
			Lean to Skyroof Translucent Panel	544.00 sqft	14,190	23,076	68.51 /sqft	37,267
			Lean to Skyroof Double Med Span	1,240.00 sqft	33,900	61,289	76.77 /sqft	95,188
			Metal Framed Skylights		*48,090*	*84,365*	*/sqft*	*132,455*
			THERMAL & MOISTURE PROT		*77,390*	*123,159*	*/sqft*	*200,549*
			B3020 ROOF OPENINGS	***1,931.00 sqft***	***77,390***	***123,159***	***103.86 /sqft***	***200,549***
			B30 ROOFING	**######## sqft**	**4,477,627**	**3,657,229**	**13.83 /sqft**	**8,352,665**
C10			**INTERIOR CONSTRUCTION**					
	C1010		**PARTITIONS**					
		3000.00	**CONCRETE**					
			Rebar: Dowels					
			Drill & Grout No. 4x1' Dowel	1,168.00 each	69,234	12,061	73.51 /each	85,859
			Rebar: Dowels		*69,234*	*12,061*	*/each*	*85,859*
			CONCRETE		*69,234*	*12,061*	*/sqft*	*85,859*
		4000.00	**MASONRY**					
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	25,303.00 sqft	515,648	135,881	25.75 /sqft	651,529
			Conc. Block: 8"		*515,648*	*135,881*	*/each*	*651,529*
			Conc. Block: 6"					
			Blk 6" Standard Face Reg Wt Add	4,211.00 sqft	76,866	18,554	22.66 /sqft	95,419
			Blk 6" Standard Face Reg Wt	767.00 each	9,781	1,522	14.74 /each	11,303
			Blk 6" Standard Face Reg Wt	14,243.00 sqft	259,985	62,755	22.66 /sqft	322,739
			Conc. Block: 6"		*346,631*	*82,830*	*/each*	*429,462*
			Unit Masonry Glazed Conc					
			CMU Glazed 1 Face 4"	320.00 each	6,481	3,229	30.34 /each	9,710
			Unit Masonry Glazed Conc		*6,481*	*3,229*	*/sqft*	*9,710*
			Unit Masonry Glass					
			Glass Block 4" 8"x8" Under 1000 (sqft)	176.00 sqft	6,403	3,586	56.76 /sqft	9,989
			Unit Masonry Glass		*6,403*	*3,586*	*/each*	*9,989*
			MASONRY		*875,163*	*225,526*	*/sqft*	*1,100,690*
		5000.00	**METALS**					
			Misc: Lintels					
			Stl Angles 1000 - 2000 lbs	197.00 lb	373	300	3.42 /lb	674

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Misc: Lintels		*373*	*300*	*/lbs*	*674*
			Misc: Bolt On Material					
			Angle Bolted To Masonry	13,070.00 lb	42,773	15,069	4.61 /lb	60,232
			Misc: Bolt On Material		*42,773*	*15,069*	*/lbs*	*60,232*
			METALS		*43,147*	*15,369*	*/sqft*	*60,906*
		7000.00	**THERMAL & MOISTURE PROT**					
			Insulation: Sound Blankt					
			Sound Blanket 16" x 3- 5/8"	13,527.00 sqft	15,511	7,960	1.74 /sqft	23,471
			Insulation: Sound Blankt		*15,511*	*7,960*	*/sqft*	*23,471*
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	3,521.00 lnft	40,556	1,016	11.81 /lnft	41,572
			Sealant - Jt Filler Gaskt		*40,556*	*1,016*	*/lnft*	*41,572*
			THERMAL & MOISTURE PROT		*56,066*	*8,977*	*/sqft*	*65,043*
		9000.00	**FINISHES**					
			GWB Int Frame: S Studs					
			S Infill Stud 358 20 ga	252.00 lnft	1,676	141	7.21 /lnft	1,817
			S Half/Infill Stud 358 20 ga	235.00 lnft	1,563	131	7.21 /lnft	1,694
			S Stud 358 x 13' 20 ga	114.00 each	3,933	755	41.12 /each	4,688
			S Stud 600 x 13' 20 ga	208.00 each	8,586	2,479	53.20 /each	11,065
			GWB Int Frame: S Studs		*15,758*	*3,506*	*/each*	*19,264*
			GWB Int Frame: Track					
			Track: Standard 20 ga 3-5/8"	430.00 lnft	1,389	255	3.82 /lnft	1,644
			Track:Infill 20 ga 3-5/8"	96.00 lnft	727	62	8.22 /lnft	789
			Track: Infill 20 ga 3-5/8"	6.00 lnft	45	4	8.22 /lnft	49
			Track: Standard 20 ga 6.00 "	534.00 lnft	3,674	621	8.04 /lnft	4,294
			GWB Int Frame: Track		*5,835*	*941*	*/lnft*	*6,776*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	4,523	1,625	6,147.45 /lsum	6,147
			Misc. Accessories	1.00 lsum	2,261	811	3,072.11 /lsum	3,072
			GWB: Fasteners		*6,784*	*2,435*	*/each*	*9,220*
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	6,732.00 sqft	7,767	3,193	1.63 /sqft	10,961
			GWB 5/8" Infill	672.00 sqft	1,473	348	2.71 /sqft	1,821
			GWB 5/8" Patch	48.00 sqft	105	25	2.71 /sqft	130
			GWB 5/8" Infill	1,134.00 sqft	2,486	587	2.71 /sqft	3,073
			GWB 5/8" Water Resistant Walls	3,640.00 sqft	4,200	1,727	1.63 /sqft	5,926
			GWB: Boards & Sheathing		*16,032*	*5,879*	*/sqft*	*21,911*
			GWB: Finish Mud/Tape					
			Acoustic Sealant	1,068.00 lnft	2,647	36	2.51 /lnft	2,683
			Labor GWB Wall Finish	9,770.00 sqft	9,522	737	1.05 /sqft	10,259
			Labor GWB Infill Finish	903.00 sqft	1,680	75	1.94 /sqft	1,755
			GWB: Finish Mud/Tape		*13,849*	*848*	*/sqft*	*14,697*
			GWB: Wall Board Systems					
			GWB On Studs 3-5/8"	16,744.00 sqft	138,238	41,696	10.75 /sqft	179,933
			GWB On Studs 6"	23,244.00 sqft	285,187	99,226	16.54 /sqft	384,413
			GWB On Studs 3-5/8" Additional	8,661.00 sqft	71,505	21,567	10.75 /sqft	93,072
			GWB On Studs 6"	49,426.00 sqft	606,421	210,994	16.54 /sqft	817,414
			GWB On Studs 3-5/8" Add	12,259.00 sqft	101,210	30,527	10.75 /sqft	131,737
			GWB On Studs 3-5/8"	11,493.00 sqft	94,886	28,620	10.75 /sqft	123,505
			GWB On Studs 6"	31,215.00 sqft	382,985	133,253	16.54 /sqft	516,238
			GWB On Studs 3-5/8" Add	118.00 sqft	812	294	9.37 /sqft	1,106
			GWB On Studs 6"	476.00 sqft	3,275	2,032	11.15 /sqft	5,307
			GWB: Wall Board Systems		*1,684,517*	*568,208*	*/sqft*	*2,252,725*
			Shaftwall					
			Shaftwall 2 Hour Assembly	11,898.00 sqft	118,060	34,880	12.85 /sqft	152,940
			Shaftwall		*118,060*	*34,880*	*/sqft*	*152,940*
			FINISHES		*1,860,835*	*616,698*	*/sqft*	*2,477,533*
		10000.00	**SPECIALTIES**					
			Partitions Wire Mesh					
			Wire Mesh Partition 4 x 10	78.00 each	11,250	16,565	356.59 /each	27,814
			Partit Doors Swinging 3 x 7	5.00 each	1,693	1,639	666.24 /each	3,331
			Partitions Wire Mesh		*12,942*	*18,203*	*/each*	*31,145*
			SPECIALTIES		*12,942*	*18,203*	*/sqft*	*31,145*
			C1010 PARTITIONS		***2,917,388***	***896,834***	***/sqft***	***3,821,176***
	C1020		**INTERIOR DOORS**					
		4000.00	**MASONRY**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	74.00 each	4,961	1,308	89.00 /each	6,586
			Grout Double Door Frame	20.00 each	1,800	495	120.47 /each	2,409
			Mortar: Grout Fill Conc		*6,761*	*1,803*	*/cuyd*	*8,995*
			Stone Marble					
			Marble Threshold	102.00 lnft	4,902	2,892	76.41 /lnft	7,794
			Stone Marble		*4,902*	*2,892*	*/sqft*	*7,794*
			MASONRY		*11,663*	*4,695*	*/sqft*	*16,789*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	44	44.19 /lsum	44
			Fastners & Misc	2.00 lsum	-	15	7.55 /lsum	15
			Fasteners: Frame Anchors			*59*	*/each*	*59*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 Doors	11,914.00 lnft	41,239	6,075	3.97 /lnft	47,314
			Blocking: Rough Bucks		*41,239*	*6,075*	*/mbf*	*47,314*
			WOOD & PLASTICS		*41,239*	*6,134*	*/sqft*	*47,373*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,675.00 lnft	19,293	484	11.81 /lnft	19,777
			Sealant - Jt Filler Gaskt		*19,293*	*484*	*/lnft*	*19,777*
			THERMAL & MOISTURE PROT		*19,293*	*484*	*/sqft*	*19,777*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single 10 new opng	281.00 each	33,459	48,164	290.47 /each	81,623
			H.M. Frame 18ga Interior Single	110.00 each	13,098	18,854	290.47 /each	31,952
			H.M. Frame 18ga Interior Single Add	219.00 each	26,077	37,537	290.47 /each	63,614
			H.M. Frame 18ga Interior Single	104.00 each	12,384	17,826	290.47 /each	30,209
			H.M. Frame 18ga Interior Single Add	45.00 each	5,358	7,713	290.47 /each	13,071
			H.M. Frame 18ga Interior Double	53.00 each	7,882	12,112	377.26 /each	19,995
			H.M. Frame 18ga Interior Double Add	26.00 each	3,867	5,942	377.26 /each	9,809
			H.M. Frame 18ga Interior Double	13.00 each	1,933	2,971	377.26 /each	4,904
			H.M. Frame 18ga Interior Double Add	1.00 each	149	229	377.25 /each	377
			H.M. Door 18ga 3-0 x 7-0 Flush	46.00 each	4,527	21,720	570.58 /each	26,247
			H.M. Door 18ga 3-0 x 7-0 Flush Add	26.00 each	2,559	12,276	570.58 /each	14,835
			H.M. Door 18ga 3-0 x 7-0 Flush	68.00 each	6,693	32,107	570.58 /each	38,800
			H.M. Door 18ga 3-0 x 7-0 Flush 16	9.00 each	886	4,249	570.58 /each	5,135
			H.M. Door 18ga 3-0 x 7-0 Flush Add	5.00 each	492	2,361	570.58 /each	2,853
			H.M. Door 18 ga 3-0 x 7-0 Vision	222.00 each	24,820	124,444	672.36 /each	149,265
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	102.00 each	11,404	57,177	672.36 /each	68,581
			H.M. Door 18 ga 3-0 x 7-0 Vision	4.00 each	447	2,242	672.36 /each	2,689
			H.M. Door 18 ga 3-0 x 7-0 Vision 12	7.00 each	783	3,924	672.36 /each	4,707
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	4.00 each	447	2,242	672.36 /each	2,689
			H.M. Door 18ga 3-0 x 7-0 Hlf Gl	3.00 each	333	1,830	721.03 /each	2,163
			H.M. Door 18ga 3-0 x 7-0 Vision Lab	65.00 each	6,847	44,705	793.11 /each	51,552
			H.M. Door 18ga 3-0 x 7-0 Vision Lab Add	29.00 each	3,055	19,945	793.11 /each	23,000
			Metal Sidelight Frame Only Int Allow	2,971.00 sqft	34,279	117,220	50.99 /sqft	151,500
			Metal Sidelight Frame Only Int Add	1,443.00 sqft	16,649	56,933	50.99 /sqft	73,583
			Metal Sidelight Frame Only Int	2,153.00 sqft	24,841	84,946	50.99 /sqft	109,787
			Doors: Steel with Frames		*243,270*	*739,671*	*/each*	*982,941*
			Doors: Wood					
			Door M Core 3-0 x 7-0 Flush	96.00 each	14,278	27,735	437.63 /each	42,012
			Door M Core 3-0 x 7-0 Flush Add	56.00 each	8,329	16,179	437.63 /each	24,507
			Door M Core 3-0 x 7-0 Flush 62	35.00 each	5,205	10,112	437.63 /each	15,317
			Door M Core 3-0 x 7-0 Flush Add	21.00 each	3,123	6,067	437.63 /each	9,190
			Door M Core 3-0 x 7-0 Vision Default 10 new	308.00 each	48,117	99,275	478.55 /each	147,392
			Door M Core 3-0 x 7-0 Vision	10.00 each	1,562	3,223	478.55 /each	4,785
			Door M Core 3-0 x 7-0 Vision Add	141.00 each	22,028	45,447	478.55 /each	67,475
			Door M Core 3-0 x 7-0 Vision 113	63.00 each	9,842	20,306	478.55 /each	30,148
			Door M Core 3-0 x 7-0 Vision Add	52.00 each	8,124	16,761	478.55 /each	24,884
			Door M Core 3-0 x 7-0 Hlf Gl 3	2.00 each	325	686	505.15 /each	1,010
			Door M Core 3-0 x 7-0 Hlf Gl Add	1.00 each	162	343	505.14 /each	505
			Door M Core 3-0 x 7-0 Full Gl 13	7.00 each	1,178	3,592	681.35 /each	4,769
			Door M Core 3-0 x 7-0 Full Gl Add	4.00 each	673	2,053	681.35 /each	2,725

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Wood					
			Door M Core 3-0 x 7-0 Louver	3.00 each	498	1,277	591.84 /each	1,776
			STC Acoustical Upgrade Allow	9.00 each	7,920	36,955	4,986.11 /each	44,875
			Door M Core 3-0 x 7-0 Louver Add	1.00 each	166	426	591.84 /each	592
			STC Acoustical Upgrade Allow Add	4.00 each	3,520	16,424	4,986.11 /each	19,944
			Solid Core 3-0 x 7-0 Flush Label 3	2.00 each	297	440	368.64 /each	737
			Solid Core 3-0 x 7-0 Flush Label 3 Add	1.00 each	149	220	368.63 /each	369
			Doors: Wood		*135,495*	*307,520*	*/each*	*443,015*
			Doors: Access					
			Access Door Fire Rated 4' x 4'	1.00 each	118	619	737.12 /each	737
			Doors: Access		*118*	*619*	*/each*	*737*
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	710.00 each	118,130	689,607	1,137.66 /each	807,737
			Finishing Hardware Int Budget w Closer Add	399.00 each	66,386	387,540	1,137.66 /each	453,926
			Finishing Hardware Int Budget w Closer	200.00 each	33,276	194,256	1,137.66 /each	227,532
			Finishing Hardware Int Budget w Closer Add	88.00 each	14,641	85,472	1,137.66 /each	100,114
			HC Electric Opener Upcharge Allow CHECK w your HW consultant?	276.00 each	163,208	515,319	2,458.43 /each	678,526
			HC Electric Opener Single	4.00 each	2,365	12,733	3,774.67 /each	15,099
			HC Electric Opener Single Allow 20%	43.00 each	25,427	136,883	3,774.67 /each	162,311
			Hardware: Finishing		*423,434*	*2,021,811*	*/set*	*2,445,244*
			Glass: All Types					
			Glass Sheet 1/4" Tempered Allow	4,414.00 sqft	80,033	51,865	29.88 /sqft	131,899
			Glass Sheet 1/4" Tempered	2,106.00 sqft	38,185	24,746	29.88 /sqft	62,931
			Glass Insulated Tempered	47.00 sqft	1,358	1,274	56.01 /sqft	2,633
			Glass: All Types		*119,577*	*77,886*	*/sqft*	*197,462*
			DOORS & WINDOWS		*921,894*	*3,147,506*	*/sqft*	*4,069,400*
		9000.00	**FINISHES**					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	19,990.00 lnft	49,547	666	2.51 /lnft	50,213
			GWB: Finish Mud/Tape		*49,547*	*666*	*/sqft*	*50,213*
			Painting: Interior					
			Paint Wd Door & Metal Frame	598.00 each	39,049	7,607	78.02 /each	46,656
			Refinish Wd Door & Metal Frame Exist	10.00 each	653	127	78.02 /each	780
			Paint Wd Door & Metal Frame	178.00 each	11,623	2,264	78.02 /each	13,887
			Refinish & Stain Exist Door	7.00 each	904	46	135.73 /each	950
			Paint Metal Door & Frame	590.00 each	32,097	6,742	65.83 /each	38,838
			Paint Exist Metal Door & Frame	223.00 each	7,253	2,332	42.98 /each	9,585
			Paint Exist Frame	5.00 each	54	17	14.35 /each	72
			Paint Exist Metal Door & Frame	14.00 each	455	146	42.98 /each	602
			Paint Int Bor. Lt. Frame	6,520.00 sqft	23,107	1,054	3.71 /sqft	24,161
			Paint Exist Int. Bor. Lt. Frame	47.00 sqft	113	5	2.51 /sqft	118
			Painting: Interior		*115,309*	*20,341*	*/sqft*	*135,649*
			FINISHES		*164,856*	*21,007*	*/sqft*	*185,863*
			C1020 INTERIOR DOORS	***1,397.00 lvs***	***1,158,945***	***3,179,826***	###### ***/lvs***	***4,339,202***
	C1030		**SPECIALTIES/MILLWORK**					
		5000.00	**METALS**					
			Misc: Ladders					
			Ladders	12.00 vlf	810	660	125.65 /vlf	1,508
			Misc: Ladders		*810*	*660*	*/vlf*	*1,508*
			METALS		*810*	*660*	*/sqft*	*1,508*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	603	602.60 /lsum	603
			Fastners & Misc	1.00 lsum	-	239	239.32 /lsum	239
			Fastners & Misc	1.00 lsum	-	135	134.75 /lsum	135
			Fastners & Misc	1.00 lsum	-	189	188.65 /lsum	189
			Fasteners: Frame Anchors			*1,165*	*/each*	*1,165*
			Blocking: Misc.					
			Block Toilet Partition & Urinal	177.00 each	7,428	1,650	51.29 /each	9,079
			Block H.C. Toilet Partition	34.00 each	2,144	422	75.46 /each	2,566
			Block Shower	78.00 each	4,919	967	75.46 /each	5,886
			Block H.C. Toilet Partition	21.00 each	1,324	260	75.46 /each	1,585
			Block Misc Toilet Accessories	1,213.00 each	30,600	5,100	29.43 /each	35,699

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	14,397.00 lnft	56,129	4,792	4.23 /lnft	60,920
			Blocking 2 x 6 R.L.	4,215.00 lnft	20,299	2,149	5.33 /lnft	22,449
			Blocking: Misc.		*122,844*	*15,340*	*/mbf*	*138,184*
			Plywood: Panel Board					
			Panel Board	92.00 each	15,703	3,024	203.55 /each	18,727
			Plywood: Panel Board		*15,703*	*3,024*	*/each*	*18,727*
			I Trim: Cabinets					
			Counter Tops Custom p Lam 24" B.S.	22.00 lnft	804	1,094	86.25 /lnft	1,897
			Modify HC Casework	6.00 lnft	1,498	1,255	458.78 /lnft	2,753
			I Trim: Cabinets		*2,301*	*2,349*	*/lnft*	*4,650*
			I Trim: Shelving					
			Custom Wood Shelving	362.00 lnft	20,759	7,650	78.48 /lnft	28,409
			I Trim: Shelving		*20,759*	*7,650*	*/lnft*	*28,409*
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	4,714.00 lnft	41,467	70,958	23.85 /lnft	112,426
			Apron At Stools	4,714.00 lnft	19,946	13,974	7.20 /lnft	33,921
			I Trim: Dr & Window Matrl		*61,414*	*84,932*	*/lnft*	*146,346*
			I Trim: Misc Int. Trim					
			Trim 1" x 8" Cap	72.00 lnft	537	299	11.61 /lnft	836
			I Trim: Misc Int. Trim		*537*	*299*	*/lnft*	*836*
			WOOD & PLASTICS		*223,558*	*114,759*	*/sqft*	*338,317*
		8000.00	**DOORS & WINDOWS**					
			Glass: All Types					
			Glass Mirror Plated	408.00 sqft	3,856	3,936	19.10 /sqft	7,792
			Glass: All Types		*3,856*	*3,936*	*/sqft*	*7,792*
			DOORS & WINDOWS		*3,856*	*3,936*	*/sqft*	*7,792*
		9000.00	**FINISHES**					
			Painting: Interior					
			Refinish Counter	66.00 lnft	205	19	3.38 /lnft	223
			Paint Shelves 3 ct	126.00 lnft	391	35	3.38 /lnft	426
			Paint Lockers	3,101.00 lnft	21,156	3,343	7.90 /lnft	24,499
			Paint Wood Sill	4,714.00 lnft	14,618	966	3.31 /lnft	15,584
			Paint Wood Apron	4,714.00 lnft	12,948	661	2.89 /lnft	13,608
			Paint Ladder	25.00 lnft	113	19	5.26 /lnft	132
			Paint Trim to 14" p + 2ct	72.00 lnft	70	13	1.16 /lnft	83
			Refinish Exist Trim	312.00 lnft	803	595	4.48 /lnft	1,399
			Refinish Exist Window Trim	14,246.00 lnft	36,676	27,182	4.48 /lnft	63,859
			Paint Plywood Wainscot	9.00 sqft	6	1	0.72 /sqft	6
			Painting: Interior		*86,986*	*32,833*	*/sqft*	*119,819*
			FINISHES		*86,986*	*32,833*	*/sqft*	*119,819*
		10000.00	**SPECIALTIES**					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	13,568.00 sqft	57,923	185,023	17.91 /sqft	242,945
			Tackboard Alum Fr	13,568.00 sqft	57,923	125,055	13.49 /sqft	182,978
			Chalkboards/Tackboards		*115,845*	*310,078*	*/sqft*	*425,923*
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	108.00 each	29,994	142,619	1,598.27 /each	172,613
			HDPE Toilet Partition HC Flr Mtd	55.00 each	15,275	85,911	1,839.74 /each	101,186
			HDPE Urinal Screens Wall Hung	57.00 each	11,075	32,689	767.80 /each	43,764
			Urinal Screens Wall Hung	12.00 each	2,332	6,882	767.80 /each	9,214
			Toilet Partition Phenolic		*58,675*	*268,102*	*/each*	*326,777*
			Shower/Dressing Compart					
			Compartment Showers	78.00 each	37,509	120,240	2,022.42 /each	157,749
			Shower/Dressing Compart		*37,509*	*120,240*	*/each*	*157,749*
			Hospital Cubicles					
			Cubicle Hosp Track Ceil Mountd	72.00 lnft	190	943	15.74 /lnft	1,133
			Hospital Cubicles		*190*	*943*	*/lnft*	*1,133*
			Directory/Bulletin Boards					
			Buiding Directory	4.00 each	3,512	7,205	2,679.38 /each	10,718
			Directory/Bulletin Boards		*3,512*	*7,205*	*/each*	*10,718*
			Plaques					
			Custom Plaque	4.00 each	2,908	20,590	5,874.55 /each	23,498
			Plaques		*2,908*	*20,590*	*/each*	*23,498*
			Signs					
			Interior Stock	415.00 each	9,041	6,957	38.55 /each	15,998
			Interior Custom	188.00 each	12,309	12,626	132.63 /each	24,935

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Signs		*21,351*	*19,583*	*/each*	*40,933*
			Lockers					
			Locker Single Tier 6'	2,136.00 each	318,702	538,810	401.46 /each	857,512
			Locker HC Single Tier 6'	99.00 each	16,256	37,033	538.26 /each	53,288
			Locker Double Tier 6' Allow	800.00 opng	45,461	100,038	181.87 /opng	145,500
			Locker: Bench	224.00 lnft	5,040	7,160	54.46 /lnft	12,199
			Team Lockers	52.00 each	8,278	15,079	449.18 /each	23,357
			Lockers		*393,737*	*698,120*	*/each*	*1,091,857*
			Fire Extinguishers					
			Fire Ext Allow	38.00 each	3,595	7,742	298.34 /each	11,337
			Fire Ext Cabinet	25.00 each	5,693	5,094	431.47 /each	10,787
			Fire Ext Cabinet Allow	8.00 each	1,822	1,630	431.47 /each	3,452
			Fire Ext Cabinet	21.00 each	4,782	4,279	431.47 /each	9,061
			Fire Extinguishers		*15,892*	*18,744*	*/each*	*34,636*
			Partitions Operable					
			Operable Partition 2-1/4" t Avg	1,020.00 sqft	6,237	75,925	80.55 /sqft	82,162
			Operable Partition Track	60.00 lnft	-	8,020	133.67 /lnft	8,020
			Partitions Operable		*6,237*	*83,945*	*/each*	*90,182*
			Shelving Metal Storage					
			Shelving: Steel	35.00 sqft	153	666	23.39 /sqft	819
			Shelving Metal Storage		*153*	*666*	*/each*	*819*
			Toilet Accessories					
			Shower Rod	78.00 each	5,742	3,653	120.46 /each	9,395
			Shower Curtain	234.00 lnft	537	2,056	11.08 /lnft	2,593
			Shower Bench	78.00 each	7,477	11,629	244.95 /each	19,106
			Shower Control HC	4.00 each	213	658	217.65 /each	871
			Grab Bar 1-1/4" S.S. 36"	94.00 each	4,505	4,144	92.02 /each	8,650
			Grab Bar 1-1/4" S.S. Shower	4.00 each	202	176	94.54 /each	378
			Grab Bar 1-1/4" S.S. 36"	76.00 each	3,643	3,351	92.02 /each	6,994
			Mirror S.S.	138.00 each	8,592	9,320	129.80 /each	17,912
			Mirror HC	84.00 each	6,280	6,810	155.83 /each	13,090
			Janitor Utility Unit	12.00 each	575	1,070	137.13 /each	1,646
			Sanitary Napkin Dispenser Recessed	30.00 each	1,916	21,927	794.75 /each	23,843
			Sanitary Napkin Dispenser Surface	82.00 each	3,272	18,828	269.52 /each	22,100
			Clothes Hook Single	44.00 each	1,171	709	42.72 /each	1,880
			Soap Dispenser	213.00 each	20,418	38,346	275.89 /each	58,764
			Toilet Tissue Disp Dbl	207.00 each	8,260	6,137	69.55 /each	14,397
			Towel Dispenser Surface Mtd	44.00 each	2,639	1,928	103.79 /each	4,567
			Towel Disp/Waste Recpt	40.00 each	7,669	13,453	528.06 /each	21,122
			Hand Dryer	40.00 each	9,586	30,098	992.10 /each	39,684
			Toilet Accessories		*92,697*	*174,293*	*/each*	*266,990*
			SPECIALTIES		*748,706*	*1,722,508*	*/sqft*	*2,471,215*
		11000.00	**EQUIPMENT**					
			Equip: Gym					
			Dance Bar	68.00 lnft	2,331	12,902	224.01 /lnft	15,233
			Equip: Gym		*2,331*	*12,902*	*/lsum*	*15,233*
			EQUIPMENT		*2,331*	*12,902*	*/sqft*	*15,233*
			C1030 SPECIALTIES/MILLWORK	***604,150.00 sqft***	***1,066,247***	***1,887,599***	***4.89 /sqft***	***2,953,883***
			C10 INTERIOR CONSTRUCTION	######## **sqft**	**5,142,580**	**5,964,258**	**18.40 /sqft**	########
C20			**STAIRCASES**					
	C2010		**STAIR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Forms: Stairs					
			Stair Forms	376.00 sqft	8,308	1,056	24.91 /sqft	9,364
			Forms: Stairs		*8,308*	*1,056*	*/sqft*	*9,364*
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.07 ton	165	88	3,615.43 /ton	253
			Rebar: Steps & Stairs		*165*	*88*	*/ton*	*253*
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	4.70 cuyd	186	565	165.85 /cuyd	779
			Conc: Stairs & Steps		*186*	*565*	*/cuyd*	*779*
			Conc: Fill Pan Stairs					
			Fill Pan Stairs 3000 psi	35.60 cuyd	2,152	4,013	173.19 /cuyd	6,165

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc: Fill Pan Stairs		*2,152*	*4,013*	*/cuyd*	*6,165*
			Finish: Protect & Cure					
			Cure Conc Ext Stair	1.25 sqs	34	13	37.86 /sqs	47
			Finish: Protect & Cure		*34*	*13*	*/sqs*	*47*
			Finish: General					
			Stair Finish	290.00 sqft	935	1	3.23 /sqft	936
			Rub Risers	125.00 lnft	604	8	4.90 /lnft	613
			Finish: General		*1,539*	*9*	*/sqft*	*1,548*
			CONCRETE		*12,384*	*5,745*	*/sqft*	*18,158*
		5000.00	**METALS**					
			Stairs: Stair Parts					
			Custom Steel Stairs 4'-0"	84.00 risr	9,365	59,312	823.68 /risr	69,189
			Custom Steel Stairs 5'-0"	192.00 risr	31,962	150,058	955.78 /risr	183,510
			Custom Steel Stairs 6'-0"	589.00 risr	103,062	488,270	1,012.07 /risr	596,107
			Custom Steel Stairs 7'-0"	86.00 risr	15,724	80,192	1,123.82 /risr	96,648
			Stair Railing Steel 1-1/2" 2 pipe	230.00 lnft	5,369	6,372	52.17 /lnft	11,998
			Stair Railing Galv 1-1/2" 2 pipe	658.00 lnft	15,433	28,302	67.58 /lnft	44,470
			Wall Rail Steel 1-1/2" 1 pipe	900.00 lnft	21,403	14,019	40.48 /lnft	36,428
			Wall Rail Alum 1-1/2" 1 pipe	68.00 lnft	1,617	2,272	58.32 /lnft	3,966
			Wall Rail Steel 1-1/2" 1 pipe	353.00 lnft	8,395	5,727	41.12 /lnft	14,516
			Wall Rail Galv 1-1/2" 1 pipe	6.00 lnft	143	132	46.88 /lnft	281
			Wall Railing Steel 1-1/2" 2 Pipe	264.00 lnft	8,813	7,727	64.21 /lnft	16,952
			Wall Rail Steel Galv 1-1/2" 2 pipe	40.00 lnft	1,344	1,363	69.23 /lnft	2,769
			Balcony Rail Allow	89.00 lnft	4,621	25,545	341.38 /lnft	30,383
			Ornamental Steel Well Rail Mid	1,129.00 lnft	87,321	112,396	180.53 /lnft	203,823
			Ornamental Alum Well Rail Mid	303.00 lnft	23,435	59,839	278.47 /lnft	84,377
			Ornamental Steel Well Rail Mid	63.00 lnft	4,873	6,272	180.53 /lnft	11,374
			Ornamental Alum Well Rail Mid	200.00 lnft	15,469	39,498	278.47 /lnft	55,694
			Ornamental Steel Well Rail Mid	286.00 lnft	22,120	28,472	180.53 /lnft	51,633
			Landing Steel Pan	1,829.00 sqft	45,691	134,172	99.50 /sqft	181,981
			Landing Steel Pan	979.00 sqft	24,457	72,873	100.58 /sqft	98,463
			Step Nosing	600.00 lnft	11,367	10,608	36.62 /lnft	21,974
			Stairs: Stair Parts		*461,981*	*1,333,419*	*/flt*	*1,816,537*
			METALS		*461,981*	*1,333,419*	*/sqft*	*1,816,537*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	12	11.85 /lsum	12
			Fasteners: Frame Anchors			*12*	*/each*	*12*
			Framing: Stairs					
			Stair Ledger 2x12	8.00 lnft	57	12	8.64 /lnft	69
			Stair Stringer 2x12	36.00 lnft	561	53	17.06 /lnft	614
			Stair Risers Poplar	64.00 lnft	1,013	304	20.57 /lnft	1,316
			Stair Tread Oak 1-1/16" x 9-1/2"	56.00 lnft	1,040	821	33.23 /lnft	1,861
			Framing: Stairs		*2,671*	*1,190*	*/mbf*	*3,861*
			WOOD & PLASTICS		*2,671*	*1,201*	*/sqft*	*3,872*
			C2010 STAIR CONSTRUCTION	***31.00 flt***	***477,036***	***1,340,366***	****###### /flt***	***1,838,568***
	C2020		**STAIR FINISHES**					
		9000.00	**FINISHES**					
			Flooring Resilient Tile					
			Floor Vinyl Composition Tile 1/8"	1,168.00 sqft	1,476	3,087	3.91 /sqft	4,562
			Radial Rubber Floor 3/16"	2,808.00 sqft	23,357	22,168	16.21 /sqft	45,525
			Floor Resil Tile Safety Tread	6,368.00 lnft	32,184	71,414	16.27 /lnft	103,598
			Floor Resil Rubber Riser	7,052.00 lnft	16,336	37,250	7.60 /lnft	53,586
			Flooring Resilient Tile		*73,353*	*133,918*	*/sqft*	*207,271*
			Painting: Interior					
			Paint Stair Assembly	8,888.00 sqft	29,924	6,707	4.12 /sqft	36,631
			Paint Int Pipe Rails	12,516.00 lnft	14,416	3,238	1.41 /lnft	17,654
			Painting: Interior		*44,341*	*9,945*	*/sqft*	*54,286*
			FINISHES		*117,694*	*143,863*	*/sqft*	*261,557*
			C2020 STAIR FINISHES	***38,800.00 sqft***	***117,694***	***143,863***	***6.74 /sqft***	***261,557***
			C20 STAIRCASES	**######## sqft**	**594,730**	**1,484,229**	**3.48 /sqft**	**2,100,124**
C30			**INTERIOR FINISHES**					
	C3010		**WALL FINISHES**					
		4000.00	**MASONRY**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Unit Masonry Glazed Conc					
			Clean Glazed CMU	522.48 sqft	457	41	0.95 /sqft	498
			Unit Masonry Glazed Conc		*457*	*41*	*/sqft*	*498*
			Masonry Restoration					
			Cut & Repoint CMU Hard Mortar	543.00 lnft	6,181	679	16.46 /lnft	8,940
			Cut & Repoint Brick Soft Mortr	279.90 sqft	2,219	181	11.21 /sqft	3,137
			Repoint Brick Soft Mortar Allow	2,556.00 sqft	35,030	1,996	14.49 /sqft	37,027
			Repoint Brick Soft Mortar	1,580.00 sqft	21,654	1,234	14.49 /sqft	22,888
			Masonry Restoration		*65,084*	*4,090*	*/m*	*71,992*
			Cleaning: Masonry					
			Clean Exist Brick Smooth	266.96 sqs	66,558	5,123	268.51 /sqs	71,680
			Cleaning: Masonry		*66,558*	*5,123*	*/sqs*	*71,680*
			MASONRY		*132,099*	*9,253*	*/sqft*	*144,170*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1,452	1,452.07 /lsum	1,452
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Fastners & Misc	1.00 lsum	-	2	2.15 /lsum	2
			Fastners & Misc	1.00 lsum	-	466	465.70 /lsum	466
			Fasteners: Frame Anchors			*1,921*	*/each*	*1,921*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	3,192.00 lnft	12,444	1,062	4.23 /lnft	13,507
			Blocking: Misc.		*12,444*	*1,062*	*/mbf*	*13,507*
			Prefinished Wood Paneling					
			Raised Wood Panel Arch Grade Allow	8,670.00 sqft	95,575	144,507	27.69 /sqft	240,082
			Raised Wood Panel Arch Grade	2,753.00 sqft	30,348	45,886	27.69 /sqft	76,234
			Prefinished Wood Paneling		*125,923*	*190,393*	*/sqft*	*316,316*
			WOOD & PLASTICS		*138,368*	*193,376*	*/sqft*	*331,744*
		9000.00	**FINISHES**					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ Wall Removal	3,192.00 sqft	65,762	4,694	22.62 /sqft	72,190
			Plaster Patch @ MEP Removal Allow	3,215.00 sqft	66,236	4,727	22.62 /sqft	72,710
			Plaster Patch @ CB/TB Removal Allow	8,000.00 sqft	164,817	11,763	22.62 /sqft	180,926
			Plaster Patch @ Wall Removal	3,411.00 sqft	70,274	5,016	22.62 /sqft	77,142
			Plaster Patch @ MEP Removal Allow	1,303.00 sqft	26,845	1,916	22.62 /sqft	29,468
			Plaster Patch @ Wall Removal	1,287.00 sqft	26,515	1,892	22.62 /sqft	29,107
			Lath/Plastr: Gyp Plaster		*420,447*	*30,008*	*/sqft*	*461,543*
			Lath/Plastr: Finish Coat					
			Veneer Plaster Skim Ct Patch 10% 1 coat Allow	7,552.00 sqft	35,007	2,052	4.99 /sqft	37,645
			Veneer Plaster Walls 1 coat Patch Al0ow	3,166.00 sqft	9,784	788	3.42 /sqft	10,818
			Veneer Plaster Walls 2 coat	2,786.58 sqft	13,276	1,532	5.47 /sqft	15,240
			Lath/Plastr: Finish Coat		*58,067*	*4,372*	*/sqft*	*63,703*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	127	46	173.27 /lsum	173
			Misc. Accessories	1.00 lsum	2,261	813	3,074.26 /lsum	3,074
			Misc. Accessories	1.00 lsum	1,996	706	2,702.16 /lsum	2,702
			Misc. Accessories	1.00 lsum	450	161	610.61 /lsum	611
			GWB: Fasteners		*4,834*	*1,726*	*/each*	*6,560*
			Ceramic Tile					
			Clean Ceramic Wall Tile	54,156.00 sqft	41,449	1,203	0.79 /sqft	42,651
			Patch Ceramic Wall Tile	272.00 sqft	4,474	1,091	20.46 /sqft	5,565
			Ceramic Tile Wall Grade 2	7,240.00 sqft	81,353	28,377	15.16 /sqft	109,730
			Ceramic Tile Wall Grade 2	6,900.00 sqft	77,532	29,343	15.49 /sqft	106,875
			Backerboard 1/2"	2,240.00 sqft	14,732	2,364	7.63 /sqft	17,096
			Backerboard 1/2"	960.00 sqft	6,314	1,002	7.62 /sqft	7,315
			Ceramic Tile		*225,854*	*63,379*	*/sqft*	*289,233*
			Painting: Interior					
			Paint Exist Wainscot	39,138.00 sqft	24,274	3,797	0.72 /sqft	28,071
			Paint Wainscot	8,670.00 sqft	5,377	841	0.72 /sqft	6,218
			Paint Exist Wainscot	2,586.00 sqft	1,604	251	0.72 /sqft	1,855
			Paint Plywood Wainscot	2,744.00 sqft	1,702	266	0.72 /sqft	1,968
			Paint GDW Wall Roller p + 2ct	207,355.00 sqft	146,975	40,235	0.90 /sqft	187,210
			Epoxy Paint Exist GDW Wall	3,360.00 sqft	4,763	1,739	1.94 /sqft	6,502
			Epoxy Paint GDW Wall	23,182.00 sqft	49,295	17,743	2.89 /sqft	67,038
			Paint Exist GDW Roller 2ct	283,467.00 sqft	125,577	61,115	0.66 /sqft	186,693
			Paint Int CMU Spray p+2ct	29,872.00 sqft	26,467	8,373	1.17 /sqft	34,839

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Painting: Interior					
			Paint Int CMU Spray p+2ct	2,714.00 sqft	2,405	673	1.13 /sqft	3,078
			Paint Exist Int Brick Spray 2 ct	7,952.00 sqft	3,523	1,457	0.63 /sqft	4,980
			Paint Exist Int CMU Spray 2 ct	45,590.00 sqft	20,197	8,355	0.63 /sqft	28,551
			Epoxy Paint Int CMU	40,671.00 sqft	86,484	19,730	2.61 /sqft	106,213
			Epoxy Paint Exist Int CMU	23,809.00 sqft	31,643	13,603	1.90 /sqft	45,246
			Painting: Interior		*530,284*	*178,178*	*/sqft*	*708,462*
			Sound Absorbing Panels					
			Tectum Absorbing Panel	10,388.00 sqft	33,352	116,462	14.42 /sqft	149,814
			Sound Absorbing Panel	1,074.00 sqft	3,941	12,041	14.88 /sqft	15,982
			Sound Absorbing Panels		*37,293*	*128,503*	*/sqft*	*165,796*
			FINISHES		*1,276,779*	*406,166*	*/sqft*	*1,695,297*
			C3010 WALL FINISHES	***785,973.00 sqft***	***1,547,246***	***608,795***	***2.76 /sqft***	***2,171,211***
	C3020		**FLOOR FINISHES**					
		3000.00	**CONCRETE**					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. 10% allow	47.00 sqft	303	504	17.17 /sqft	807
			Patch Conc. Slab Trench etc.	1,198.00 sqft	7,724	12,850	17.17 /sqft	20,574
			Patch Conc. Slab Trench etc. 10% Allow	56.00 sqft	361	601	17.17 /sqft	962
			Conc: Slabs On Grade		*8,389*	*13,955*	*/cuyd*	*22,343*
			Conc: Slurry Coat					
			Leveling Compound	5,054.00 sqft	22,101	6,121	6.30 /sqft	31,818
			Moisture Mitigation ?	175,936.00 sqft	769,351	221,048	6.34 /sqft	1,115,592
			Moisture Mitigation ?	115,453.00 sqft	504,864	139,829	6.28 /sqft	724,801
			Moisture Mitigation	80,063.00 sqft	350,107	100,592	6.34 /sqft	507,671
			Conc: Slurry Coat		*1,646,423*	*467,589*	*/sqft*	*2,379,882*
			Finish: Floor Hardner					
			Reseal Concrete 3474	15,963.00 sqft	7,719	1,205	0.56 /sqft	8,924
			Reseal Concrete	475.00 sqft	230	36	0.56 /sqft	266
			Finish: Floor Hardner		*7,949*	*1,240*	*/sqft*	*9,190*
			CONCRETE		*1,662,761*	*482,785*	*/sqft*	*2,411,415*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	2,458	2,457.84 /lsum	2,458
			Fasteners: Frame Anchors			*2,458*	*/each*	*2,458*
			Plywood: Subfloor					
			Subfloor 3/4" Cdx Plywood	86,573.00 sqft	139,843	99,858	2.77 /sqft	239,702
			Subfloor 3/4" T & G Plywood	15,771.00 sqft	25,475	15,826	2.62 /sqft	41,302
			Plywood: Subfloor		*165,318*	*115,685*	*/sqft*	*281,003*
			I Trim: Wood Base					
			Wood Base 6"	14,345.00 lnft	100,631	130,129	16.09 /lnft	230,760
			I Trim: Wood Base		*100,631*	*130,129*	*/lnft*	*230,760*
			WOOD & PLASTICS		*265,949*	*248,272*	*/sqft*	*514,221*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Rosin Slip Sheet	55.75 sq	1,432	208	29.42 /sq	1,640
			Dampproofing: VaprBarrier		*1,432*	*208*	*/sqs*	*1,640*
			THERMAL & MOISTURE PROT		*1,432*	*208*	*/sqft*	*1,640*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Clean Ceramic Tile Floor	7,357.00 sqft	4,379	163	0.62 /sqft	4,543
			Clean Ceramic Base	1,104.00 sqft	1,033	25	0.96 /sqft	1,058
			Clean Ceramic Tile Floor	2,098.00 sqft	1,249	47	0.62 /sqft	1,295
			Clean Marble Floor	446.00 sqft	265	10	0.62 /sqft	275
			Clean Ceramic Tile Base	399.00 sqft	373	4	0.95 /sqft	378
			Clean Ceramic Tile Floor	3,135.00 sqft	1,866	70	0.62 /sqft	1,936
			Clean Ceramic Tile Floor Base	95.00 sqft	65	2	0.70 /sqft	67
			Ceramic Tile Floor Grade 2	832.00 sqft	11,855	5,469	20.82 /sqft	17,324
			Patch Ceramic Tile Floor Grade 2 Allow	514.00 sqft	7,324	3,379	20.82 /sqft	10,702
			Ceramic Tile Floor Grade 2	2,668.00 sqft	56,868	18,048	28.08 /sqft	74,916
			Regrout Ceramic Tile Floor	114.00 sqft	1,056	20	9.44 /sqft	1,076
			Ceramic Tile Floor Grade 2	10,268.00 sqft	218,860	69,460	28.08 /sqft	288,319
			Patch Ceramic Tile Floor Grade 2	43.00 sqft	1,375	307	39.12 /sqft	1,682
			Ceramic Tile Floor Grade 2	1,640.00 sqft	34,956	11,094	28.08 /sqft	46,050
			Ceramic Trim: Cove Base	125.00 lnft	2,853	532	27.07 /lnft	3,384

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Ceramic Tile					
			Ceramic Trim: Cove Base Allow	1,940.00 lnft	44,272	8,250	27.07 /lnft	52,522
			Ceramic Trim: Cove Base Patched	32.00 lnft	1,097	140	38.67 /lnft	1,237
			Ceramic Trim: Cove Base Patch	6.00 lnft	137	26	27.07 /lnft	162
			Ceramic Trim: Cove Base	246.00 lnft	5,614	1,046	27.07 /lnft	6,660
			Ceramic Tile Pool Floor & Deck	6,954.00 sqft	113,584	73,352	26.88 /sqft	186,936
			Ceramic Tile Pool Wall	1,805.50 sqft	22,797	15,697	21.32 /sqft	38,494
			Ceramic Tile		*531,878*	*207,140*	*/sqft*	*739,018*
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	13,750.00 sqft	291,485	140,458	31.41 /sqft	431,943
			Tile Quary Shape Cove Base 3/4	2,063.00 lnft	48,991	12,565	29.84 /lnft	61,556
			Floor: Quarry Tile		*340,476*	*153,023*	*/sqft*	*493,499*
			Floor: Terrazo					
			Clean Terrazzo	36,501.06 sqft	9,312	787	0.28 /sqft	10,099
			Clean Terrazzo Base	5,475.00 sqft	2,328	118	0.45 /sqft	2,446
			Patch Terrazzo Floor	100.00 sqft	9,686	1,077	118.62 /sqft	11,862
			Floor: Terrazo		*21,326*	*1,982*	*/sqft*	*24,407*
			Flooring Wood Strip					
			Wood Flooring	4,342.00 sqft	13,026	10,719	5.47 /sqft	23,745
			Oak Select 2-1/4" Repair Allow	253.00 sqft	2,234	1,073	13.07 /sqft	3,307
			Patch Wood Floor	25.00 sqft	218	182	15.99 /sqft	400
			Refinish Wood Floor Mid	1,081.00 sqft	4,045	1,317	4.96 /sqft	5,362
			Sand & Finish Floor	4,367.00 sqft	10,770	4,237	3.44 /sqft	15,007
			Flooring Wood Strip		*30,292*	*17,527*	*/sqft*	*47,820*
			Flooring Resilient Tile					
			Clean & Wax VCT Tile Floor	6,334.00 sqft	8,080	141	1.30 /sqft	8,220
			Clean VCT Tile Floor	1,797.00 sqft	2,292	40	1.30 /sqft	2,332
			Floor LVT 1/8"	370,112.00 sqft	467,642	2,457,482	7.90 /sqft	2,925,124
			Floor LVT 1/8" Patch	90.00 sqft	171	615	8.73 /sqft	786
			Floor Resil Base 4" Allow	42,487.00 lnft	76,051	38,684	2.70 /lnft	114,734
			Floor Resil Base 4"	6,198.00 lnft	11,094	5,643	2.70 /lnft	16,737
			Synthetic Gym Floor 3/8"	9,150.00 sqft	79,965	42,611	13.40 /sqft	122,576
			Synthetic Gym Floor 1/2"	26,000.00 sqft	227,222	176,016	15.51 /sqft	403,238
			Floor Resilient Sheet Vinyl .125	9,783.00 sqft	35,023	53,335	9.03 /sqft	88,357
			Rubber Tile 1/8"	1,270.00 sqft	3,343	6,626	7.85 /sqft	9,969
			Radial Rubber Floor 3/16"	11,340.00 sqft	94,328	89,524	16.21 /sqft	183,852
			Flooring Resilient Tile		*1,005,211*	*2,870,716*	*/sqft*	*3,875,927*
			Flooring Carpet					
			Clean Carpet	332.89 sqyd	946	71	3.06 /sqyd	1,017
			Carpet Commercial 32oz	4,143.97 sqyd	64,141	185,255	60.18 /sqyd	249,395
			Carpet Tile 38 oz Patch	16.67 sqyd	147	1,014	69.64 /sqyd	1,161
			Flooring Carpet		*65,234*	*186,339*	*/sqyd*	*251,574*
			Flooring Epoxy MarbleChip					
			Floor Epoxy Composition Med	1,482.00 sqft	13,625	9,458	15.72 /sqft	23,296
			Floor Epoxy Composition Med Base	222.00 lnft	2,041	1,046	14.05 /lnft	3,119
			Flooring Epoxy MarbleChip		*15,666*	*10,504*	*/sqft*	*26,415*
			Painting: Interior					
			Paint Exist Conc Floor	10,558.00 sqft	8,155	1,252	0.89 /sqft	9,406
			Paint Wood Base 3 ct	14,345.00 lnft	15,252	1,701	1.18 /lnft	16,953
			Paint Floor Lines	4,644.00 lnft	4,115	1,252	1.16 /lnft	5,366
			Painting: Interior		*27,521*	*4,205*	*/sqft*	*31,725*
			FINISHES		*2,037,605*	*3,451,436*	*/sqft*	*5,490,385*
			C3020 FLOOR FINISHES	***604,150.00 sqft***	***3,967,746***	***4,182,700***	***13.93 /sqft***	***8,417,661***
	C3030		**CEILING FINISHES**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Fireproofing: Spray On					
			Fireprfg Repair Allow	56,897.00 sqft	157,029	137,722	5.58 /sqft	317,640
			Fireproofing: Spray On		*157,029*	*137,722*	*/sqft*	*317,640*
			THERMAL & MOISTURE PROT		*157,029*	*137,722*	*/sqft*	*317,640*
		9000.00	**FINISHES**					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	17,660.00 sqft	118,246	24,501	8.28 /sqft	146,174
			Gypsum Plaster Clg 2 coat System	2,754.21 sqyd	195,052	28,414	83.25 /sqyd	229,291
			Lath/Plastr: Gyp Plaster		*313,298*	*52,915*	*/sqft*	*375,465*
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	20,284.00 lnft	134,901	11,316	7.21 /lnft	146,217

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB Int Frame: S Studs		*134,901*	*11,316*	*/each*	*146,217*
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8" Allow	14,776.00 lnft	111,824	9,557	8.22 /lnft	121,381
			Track: Soffit 20 ga 3-5/8"	12,264.00 lnft	92,813	7,932	8.22 /lnft	100,746
			GWB Int Frame: Track		*204,638*	*17,489*	*/lnft*	*222,127*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	5,884	2,113	7,997.26 /lsum	7,997
			Misc. Accessories	1.00 lsum	3,058	1,097	4,154.98 /lsum	4,155
			Misc. Accessories	1.00 lsum	5,007	1,772	6,779.72 /lsum	6,780
			Misc. Accessories	1.00 lsum	2,204	791	2,995.01 /lsum	2,995
			GWB: Fasteners		*16,153*	*5,774*	*/each*	*21,927*
			GWB: Boards & Sheathing					
			GWB 5/8" Clgs	1,454.00 sqft	1,845	690	1.74 /sqft	2,535
			GWB 5/8" Soffit	27,040.00 sqft	115,435	14,575	4.81 /sqft	130,010
			GWB 5/8" Infill Patch Reduce	888.00 sqft	1,947	459	2.71 /sqft	2,406
			GWB: Boards & Sheathing		*119,227*	*15,724*	*/sqft*	*134,951*
			GWB: Finish Mud/Tape					
			Labor GWB Ceiling Finish	7,740.00 sqft	9,601	584	1.32 /sqft	10,185
			Labor GWB Soffit Finish	26,640.00 sqft	35,405	2,211	1.41 /sqft	37,616
			Labor GWB Soffit Finish	400.00 sqft	532	28	1.40 /sqft	560
			GWB: Finish Mud/Tape		*45,537*	*2,824*	*/sqft*	*48,361*
			Blueboard					
			1/2" Plaster Base Clgs	22,316.00 sqft	30,898	6,976	1.70 /sqft	37,874
			Blueboard		*30,898*	*6,976*	*/sqft*	*37,874*
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	26,220.00 sqft	97,383	56,248	5.86 /sqft	153,631
			Ceiling: Susp. System		*97,383*	*56,248*	*/sqft*	*153,631*
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Ultima 2x4 3/4"	61,086.00 sqft	94,533	259,774	5.80 /sqft	354,307
			MinFbr SqEdge Std 2x4 3/4"	189,724.00 sqft	293,605	570,884	4.56 /sqft	864,488
			MinFbr SqEdge Ultima 2x4 3/4"	54,650.00 sqft	84,573	232,405	5.80 /sqft	316,978
			MinFbr SqEdge Std 2x4 3/4"	6,120.00 sqft	9,471	20,658	4.92 /sqft	30,129
			MinFbr Tegulr Ultima 2x4 3/4"	202,656.00 sqft	439,064	900,068	6.61 /sqft	1,339,132
			Mylar Faced Std 2x4 3/4"	13,750.00 sqft	21,279	63,664	6.18 /sqft	84,943
			Ceiling: 2x4 Tile		*942,524*	*2,047,453*	*/sqft*	*2,989,976*
			Ceiling: 2x2 Tile					
			Mylar Faced Std 2x2 3/4"	1,941.00 sqft	3,204	8,168	5.86 /sqft	11,372
			Ceiling: 2x2 Tile		*3,204*	*8,168*	*/sqft*	*11,372*
			Painting: Interior					
			Paint GDW Clg Roller p+2ct	9,779.00 sqft	11,264	1,898	1.35 /sqft	13,161
			Paint Exist Concrete	4,086.00 sqft	2,172	881	0.75 /sqft	3,053
			Epoxy Paint Exist GDW Clg Roller 2ct	668.00 sqft	947	144	1.63 /sqft	1,091
			Epoxy Paint GDW Clg	7,740.00 sqft	16,459	6,758	3.00 /sqft	23,217
			Epoxy Paint GDW Clg	2,668.00 sqft	5,673	2,042	2.89 /sqft	7,715
			Epoxy Paint GDW Clg	10,268.00 sqft	21,834	8,966	3.00 /sqft	30,800
			Epoxy Paint GDW Clg	1,640.00 sqft	3,487	1,255	2.89 /sqft	4,743
			Paint GDW Soffit Roller p+2ct	27,040.00 sqft	31,145	5,247	1.35 /sqft	36,392
			Paint Misc Stl Exp Deck 3 Coat	17,882.00 sqft	11,091	1,735	0.72 /sqft	12,825
			Paint Exist Structure	17,882.00 sqft	23,821	2,892	1.49 /sqft	26,712
			Paint Exist Mechanicals	17,882.00 sqft	6,138	1,157	0.41 /sqft	7,295
			Painting: Interior		*134,031*	*32,974*	*/sqft*	*167,005*
			Sound Absorbing Panels					
			Tectum Absorbing Ceiling Panel	6,536.00 sqft	77,194	73,276	23.02 /sqft	150,470
			Tectum Absorbing Panel Soffit	250.00 sqft	1,204	2,803	16.03 /sqft	4,007
			Tectum Absorbing Panel	730.00 sqft	2,344	8,184	14.42 /sqft	10,528
			Custom Acoustic Ceiling Panel	4,380.00 sqft	56,753	49,341	24.22 /sqft	106,094
			Sound Absorbing Panels		*137,495*	*133,605*	*/sqft*	*271,099*
			FINISHES		*2,179,289*	*2,391,465*	*/sqft*	*4,580,006*
			C3030 CEILING FINISHES	***604,150.00 sqft***	***2,336,317***	***2,529,186***	***8.11 /sqft***	***4,897,646***
			C30 INTERIOR FINISHES	**######## sqft**	**7,851,310**	**7,320,681**	**25.63 /sqft**	**########**
D10			**CONVEYING SYSTEMS**					
	D1010		**ELEVATORS**					
		14000.00	**CONVEYING SYSTEMS**					
			Elevators					
			Elevator Hyd Passenger 2 stop	2.00 each	45,726	85,138	65,923.07 /each	131,846

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Elevators					
			Capacity Upgrade 4000# Hyd	2.00 lsum	-	20,728	10,365.46 /lsum	20,731
			Travel Over Base Hyd	61.00 vlf	11,007	46,885	952.94 /vlf	58,129
			Additional Stops Hyd	6.00 each	12,535	7,192	3,332.58 /each	19,995
			Speed Upgrade 125 fpm Hyd	2.00 lsum	-	5,806	2,903.06 /lsum	5,806
			Stainless Steel Clg	2.00 lsum	-	8,199	4,099.63 /lsum	8,199
			Doors Stainless Steel	2.00 lsum	-	8,764	4,382.07 /lsum	8,764
			Emergency Power	2.00 lsum	-	5,707	2,853.47 /lsum	5,707
			Rear Opening Door	1.00 each	-	3,530	3,530.45 /each	3,530
			Walls Stainless Steel	2.00 lsum	-	8,980	4,489.87 /lsum	8,980
			Maint Contract 12 mos	2.00 lsum	7,404	-	3,702.00 /lsum	7,404
			Sig Device Hall Latern	7.00 each	-	3,916	559.48 /each	3,916
			Elevators		*76,672*	*204,847*	*/each*	*283,009*
			Lifts					
			Evacuation Chair	1.00 each	2,195	8,117	10,359.71 /each	10,360
			Lift Commercial	11.00 each	38,178	159,241	18,018.76 /each	198,206
			Lifts		*40,374*	*167,358*	*/each*	*208,566*
			CONVEYING SYSTEMS		*117,046*	*372,205*	*/sqft*	*491,575*
			D1010 ELEVATORS	***2.00 each***	***117,046***	***372,205***	****** **/each**	***491,575***
			D10 CONVEYING SYSTEMS	######## **sqft**	**117,046**	**372,205**	**0.81 /sqft**	**491,575**
D20			**PLUMBING**					
	D2010		**PLUMBING FIXTURES**					
		15100.00	**PLUMBING**					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	454,056.00 sqft	1,057,950	827,208	4.15 /sqft	1,885,159
			Plumbing Fixtures (Sqft)	37,123.00 sqft	74,246	58,027	3.56 /sqft	132,273
			Plumbing Fixtures (Sqft)	90,236.00 sqft	210,250	164,394	4.15 /sqft	374,644
			Plumbing Fixtures & Equip		*1,342,446*	*1,049,629*	*/each*	*2,392,075*
			PLUMBING		*1,342,446*	*1,049,629*	*/sqft*	*2,392,075*
			D2010 PLUMBING FIXTURES	***604,150.00 sqft***	***1,342,446***	***1,049,629***	***3.96 /sqft***	***2,392,075***
	D2020		**DOMESTIC WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Domestic Water (Sqft)	454,056.00 sqft	1,062,491	988,734	4.52 /sqft	2,051,225
			Domestic Water (Sqft)	37,123.00 sqft	74,617	69,232	3.88 /sqft	143,849
			Domestic Water (Sqft)	90,236.00 sqft	211,152	196,494	4.52 /sqft	407,647
			Piping		*1,348,261*	*1,254,461*	*/lnft*	*2,602,721*
			PLUMBING		*1,348,261*	*1,254,461*	*/sqft*	*2,602,721*
			D2020 DOMESTIC WATER	***604,150.00 sqft***	***1,348,261***	***1,254,461***	***4.31 /sqft***	***2,602,721***
	D2030		**SANITARY WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Sanitary Water (Sqft)	454,056.00 sqft	812,760	631,419	3.18 /sqft	1,444,180
			Sanitary Water (Sqft)	37,123.00 sqft	56,798	44,421	2.73 /sqft	101,219
			Sanitary Water (Sqft)	90,236.00 sqft	161,522	125,484	3.18 /sqft	287,006
			Piping		*1,031,081*	*801,324*	*/lnft*	*1,832,405*
			PLUMBING		*1,031,081*	*801,324*	*/sqft*	*1,832,405*
			D2030 SANITARY WATER	***604,150.00 sqft***	***1,031,081***	***801,324***	***3.03 /sqft***	***1,832,405***
	D2040		**RAINWATER DRAINAGE**					
		15100.00	**PLUMBING**					
			Piping					
			Rain Water Drainage(Sqft)	454,056.00 sqft	572,111	445,420	2.24 /sqft	1,017,530
			Rain Water Drainage(Sqft)	37,123.00 sqft	40,093	31,215	1.92 /sqft	71,307
			Rain Water Drainage(Sqft)	90,236.00 sqft	113,697	88,520	2.24 /sqft	202,217
			Rain Water Drainage(Sqft)	***sqft***			***/sqft***	
			Piping		*725,901*	*565,154*	*/lnft*	*1,291,055*
			PLUMBING		*725,901*	*565,154*	*/sqft*	*1,291,055*
			D2040 RAINWATER DRAINAGE	***604,150.00 sqft***	***725,901***	***565,154***	***2.14 /sqft***	***1,291,055***
	D2050		**SPECIAL PLUMBING SYSTEMS**					
		15100.00	**PLUMBING**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Plumbing					
			Special Plumbing Systems (Sqft)	454,056.00 sqft	345,083	269,210	1.35 /sqft	614,292
			Special Plumbing Systems (Sqft)	37,123.00 sqft	24,130	18,809	1.16 /sqft	42,939
			Special Plumbing Systems (Sqft)	90,236.00 sqft	68,579	53,501	1.35 /sqft	122,080
			Plumbing		*437,792*	*341,519*	*/sqft*	*779,311*
			PLUMBING		*437,792*	*341,519*	*/sqft*	*779,311*
			D2050 SPECIAL PLUMBING SYSTEMS	***604,150.00 sqft***	***437,792***	***341,519***	***1.29 /sqft***	***779,311***
			D20 PLUMBING	**######## sqft**	**4,885,480**	**4,012,087**	**14.73 /sqft**	**8,897,568**
D30			**HVAC**					
	D3020		**HEAT GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Heat Generation					
			Heat Generating Systems (Sqft)	454,056.00 sqft	1,057,950	704,840	3.88 /sqft	1,762,791
			Heat Generating Systems (Sqft)	37,123.00 sqft	96,891	64,830	4.36 /sqft	161,721
			Heat Generating Systems (Sqft)	94,636.00 sqft	220,502	146,905	3.88 /sqft	367,407
			Heat Generation		*1,375,343*	*916,576*	*/each*	*2,291,919*
			HVAC SYSTEMS		*1,375,343*	*916,576*	*/sqft*	*2,291,919*
			D3020 HEAT GENERATING SYSTEMS	***604,150.00 sqft***	***1,375,343***	***916,576***	***3.79 /sqft***	***2,291,919***
	D3030		**COOLING GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Refrigeration					
			Cooling Generating Systems (Sqft)	454,056.00 sqft	1,412,114	910,419	5.12 /sqft	2,322,533
			Cooling Generating Systems (Sqft)	37,123.00 sqft	64,223	41,619	2.85 /sqft	105,842
			Cooling Generating Systems (Sqft)	90,236.00 sqft	138,963	89,492	2.53 /sqft	228,456
			Cooling Generating Systems (Sqft)	4,400.00 sqft	13,684	8,822	5.12 /sqft	22,506
			Refrigeration		*1,628,984*	*1,050,353*	*/each*	*2,679,337*
			HVAC SYSTEMS		*1,628,984*	*1,050,353*	*/sqft*	*2,679,337*
			D3030 COOLING GENERATING SYSTEMS	***604,150.00 sqft***	***1,628,984***	***1,050,353***	***4.44 /sqft***	***2,679,337***
	D3040		**DISTRIBUTION SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Air Distribution					
			Distribution Systems (Sqft)	454,056.00 sqft	7,178,625	4,478,672	25.67 /sqft	11,657,298
			Distribution Systems (Sqft)	37,123.00 sqft	658,562	410,991	28.81 /sqft	1,069,553
			Distribution Systems (Sqft)	94,636.00 sqft	1,496,195	933,461	25.67 /sqft	2,429,656
			Air Distribution		*9,333,383*	*5,823,124*	*/sqft*	*15,156,507*
			HVAC SYSTEMS		*9,333,383*	*5,823,124*	*/sqft*	*15,156,507*
			D3040 DISTRIBUTION SYSTEMS	***604,150.00 sqft***	***9,333,383***	***5,823,124***	***25.09 /sqft***	***15,156,507***
	D3050		**TERMINAL PACKAGE UNITS**					
		15500.00	**HVAC SYSTEMS**					
			Air Handling					
			Terminal Package Units (Sqft)	454,056.00 sqft	258,812	156,631	0.92 /sqft	415,443
			Terminal Package Units (Sqft)	37,123.00 sqft	23,387	14,007	1.01 /sqft	37,394
			Terminal Package Units (Sqft)	94,636.00 sqft	53,943	32,646	0.92 /sqft	86,588
			Air Handling		*336,142*	*203,283*	*/each*	*539,425*
			HVAC SYSTEMS		*336,142*	*203,283*	*/sqft*	*539,425*
			D3050 TERMINAL PACKAGE UNITS	***604,150.00 sqft***	***336,142***	***203,283***	***0.89 /sqft***	***539,425***
	D3060		**CONTROL & INSTRUMENTATION**					
		15500.00	**HVAC SYSTEMS**					
			Controls					
			Control & Instrumentation (Sqft)	585,815.00 sqft	2,208,523	1,383,004	6.13 /sqft	3,591,526
			Controls		*2,208,523*	*1,383,004*	*/sqft*	*3,591,526*
			HVAC SYSTEMS		*2,208,523*	*1,383,004*	*/sqft*	*3,591,526*
			D3060 CONTROL & INSTRUMENTATION	***604,150.00 sqft***	***2,208,523***	***1,383,004***	***5.95 /sqft***	***3,591,526***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D3070		**SYSTEM TESTING & BALANCING**					
		15500.00	**HVAC SYSTEMS**					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	454,056.00 sqft	149,838	97,894	0.55 /sqft	247,733
			System Test & Balancing (Sqft)	37,123.00 sqft	13,736	9,604	0.63 /sqft	23,340
			System Test & Balancing (Sqft)	94,636.00 sqft	31,230	20,404	0.55 /sqft	51,633
			Test & Balancing Misc		*194,804*	*127,902*	*/sqft*	*322,706*
			HVAC SYSTEMS		*194,804*	*127,902*	*/sqft*	*322,706*
			D3070 SYSTEM TESTING & BALANCING	***604,150.00 sqft***	***194,804***	***127,902***	***0.53 /sqft***	***322,706***
	D3090		**OTHER HVAC SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			HVAC					
			HVAC (Sqft) Other	454,056.00 sqft	526,705	455,209	2.16 /sqft	981,914
			HVAC (Sqft) Other	37,123.00 sqft	48,260	41,619	2.42 /sqft	89,879
			HVAC (Sqft) Other	90,236.00 sqft	104,674	90,465	2.16 /sqft	195,139
			HVAC (Sqft)	4,400.00 sqft	5,104	4,411	2.16 /sqft	9,515
			HVAC		*684,743*	*591,705*	*/sqft*	*1,276,448*
			HVAC SYSTEMS		*684,743*	*591,705*	*/sqft*	*1,276,448*
			D3090 OTHER HVAC SYSTEMS	***604,150.00 sqft***	***684,743***	***591,705***	***2.11 /sqft***	***1,276,448***
			D30 HVAC	**######## sqft**	**########**	**########**	**42.80 /sqft**	**########**
D40			**FIRE PROTECTION**					
	D4010		**SPRINKLER SYSTEMS**					
		15000.00	**FIRE PROTECTION**					
			Sprinkler					
			Fire Protection (Sqft)	312,828.00 sqft	1,173,105	924,006	6.70 /sqft	2,097,111
			Fire Protection (Sqft)	141,228.00 sqft	529,605	417,148	6.70 /sqft	946,753
			Fire Protection (Sqft)	37,123.00 sqft	119,165	93,644	5.73 /sqft	212,808
			Fire Protection (Sqft)	94,636.00 sqft	354,885	279,528	6.70 /sqft	634,413
			Sprinkler		*2,176,760*	*1,714,326*	*/sqft*	*3,891,086*
			FIRE PROTECTION		*2,176,760*	*1,714,326*	*/sqft*	*3,891,086*
			D4010 SPRINKLER SYSTEMS	***604,150.00 sqft***	***2,176,760***	***1,714,326***	***6.44 /sqft***	***3,891,086***
			D40 FIRE PROTECTION	**######## sqft**	**2,176,760**	**1,714,326**	**6.44 /sqft**	**3,891,086**
D50			**ELECTRICAL**					
	D5010		**SERVICE & DISTRIBUTION**					
		16000.00	**ELECTRICAL**					
			Service Distribution					
			Service & Distribution (Sqft)	454,056.00 sqft	1,607,358	1,664,206	7.21 /sqft	3,271,564
			Service & Distribution (Sqft)	37,123.00 sqft	105,058	148,469	6.83 /sqft	253,527
			Service & Distribution (Sqft)	94,636.00 sqft	335,011	346,860	7.21 /sqft	681,871
			Service Distribution		*2,047,428*	*2,159,535*	*/sqft*	*4,206,963*
			ELECTRICAL		*2,047,428*	*2,159,535*	*/sqft*	*4,206,963*
			D5010 SERVICE & DISTRIBUTION	***604,150.00 sqft***	***2,047,428***	***2,159,535***	***6.96 /sqft***	***4,206,963***
	D5020		**LIGHTING & BRANCH WIRING**					
		16000.00	**ELECTRICAL**					
			Lighting					
			Lighting & Branch Wiring (Sqft)	454,056.00 sqft	3,927,584	4,072,410	17.62 /sqft	7,999,995
			Lighting & Branch Wiring (Sqft)	37,123.00 sqft	256,149	265,723	14.06 /sqft	521,872
			Lighting & Branch Wiring (Sqft)	94,636.00 sqft	818,601	848,787	17.62 /sqft	1,667,388
			Lighting		*5,002,335*	*5,186,920*	*/each*	*10,189,255*
			ELECTRICAL		*5,002,335*	*5,186,920*	*/sqft*	*10,189,255*
			D5020 LIGHTING & BRANCH WIRING	***604,150.00 sqft***	***5,002,335***	***5,186,920***	***16.87 /sqft***	***10,189,255***
	D5030		**COMMUNICATION & SECURITY**					
		16000.00	**ELECTRICAL**					
			Communications					
			Communication & Security (Sqft)	454,056.00 sqft	3,387,258	3,563,359	15.31 /sqft	6,950,617

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Communications					
			Communication & Security (Sqft)	37,123.00 sqft	227,193	238,911	12.56 /sqft	466,104
			Communication & Security (Sqft)	94,636.00 sqft	705,985	742,688	15.31 /sqft	1,448,673
			Communications		*4,320,435*	*4,544,958*	*/sqft*	*8,865,393*
			ELECTRICAL		*4,320,435*	*4,544,958*	*/sqft*	*8,865,393*
			D5030 COMMUNICATION & SECURITY	***604,150.00 sqft***	***4,320,435***	***4,544,958***	***14.67 /sqft***	***8,865,393***
	D5040		**SPECIAL ELECTRICAL SYSTEMS**					
		16000.00	**ELECTRICAL**					
			Special Systems					
			Special Electrical Systems(Sqft)	454,056.00 sqft	967,139	998,524	4.33 /sqft	1,965,663
			Special Electrical Systems(Sqft)	37,123.00 sqft	63,109	65,230	3.46 /sqft	128,339
			Special Electrical Systems(Sqft)	94,636.00 sqft	201,575	208,116	4.33 /sqft	409,691
			Special Systems		*1,231,823*	*1,271,870*	*/each*	*2,503,693*
			ELECTRICAL		*1,231,823*	*1,271,870*	*/sqft*	*2,503,693*
			D5040 SPECIAL ELECTRICAL SYSTEMS	***604,150.00 sqft***	***1,231,823***	***1,271,870***	***4.14 /sqft***	***2,503,693***
			D50 ELECTRICAL	**######## sqft**	**########**	**########**	**42.65 /sqft**	**########**
E10			**EQUIPMENT**					
	E1020		**INSTITUTIONAL EQUIPMENT**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Fastners & Misc	1.00 lsum	-	6	6.47 /lsum	6
			Fastners & Misc	1.00 lsum	-	3	3.24 /lsum	3
			Fastners & Misc	1.00 lsum	-	8	7.54 /lsum	8
			Fasteners: Frame Anchors			*23*	*/each*	*23*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	2,234.00 lnft	8,710	744	4.23 /lnft	9,453
			Blocking 2 x 6 R.L.	2,223.00 lnft	10,706	1,134	5.33 /lnft	11,839
			Blocking: Misc.		*19,415*	*1,877*	*/mbf*	*21,292*
			WOOD & PLASTICS		*19,415*	*1,900*	*/sqft*	*21,315*
		11000.00	**EQUIPMENT**					
			Division 11 Subcontractrs					
			Kitchen Equipment Crabtree	1.00 lsum	-	-	######## /lsum	980,000
			Kitchen Equipment Crabtree	1.00 lsum	-	-	######## /lsum	1,060,000
			Kitchen Equipment Sub	1.00 lsum	-	-	######## /lsum	170,000
			Division 11 Subcontractrs				*/sub*	*2,210,000*
			Equip: Stage					
			Curtain Track Lt Duty	48.00 lnft	4,209	1,286	114.48 /lnft	5,495
			Curtain Track Med Duty	48.00 lnft	4,680	2,251	144.39 /lnft	6,931
			Curtain Velour Med Wt	576.00 sqft	1,728	4,595	10.98 /sqft	6,323
			Curtain Fireproof	576.00 sqft	20,204	9,128	50.92 /sqft	29,331
			Equip: Stage		*30,820*	*17,259*	*/each*	*48,080*
			Equip: Residental Food					
			Microwave	3.00 each	949	1,604	851.01 /each	2,553
			Refrigerator Small	6.00 each	1,240	2,581	636.77 /each	3,821
			Refrigerator 21-29 cf	5.00 each	1,616	6,517	1,626.45 /each	8,132
			Dishwasher Built-In	10.00 each	6,540	5,875	1,241.55 /each	12,415
			Garbage Disposer	5.00 each	872	695	313.47 /each	1,567
			Equip: Residental Food		*11,217*	*17,272*	*/each*	*28,489*
			Equip: Gym					
			Bleacher Manual Allow	1,414.00 seat	83,831	202,731	202.66 /seat	286,562
			Power Operation Avg	1,414.00 seat	6,679	99,689	75.23 /seat	106,368
			Equip: Gym		*90,511*	*302,420*	*/lsum*	*392,930*
			Equip: Shop					
			Shop Eq Kiln	1.00 each	462	2,411	2,873.00 /each	2,873
			Equip: Shop		*462*	*2,411*	*/each*	*2,873*
			Equip: Laboratory/Science					
			Science Casework Avg	312,828.00 sqft	184,441	428,280	1.96 /sqft	612,721
			Science Casework Avg	141,228.00 sqft	228,128	541,988	5.45 /sqft	770,116
			Science Casework Avg	90,236.00 sqft	147,114	349,215	5.50 /sqft	496,329

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Equip: Laboratory/Science		*559,683*	*1,319,483*	*/lnft*	*1,879,166*
			EQUIPMENT		*692,692*	*1,658,845*	*/sqft*	*4,561,537*
			E1020 INSTITUTIONAL EQUIPMENT	***604,150.00 sqft***	***712,108***	***1,660,745***	***7.59 /sqft***	***4,582,853***
			E10 EQUIPMENT	**######## sqft**	**712,108**	**1,660,745**	**7.59 /sqft**	**4,582,853**
E20			**FURNISHINGS**					
	E2010		**FIXED FURNISHINGS**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Fasteners: Frame Anchors			*1*	*/each*	*1*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	358.00 lnft	1,396	119	4.23 /lnft	1,515
			Blocking 2 x 6 R.L.	110.00 lnft	530	56	5.33 /lnft	586
			Blocking: Misc.		*1,925*	*175*	*/mbf*	*2,101*
			WOOD & PLASTICS		*1,925*	*176*	*/sqft*	*2,102*
		12000.00	**FURNISHINGS**					
			Casework					
			School Casework	578,615.00 sqft	532,082	1,871,241	4.15 /sqft	2,403,323
			Casework		*532,082*	*1,871,241*	*/lnft*	*2,403,323*
			Display Casework					
			Display Case	184.00 lnft	14,160	102,746	635.36 /lnft	116,907
			Display case 7' h	65.00 lnft	8,752	92,352	1,555.45 /lnft	101,104
			Display case 8' h	11.00 lnft	1,692	17,858	1,777.27 /lnft	19,550
			Display case 7' h	12.00 lnft	1,616	17,050	1,555.45 /lnft	18,665
			Display Casework		*26,220*	*230,006*	*/lnft*	*256,227*
			Shades					
			Vinyl Heavy Wt	28,903.00 sqft	36,456	134,912	5.93 /sqft	171,368
			Vinyl Heavy Wt Int	1,523.00 sqft	1,921	7,109	5.93 /sqft	9,030
			Vinyl Heavy Wt	4,143.00 sqft	5,226	19,338	5.93 /sqft	24,564
			Vinyl Heavy Wt Int	47.00 sqft	59	219	5.93 /sqft	279
			Vinyl Heavy Wt	427.00 sqft	539	1,993	5.93 /sqft	2,532
			Vinyl Heavy Wt Int	583.00 sqft	735	2,721	5.93 /sqft	3,457
			Shades		*44,936*	*166,293*	*/sqft*	*211,229*
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	1,388.00 sqft	17,826	41,372	42.65 /sqft	59,197
			Floor Mats		*17,826*	*41,372*	*/sqft*	*59,197*
			Misc Seating					
			Aud Seat Veneer Back/Pad Seat	1,412.00 each	96,447	392,711	346.43 /each	489,158
			Refinish/Repair or Reapolster Aud Seat	144.00 each	19,672	7,125	186.09 /each	26,797
			Misc Seating		*116,118*	*399,836*	*/each*	*515,955*
			FURNISHINGS		*737,182*	*2,708,748*	*/sqft*	*3,445,930*
			E2010 FIXED FURNISHINGS	***604,150.00 sqft***	***739,107***	***2,708,924***	***5.71 /sqft***	***3,448,032***
			E20 FURNISHINGS	**######## sqft**	**739,107**	**2,708,924**	**5.71 /sqft**	**3,448,032**
F10			**SPECIAL CONSTRUCTION**					
	F1030		**SPECIAL CONSTRUCTION**					
		13000.00	**SPECIAL CONSTRUCTION**					
			Greenhouses					
			Institutional < 500sf Avg	275.00 sqft	26,907	10,079	134.49 /sqft	36,986
			Greenhouses		*26,907*	*10,079*	*/sqft*	*36,986*
			SPECIAL CONSTRUCTION		*26,907*	*10,079*	*/sqft*	*36,986*
			F1030 SPECIAL CONSTRUCTION	***275.00 sqft***	***26,907***	***10,079***	***134.49 /sqft***	***36,986***
			F10 SPECIAL CONSTRUCTION	**275.00 sqft**	**26,907**	**10,079**	**134.49 /sqft**	**36,986**
F20			**SELECTIVE DEMOLITION**					
	F2010		**SELECTIVE DEMOLITION**					
		2050.00	**DEMOLITION**					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	######## /lsum	1,125,000

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	######## /lsum	2,032,150
			Sub: Asbestos Abatement	1.00 lsum	-	-	######## /lsum	392,850
			Sub: Asbestos Abatement	1.00 lsum	-	-	######## /lsum	460,000
			Demo: Subcontractors				*/sub*	*4,010,000*
			Demo: General					
			General Disposal	21,555.50 cuyd	492,155	-	31.41 /cuyd	676,955
			Shore - Screw Jack 2	3.00 each	3,436	213	1,284.13 /each	3,852
			Shore - Screw Jack	9.00 each	10,308	638	1,284.13 /each	11,557
			Demo: General		*505,899*	*851*	*/cuyd*	*692,364*
			Demo: Concrete					
			Saw Concrete Slab to 6"	256.00 lnft	1,581	-	8.33 /lnft	2,133
			Saw Floor	1,380.00 lnft	8,520	-	8.33 /lnft	11,501
			Saw Concrete Slab to 6"	352.00 lnft	2,173	-	8.33 /lnft	2,934
			Remove Slab on Grade	2,364.00 sqft	17,287	-	7.98 /sqft	18,858
			Cutout Floor Opening Allowed 110	256.00 sqft	2,819	-	12.01 /sqft	3,075
			Remove Slab on Grade	260.00 sqft	1,901	-	7.98 /sqft	2,074
			Cutout Floor Opening Allowed 49	392.00 sqft	4,317	-	12.01 /sqft	4,709
			Remove Slab on Grade	92.00 sqft	673	-	7.98 /sqft	734
			Remove Ext Platform	165.00 sqft	2,002	-	13.23 /sqft	2,183
			Remove Ext Platform	40.00 sqft	485	-	13.21 /sqft	528
			Remove Stair 5'	29.00 risr	1,647	-	61.94 /risr	1,796
			Remove Stair 6'	12.00 risr	795	-	72.12 /risr	865
			Demo: Concrete		*44,200*		*/cuyd*	*51,391*
			Demo: Masonry					
			Cut Out Opng 8" CMU	357.00 sqft	11,364	-	34.62 /sqft	12,361
			Sawcut 8" CMU	233.00 lnft	9,953	-	74.56 /lnft	17,374
			Tooth Jambs 4 Wythes	28.00 lnft	224	-	12.42 /lnft	348
			Remove Brick & Block Wall	1,287.00 sqft	13,287	-	11.21 /sqft	14,426
			Remove CMU 4"	53,772.00 sqft	185,047	-	3.74 /sqft	201,161
			Remove CMU 8"	45,448.00 sqft	191,591	-	4.58 /sqft	208,276
			Remove CMU 8"	10,164.00 sqft	42,848	-	4.58 /sqft	46,520
			Remove CMU 8"	20,290.00 sqft	85,535	-	4.58 /sqft	92,984
			Remove Glass Block	176.00 sqft	818	-	5.05 /sqft	889
			Remove Brick Veneer	3,300.00 sqft	17,960	-	6.17 /sqft	20,362
			Demo: Masonry		*558,627*		*/cuft*	*614,700*
			Demo: Steel					
			Remove Metal Stair 4'	59.00 risr	6,746	-	134.36 /risr	7,927
			Remove Metal Stair 5'	305.00 risr	38,899	-	149.59 /risr	45,626
			Remove Metal Stair 6'	210.00 risr	29,554	-	165.37 /risr	34,728
			Remove Metal Stair 6'	60.00 risr	8,444	-	164.91 /risr	9,895
			Remove Metal Stair 7'	34.00 risr	5,580	-	192.86 /risr	6,557
			Remove Metal Stair 5'	52.00 risr	6,632	-	149.81 /risr	7,790
			Remove Metal Stair 6'	187.00 risr	26,317	-	164.91 /risr	30,839
			Remove Steel Rail	3,061.00 lnft	32,538	-	10.63 /lnft	32,538
			Demo: Steel		*154,712*		*/each*	*175,900*
			Demo: Wood					
			Remove Wood Floor Frame	6,332.00 sqft	18,847	-	2.98 /sqft	18,847
			Remove Wood Floor Frame Ramp	727.00 sqft	2,164	-	2.98 /sqft	2,164
			Remove Wood Floor Frame	772.00 sqft	2,298	-	2.98 /sqft	2,298
			Remove Sub Floor	86,573.00 sqft	129,051	-	1.49 /sqft	129,051
			Remove Ext Sheathing	3,642.00 sqft	2,478	-	0.68 /sqft	2,478
			Remove Wood Risers	1,076.00 lnft	7,813	-	7.26 /lnft	7,813
			Remove Wood Risers	233.00 lnt	1,585	-	6.80 /lnt	1,585
			Demo: Wood		*164,235*		*/sqft*	*164,235*
			Demo: Misc Walls					
			Remove Movable Wall	1,020.00 sqft	1,735	-	1.70 /sqft	1,735
			Remove Wire Mesh Partition	2,520.00 sqft	2,357	-	0.94 /sqft	2,357
			Demo: Misc Walls		*4,092*		*/sqft*	*4,092*
			Demo: Exterior Finishes					
			Remove Exterior Metal Panels	36.00 sqft	61	-	1.70 /sqft	61
			Remove Exterior Concrete Panels	2,412.00 sqft	3,692	-	1.53 /sqft	3,692
			Remove Exterior Cornice	18.00 lnft	36	-	2.22 /lnft	40
			Remove Soffit & Trim	220.00 sqft	1,048	-	4.76 /sqft	1,048
			Remove Bridge Soffit & Trim	1,777.00 sqft	8,463	-	4.76 /sqft	8,463
			Remove Soffit & Trim	4,688.00 sqft	22,325	-	4.76 /sqft	22,325

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Exterior Finishes		*35,625*		*/sqft*	*35,629*
			Demo: Millwork					
			Remove Shelves	555.00 lnft	708	-	1.28 /lnft	708
			Remove Cabinets	59.00 lnft	1,003	-	17.01 /lnft	1,003
			Remove Wall Cabinets	133.00 lnft	2,262	-	17.01 /lnft	2,262
			Remove Tall Cabinet	550.00 lnft	11,225	-	20.41 /lnft	11,225
			Remove Casework	4,730.00 lnft	26,146	-	5.53 /lnft	26,146
			Remove Counter Tops	22.00 lnft	272	-	12.35 /lnft	272
			Remove Phone Bank and Display	11.00 lnft	112	-	10.21 /lnft	112
			Remove Display Case	107.00 lnft	728	-	6.80 /lnft	728
			Demo: Millwork		*42,456*		*/sqft*	*42,456*
			Demo: Roofing					
			Remove Sky Glazing @ Bridge	7,480.00 sqft	63,610	-	8.50 /sqft	63,610
			Demo: Roofing		*63,610*		*/sqs*	*63,610*
			Demo: Doors & Windows					
			Remove Door	198.00 each	6,735	-	34.02 /each	6,735
			Remove Door & Frame Int Single	225.00 each	26,788	-	135.13 /each	30,404
			Remove Door & Frame Int Single	31.00 each	3,691	-	134.68 /each	4,175
			Remove Door Frame Int Double	88.00 each	11,974	-	154.43 /each	13,590
			Remove Door Frame Int Double	15.00 each	2,041	-	153.92 /each	2,309
			Remove Door & Frame Ext Single	5.00 each	680	-	154.43 /each	772
			Remove Door & Frame Ext Double	29.00 each	4,604	-	180.20 /each	5,226
			Remove Transom or Borrowed Lite	561.00 sqft	4,725	-	8.42 /sqft	4,725
			Remove Bridge Glazing	3,612.00 sqft	30,423	-	8.42 /sqft	30,423
			Remove Transom or Borrowed Lite Int	773.00 sqft	6,511	-	8.42 /sqft	6,511
			Remove Transom or Borrowed Lite	753.00 sqft	6,342	-	8.42 /sqft	6,342
			Remove Hatch	1.00 each	107	-	107.30 /each	107
			Remove Hardware	2.00 each	115	-	57.34 /each	115
			Remove Metal Windows	24,969.00 sqft	82,811	-	3.32 /sqft	82,811
			Remove Security Screens	2,200.00 sqft	935	-	0.43 /sqft	935
			Remove Metal Windows	13,723.00 sqft	45,513	-	3.32 /sqft	45,513
			Remove Security Screens	247.00 sqft	105	-	0.43 /sqft	105
			Remove Metal Windows	600.00 sqft	1,990	-	3.32 /sqft	1,990
			Demo: Doors & Windows		*236,091*		*/each*	*242,789*
			Demo: Misc Items					
			Remove Toilet Partitions	223.00 each	18,964	-	85.04 /each	18,964
			Remove Urinal Screen	55.00 each	3,274	-	59.53 /each	3,274
			Remove Toilet Accessories	897.00 each	9,535	-	10.63 /each	9,535
			Remove Lockers ?	198.00 each	4,816	-	24.32 /each	4,816
			Remove & Relocate Lockers	4.00 each	243	-	60.80 /each	243
			Remove Lockers	1,953.00 each	47,500	-	24.32 /each	47,500
			Remove Signage	766.00 each	15,634	-	20.41 /each	15,634
			Remove Fire Ext Cabinet Allow	74.00 each	6,293	-	85.04 /each	6,293
			Remove Hospital Curtains	18.00 lnft	15	-	0.85 /lnft	15
			Remove Stove	4.00 each	389	-	97.20 /each	389
			Remove Refrigerator	5.00 each	1,131	-	226.21 /each	1,131
			Remove Dishwasher	4.00 each	2,041	-	510.24 /each	2,041
			Remove Seats	1,484.00 each	30,162	-	20.33 /each	30,162
			Remove Benches	224.00 lnft	2,381	-	10.63 /lnft	2,381
			Remove Bleachers	1,414.00 each	30,783	-	24.68 /each	34,900
			Remove Tectum Wall Panels	7,528.00 sqft	8,963	-	1.19 /sqft	8,963
			Remove Accoustic Clg Panels	6,886.00 sqft	9,369	-	1.36 /sqft	9,369
			Remove Diving Board	2.00 each	3,402	-	1,700.80 /each	3,402
			Remove Elevator	8.00 stop	63,699	-	8,133.29 /stop	65,066
			Demo: Misc Items		*258,593*		*/sqft*	*264,077*
			Demo: Finishes, Floors					
			Remove Carpet & Pad	94,345.00 sqft	64,185	-	0.68 /sqft	64,185
			Remove Carpet & Pad Allow	100,084.00 sqft	68,089	-	0.68 /sqft	68,089
			Remove Carpet & Pad	28,188.00 sqft	19,177	-	0.68 /sqft	19,177
			Remove Vinyl Tile	31,444.00 sqft	42,784	-	1.36 /sqft	42,784
			Remove Vinyl Tile & Stair Risers/Treads	4,288.00 sqft	5,834	-	1.36 /sqft	5,834
			Remove Vinyl Tile Allow	67,073.00 sqft	91,262	-	1.36 /sqft	91,262
			Remove Vinyl Tile	67,169.00 sqft	91,393	-	1.36 /sqft	91,393
			Remove Resilient Sheet Flooring	19,595.00 sqft	18,330	-	0.94 /sqft	18,330
			Remove Sheet Flooring	480.00 sqft	449	-	0.94 /sqft	449
			Remove Gym Sheet Flooring	28,392.00 sqft	26,559	-	0.94 /sqft	26,559
			Resilient Sheet Flooring	796.00 sqft	745	-	0.94 /sqft	745

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Finishes, Floors					
			Remove Wood Floor	32,054.00 sqft	91,888	-	2.87 /sqft	91,888
			Remove Ceramic Tile Floor	22,229.00 sqft	43,478	-	1.96 /sqft	43,478
			Remove Ceramic Base Only	32.00 lnft	33	-	1.02 /lnft	33
			Remove Quarry Tile Floors	349.00 sqft	742	-	2.13 /sqft	742
			Flash Patch @ Wall Removal	17,660.00 sqft	48,394	40,740	5.05 /sqft	89,134
			Demo: Finishes, Floors		*613,341*	*40,740*	*/sqft*	*654,081*
			Demo: Finishes, Walls					
			Remove VWC	1,350.00 sqft	2,338	-	1.73 /sqft	2,338
			Remove Wood Panel But No Studs	8,670.00 sqft	16,958	-	1.96 /sqft	16,958
			Rem Ceramic Tile But No Studs	20.00 sqft	46	-	2.30 /sqft	46
			Remove Lath/Plaster Partition	55,440.00 sqft	442,186	-	7.98 /sqft	442,186
			Remove Partition	52,566.00 sqft	209,632	-	3.99 /sqft	209,632
			Demo: Finishes, Walls		*671,159*		*/sqft*	*671,159*
			Demo: Finishes, Ceilings					
			Rem. Acoust Tile & Grid	98,561.00 sqft	125,724	-	1.28 /sqft	125,724
			Remove Sheetrock Ceiling	1,454.00 sqft	1,360	-	0.94 /sqft	1,360
			Remove Plaster Ceiling Metal Lath	225,797.00 sqft	537,650	-	2.38 /sqft	537,650
			Demo: Finishes, Ceilings		*664,734*		*/sqft*	*664,734*
			Demo: Plumbing					
			General Demolition	485,134.00 sqft	291,678	-	0.60 /sqft	291,678
			General Demolition Fire Protection	485,134.00 sqft	305,029	-	0.63 /sqft	305,029
			Remove Shower Compartment	56.00 each	3,600	-	64.28 /each	3,600
			Demo: Plumbing		*600,307*		*/sqft*	*600,307*
			Demo: Mechanical					
			General Demolition	485,134.00 sqft	291,678	-	0.60 /sqft	291,678
			Remove Louvers	532.00 sqft	6,470	-	12.16 /sqft	6,470
			Demo: Mechanical		*298,148*		*/sqft*	*298,148*
			Demo: Electrical					
			General Demolition	485,134.00 sqft	366,252	-	0.76 /sqft	366,252
			Demo: Electrical		*366,252*		*/sqft*	*366,252*
			DEMOLITION		*5,282,080*	*41,591*	*/sqft*	*9,615,925*
			F2010 SELECTIVE DEMOLITION	***604,150.00 sqft***	***5,282,080***	***41,591***	***15.92 /sqft***	***9,615,925***
			F20 SELECTIVE DEMOLITION	**######## sqft**	**5,282,080**	**41,591**	**15.92 /sqft**	**9,615,925**

Estimate Totals

Description	Amount	Totals	Hours	Rate	ost per Unit	t of Total	
Labor	63,737,565		262,246,584 hrs		102.186 /sf	48.76%	
Material	56,550,727				90.664 /sf	43.26%	
Subcontract	9,508,205				15.244 /sf	7.27%	
Equipment	933,243		33,245,366 hrs		1.496 /sf	0.71%	
Other							
	130,729,740	**130,729,740**			**209.589 /sf**	**100.00**	**100.00%**
Total		***130,729,740***			***209.589 /sf***		

LOWELL H.S. ADDITION OPTION #3
FEASIBILITY STUDY ESTIMATE - 1-13-17
LOWELL, MA

Project name	Lowell H.S. ADD OPT#3 Lowell MA
Client	Perkins Eastman
Architect	Perkins Eastman
Estimator	Essential Estimating
Labor rate table	Lowell13
Equipment rate table	Lowell E
Job size	196161 sf

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	FOUNDATIONS	1,894,106	1,004,244	938,774	119,303	20.17 /sqft	3,956,427
B10	SUPERSTRUCTURE	1,664,103	4,322,176		298,393	32.04 /sqft	6,284,673
B20	EXTERIOR CLOSURE	3,852,856	3,970,730		29,852	40.04 /sqft	7,853,438
B30	ROOFING	368,303	412,821		3,696	4.00 /sqft	784,820
C10	INTERIOR CONSTRUCTION	3,139,321	2,406,243		36,988	28.46 /sqft	5,582,552
C20	STAIRCASES	184,308	538,000		7,018	3.72 /sqft	729,327
C30	INTERIOR FINISHES	3,645,437	3,142,362		77,689	35.00 /sqft	6,865,488
D10	CONVEYING SYSTEMS	47,352	126,300		918	0.89 /sqft	174,570
D20	PLUMBING	1,594,244	1,505,143			15.80 /sqft	3,099,387
D30	HVAC	5,504,941	3,529,604			46.06 /sqft	9,034,545
D40	FIRE PROTECTION	736,901	580,427			6.72 /sqft	1,317,328
D50	ELECTRICAL	4,091,276	4,374,383			43.16 /sqft	8,465,659
E10	EQUIPMENT	312,749	1,050,347	1,060,000	8	12.35 /sqft	2,423,104
E20	FURNISHINGS	148,482	553,692			3.58 /sqft	702,175
F10	SPECIAL CONSTRUCTION	1,296,499	895,367		253,733	12.47 /sqft	2,445,599
F20	SELECTIVE DEMOLITION	477,901		392,850	181,944	5.37 /sqft	1,052,696
G10	SITE PREPARATION			981,921		132,692.00 /acre	981,921
G20	SITE IMPROVEMENTS			2,918,175		394,348.00 /acre	2,918,175
G30	SITE CIVIL/MECHANICAL UTILITIES			921,233		124,491.00 /acre	921,233
G40	SITE ELECTRICAL UTILITIES			695,067		93,928.00 /acre	695,067

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total	
Labor	28,958,780		154,307.988 hrs			147.628 /sf	43.69%	
Material	28,411,839					144.839 /sf	42.86%	
Subcontract	7,908,021					40.314 /sf	11.93%	
Equipment	1,009,544		12,247.592 hrs			5.147 /sf	1.52%	
Other								
	66,288,184	66,288,184				337.927 /sf	100.00	100.00%
Total		***66,288,184***				***337.927 /sf***		

Location	UNI 1	UNI 2	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
Bridges			**8,606.00 sqft**	**1,073,330**	**2,053,586**	**377.32 /sqft**	**3,247,175**
Fieldhouse			**67,134.00 sqft**	**10,125,710**	**8,997,087**	**296.74 /sqft**	**19,921,402**
Freshman			**101,067.00 sqft**	**15,014,705**	**14,872,788**	**308.14 /sqft**	**31,143,152**
Lord			**19,354.00 sqft**	**2,745,035**	**2,488,378**	**333.78 /sqft**	**6,460,059**
z Site			**7.40 acre**			**745,459.00 /acre**	**5,516,397**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total	
Labor	28,958,780		154,307.988 hrs			147.628 /sf	43.69%	
Material	28,411,839					144.839 /sf	42.86%	
Subcontract	7,908,021					40.314 /sf	11.93%	
Equipment	1,009,544		12,247.592 hrs			5.147 /sf	1.52%	
Other								
	66,288,184	**66,288,184**				**337.927 /sf**	**100.00**	**100.00%**
Total		***66,288,184***				***337.927 /sf***		

UNI 1	Description	Labor Amount	Material Amount	Sub Amount	Equip Amount	Total Cost/Unit	Total Amount
A10	FOUNDATIONS	229,449	124,347	31,703	9,897	0.63 /sqft	395,396
B10	SUPERSTRUCTURE	193,809	40,125	2,524,126	6,339	4.40 /sqft	2,764,398
B20	EXTERIOR CLOSURE	2,515,217	3,299,366		22,363	9.29 /sqft	5,836,946
B30	ROOFING	2,687,518	1,852,132		169,545	7.49 /sqft	4,709,195
C10	INTERIOR CONSTRUCTION	4,160,194	4,302,080		17,303	13.49 /sqft	8,479,578
C20	STAIRCASES	418,204	1,026,499		15,059	2.32 /sqft	1,459,761
C30	INTERIOR FINISHES	5,262,320	5,369,807		260,740	17.33 /sqft	10,892,866
D10	CONVEYING SYSTEMS	51,152	160,207		1,008	0.34 /sqft	212,367
D20	PLUMBING	3,795,139	3,116,615			11.00 /sqft	6,911,754
D30	HVAC	12,119,383	7,762,590			44.10 /sqft	19,881,973
D40	FIRE PROTECTION	1,678,275	1,321,908			6.66 /sqft	3,000,183
D50	ELECTRICAL	9,747,421	10,150,708			44.14 /sqft	19,898,130
E10	EQUIPMENT	452,533	986,335	980,000		5.37 /sqft	2,418,868
E20	FURNISHINGS	614,768	2,264,380			6.39 /sqft	2,879,149
F10	SPECIAL CONSTRUCTION	26,907	10,079			134.49 /sqft	36,986
F20	SELECTIVE DEMOLITION	4,336,812	27,672	3,157,150	208,462	12.30 /sqft	7,730,096

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit	:ent of Total	
Labor	48,289,101		196,781.095 hrs		107.899 /sf	49.52%	
Material	41,814,851				93.433 /sf	42.88%	
Subcontract	6,692,979				14.955 /sf	6.86%	
Equipment	710,717		28,270.632 hrs		1.588 /sf	0.73%	
Other							
	97,507,648	**97,507,648**			**217.875 /sf**	**100.00**	**100.00%**
Total		***97,507,648***			***217.875 /sf***		

Location	UNI 1	UNI 2	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
1922 BLDG			**312,828.00 sqft**	**31,305,104**	**28,284,821**	**204.18 /sqft**	**63,873,642**
LORD			**134,712.00 sqft**	**16,983,996**	**13,530,030**	**249.67 /sqft**	**33,634,005**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit		cent of Total	
Labor	48,289,101		196,781.095 hrs		107.899	/sf	49.52%	
Material	41,814,851				93.433	/sf	42.88%	
Subcontract	6,692,979				14.955	/sf	6.86%	
Equipment	710,717		28,270.632 hrs		1.588	/sf	0.73%	
Other								
	97,507,648	**97,507,648**			**217.875**	**/sf**	**100.00**	**100.00%**
Total		***97,507,648***			***217.875***	***/sf***		

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10		**FOUNDATIONS**					
	A1010	STANDARD FOUNDATIONS	1,727.40 cuyd	1,302,884	633,191	1,189.78 /cuyd	2,055,219
	A1020	SPECIAL FOUNDATIONS	1.00 lsum	13,147	3,789	845,560.74 /lsum	845,561
	A1030	SLAB ON GRADE	69,074.00 sqft	578,076	367,264	15.28 /sqft	1,055,648
		A10 FOUNDATIONS	**196,161.00 sqft**	**1,894,106**	**1,004,244**	**20.17 /sqft**	**3,956,427**
B10		**SUPERSTRUCTURE**					
	B1010	FLOOR CONSTRUCTION	125,760.00 sqft	1,239,772	3,152,398	36.54 /sqft	4,594,863
	B1020	ROOF CONSTRUCTION	38,400.00 sqft	424,331	1,169,778	44.01 /sqft	1,689,809
		B10 SUPERSTRUCTURE	**196,161.00 sqft**	**1,664,103**	**4,322,176**	**32.04 /sqft**	**6,284,673**
B20		**EXTERIOR CLOSURE**					
	B2010	EXTERIOR WALLS	41,983.00 sqft	2,998,922	1,797,482	114.96 /sqft	4,826,210
	B2020	EXTERIOR WINDOWS	31,298.00 sqft	823,481	2,104,269	93.54 /sqft	2,927,750
	B2030	EXTERIOR DOORS	26.00 lvs	30,452	68,979	3,826.10 /lvs	99,479
		B20 EXTERIOR CLOSURE	**196,161.00 sqft**	**3,852,856**	**3,970,730**	**40.04 /sqft**	**7,853,438**
B30		**ROOFING**					
	B3010	ROOF COVERINGS	38,400.00 sqft	368,303	412,821	20.44 /sqft	784,820
		B30 ROOFING	**196,161.00 sqft**	**368,303**	**412,821**	**4.00 /sqft**	**784,820**
C10		**INTERIOR CONSTRUCTION**					
	C1010	PARTITIONS	155,500.00 sqft	2,392,861	686,064	20.04 /sqft	3,115,420
	C1020	INTERIOR DOORS	384.00 lvs	228,726	627,252	2,229.94 /lvs	856,295
	C1030	SPECIALTIES/MILLWORK	202,236.00 sqft	517,733	1,092,927	7.97 /sqft	1,610,837
		C10 INTERIOR CONSTRUCTION	**196,161.00 sqft**	**3,139,321**	**2,406,243**	**28.46 /sqft**	**5,582,552**
C20		**STAIRCASES**					
	C2010	STAIR CONSTRUCTION	9.00 flt	152,198	494,641	72,650.87 /flt	653,858
	C2020	STAIR FINISHES	9,194.00 sqft	32,110	43,359	8.21 /sqft	75,469
		C20 STAIRCASES	**196,161.00 sqft**	**184,308**	**538,000**	**3.72 /sqft**	**729,327**
C30		**INTERIOR FINISHES**					
	C3010	WALL FINISHES	280,123.00 sqft	764,625	350,739	3.98 /sqft	1,115,364
	C3020	FLOOR FINISHES	196,161.00 sqft	1,889,995	1,686,220	18.63 /sqft	3,653,904
	C3030	CEILING FINISHES	196,161.00 sqft	990,817	1,105,403	10.69 /sqft	2,096,220
		C30 INTERIOR FINISHES	**196,161.00 sqft**	**3,645,437**	**3,142,362**	**35.00 /sqft**	**6,865,488**
D10		**CONVEYING SYSTEMS**					
	D1010	ELEVATORS	1.00 each	47,352	126,300	174,570.18 /each	174,570
		D10 CONVEYING SYSTEMS	**196,161.00 sqft**	**47,352**	**126,300**	**0.89 /sqft**	**174,570**
D20		**PLUMBING**					
	D2010	PLUMBING FIXTURES	196,161.00 sqft	431,377	412,456	4.30 /sqft	843,832
	D2020	DOMESTIC WATER	196,161.00 sqft	438,879	384,150	4.20 /sqft	823,029
	D2030	SANITARY WATER	196,161.00 sqft	335,723	327,539	3.38 /sqft	663,262
	D2040	RAINWATER DRAINAGE	196,161.00 sqft	247,599	241,491	2.49 /sqft	489,090

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D2050	SPECIAL PLUMBING SYSTEMS	196,161.00 sqft	140,666	139,507	1.43 /sqft	280,173
		D20 PLUMBING	**196,161.00 sqft**	**1,594,244**	**1,505,143**	**15.80 /sqft**	**3,099,387**
D30		**HVAC**					
	D3020	HEAT GENERATING SYSTEMS	196,161.00 sqft	457,861	307,160	3.90 /sqft	765,021
	D3030	COOLING GENERATING SYSTEMS	196,161.00 sqft	919,653	591,018	7.70 /sqft	1,510,671
	D3040	DISTRIBUTION SYSTEMS	196,161.00 sqft	2,965,245	1,849,986	24.55 /sqft	4,815,231
	D3050	TERMINAL PACKAGE UNITS	196,161.00 sqft	112,009	67,787	0.92 /sqft	179,796
	D3060	CONTROL & INSTRUMENTATION	196,161.00 sqft	757,378	474,279	6.28 /sqft	1,231,657
	D3070	SYSTEM TESTING & BALANCING	196,161.00 sqft	64,847	42,367	0.55 /sqft	107,214
	D3090	OTHER HVAC SYSTEMS	196,161.00 sqft	227,948	197,006	2.17 /sqft	424,954
		D30 HVAC	**196,161.00 sqft**	**5,504,941**	**3,529,604**	**46.06 /sqft**	**9,034,545**
D40		**FIRE PROTECTION**					
	D4010	SPRINKLER SYSTEMS	196,161.00 sqft	736,901	580,427	6.72 /sqft	1,317,328
		D40 FIRE PROTECTION	**196,161.00 sqft**	**736,901**	**580,427**	**6.72 /sqft**	**1,317,328**
D50		**ELECTRICAL**					
	D5010	SERVICE & DISTRIBUTION	196,161.00 sqft	695,635	832,510	7.79 /sqft	1,528,145
	D5020	LIGHTING & BRANCH WIRING	196,161.00 sqft	1,699,786	1,762,463	17.65 /sqft	3,462,249
	D5030	COMMUNICATION & SECURITY	196,161.00 sqft	1,318,562	1,387,516	13.80 /sqft	2,706,078
	D5040	SPECIAL ELECTRICAL SYSTEMS	196,161.00 sqft	377,293	391,894	3.92 /sqft	769,187
		D50 ELECTRICAL	**196,161.00 sqft**	**4,091,276**	**4,374,383**	**43.16 /sqft**	**8,465,659**
E10		**EQUIPMENT**					
	E1020	INSTITUTIONAL EQUIPMENT	196,161.00 sqft	312,749	1,050,347	12.35 /sqft	2,423,104
		E10 EQUIPMENT	**196,161.00 sqft**	**312,749**	**1,050,347**	**12.35 /sqft**	**2,423,104**
E20		**FURNISHINGS**					
	E2010	FIXED FURNISHINGS	196,161.00 sqft	148,482	553,692	3.58 /sqft	702,175
		E20 FURNISHINGS	**196,161.00 sqft**	**148,482**	**553,692**	**3.58 /sqft**	**702,175**
F10		**SPECIAL CONSTRUCTION**					
	F1030	SPECIAL CONSTRUCTION	33,567.00 sqft	1,296,499	895,367	72.86 /sqft	2,445,599
		F10 SPECIAL CONSTRUCTION	**196,161.00 sqft**	**1,296,499**	**895,367**	**12.47 /sqft**	**2,445,599**
F20		**SELECTIVE DEMOLITION**					
	F2010	SELECTIVE DEMOLITION	1,586,520.00 cuft	477,901		0.66 /cuft	1,052,696
		F20 SELECTIVE DEMOLITION	**196,161.00 sqft**	**477,901**		**5.37 /sqft**	**1,052,696**

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
G10		**SITE PREPARATION**					
	G1030	**EARTHWORK**	**7.40 acre**			**132,692.00 /acre**	**981,921**
		G10 SITE PREPARATION	**7.40 acre**			**132,692.00 /acre**	**981,921**
G20		**SITE IMPROVEMENTS**					
	G2040	**SITE DEVELOPMENT**	**7.40 acre**			**394,348.00 /acre**	**2,918,175**
		G20 SITE IMPROVEMENTS	**7.40 acre**			**394,348.00 /acre**	**2,918,175**
G30		**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030	**STORM SEWER SYSTEM**	**7.40 acre**			**124,491.00 /acre**	**921,233**
		G30 SITE CIVIL/MECHANICAL UTILITIES	**7.40 acre**			**124,491.00 /acre**	**921,233**
G40		**SITE ELECTRICAL UTILITIES**					
	G4010	**ELECTRICAL DISTRIBUTION**	**7.40 acre**			**93,928.00 /acre**	**695,067**
		G40 SITE ELECTRICAL UTILITIES	**7.40 acre**			**93,928.00 /acre**	**695,067**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total
Labor	28,958,780		154,307.988 hrs			147.628 /sf	43.69%
Material	28,411,839					144.839 /sf	42.86%
Subcontract	7,908,021					40.314 /sf	11.93%
Equipment	1,009,544		12,247.592 hrs			5.147 /sf	1.52%
Other							
	66,288,184	**66,288,184**				**337.927 /sf**	**100.00** **100.00%**
Total		***66,288,184***				***337.927 /sf***	

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10			**FOUNDATIONS**					
	A1010		**STANDARD FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Dewatering allow	1.00 lsum	-	-	37,200.00 /lsum	37,200
			Sub - Dewatering	1.00 lsum	-	-	6,300.00 /lsum	6,300
			Division 2 Subcontractors				*/sub*	*43,500*
			Dewater: Gravel At Drain					
			Gravel @ Drains	363.20 cuyd	1,078	7,767	24.84 /cuyd	9,023
			Gravel @ Drains	56.90 cuyd	169	1,217	24.83 /cuyd	1,413
			Dewater: Gravel At Drain		*1,247*	*8,984*	*/cuyd*	*10,436*
			Filter Fabric					
			Filter Fabric	18,150.00 sqft	7,868	3,228	0.61 /sqft	11,096
			Filter Fabric		*7,868*	*3,228*	*/sqft*	*11,096*
			Earthwk: Dispose Surplus					
			Dispose Surplus	4,790.00 cuyd	29,215	-	12.16 /cuyd	58,266
			Earthwk: Dispose Surplus		*29,215*		*/cuyd*	*58,266*
			Earthwk: Borrow					
			Borrow - Bank Run Allow	2,508.29 cuyd	11,129	50,679	29.70 /cuyd	74,483
			Earthwk: Borrow		*11,129*	*50,679*	*/cuyd*	*74,483*
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	137.50 cuyd	17,540	-	127.56 /cuyd	17,540
			Excavate Isolated Footing By Hand	65.40 cuyd	8,342	-	127.56 /cuyd	8,342
			Excavate Matt Foundation By Hand	20.00 cuyd	2,551	-	127.56 /cuyd	2,551
			Excavate Isolated Footing By Hand	10.50 cuyd	1,339	-	127.56 /cuyd	1,339
			Excavate Engaged Footing By Hand	92.60 cuyd	11,812	-	127.56 /cuyd	11,812
			Earthwk: Footings (Hand)		*41,585*		*/cuyd*	*41,585*
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	2,674.00 cuyd	13,148	-	6.27 /cuyd	16,767
			Excavate Isolated Footing Machine	530.00 cuyd	5,704	-	13.67 /cuyd	7,245
			Excavate IMatt Foundation Machine	160.00 cuyd	1,722	-	13.67 /cuyd	2,187
			Excavate Isolated Footing Machine	84.00 cuyd	904	-	13.67 /cuyd	1,148
			Excavate Engaged Footing By Machine	671.00 cuyd	5,291	-	10.04 /cuyd	6,738
			Earthwk: Footings (Mach)		*26,769*		*/cuyd*	*34,084*
			Earthwk: Pits, Misc Excav					
			Excavate Grade Beams	301.00 cuyd	1,620	-	6.83 /cuyd	2,057
			Excavate G.B. By Hand	30.10 cuyd	3,840	-	127.56 /cuyd	3,840
			Earthwk: Pits, Misc Excav		*5,459*		*/cuyd*	*5,897*
			Backfill: Footing					
			Backfill Footings	2,149.60 cuyd	6,380	47,568	26.76 /cuyd	57,524
			Backfill Isol. Footings	255.00 cuyd	833	4,907	24.34 /cuyd	6,206
			Backfill Matt Foundation	80.00 cuyd	261	1,539	24.34 /cuyd	1,947
			Backfill Isol. Footings	36.10 cuyd	118	695	24.34 /cuyd	879
			Backfill: Footing		*7,592*	*54,709*	*/cuyd*	*66,555*
			Backfill: Pit, etc					
			Backfill Grade Beams	182.00 cuyd	594	3,502	24.61 /cuyd	4,479
			Backfill: Pit, etc		*594*	*3,502*	*/cuyd*	*4,479*
			Pipe: PVC					
			Pipe PVC 6	1,815.00 lnft	11,210	12,840	13.25 /lnft	24,050
			Pipe: PVC		*11,210*	*12,840*	*/lnft*	*24,050*
			SITEWORK		*142,666*	*133,941*	*/sqft*	*374,431*
		3000.00	**CONCRETE**					
			Forms: Footings					
			Footing Forms 2 Use	6,539.00 sqft	51,200	27,009	11.96 /sqft	78,209
			Engaged Footing Forms 2 use	4,483.67 sqft	38,473	4,580	9.60 /sqft	43,054
			Isolated Footing Forms 2 Use	3,222.00 sqft	29,721	3,291	10.25 /sqft	33,012
			Matt Foundation Forms	840.00 sqft	7,748	858	10.25 /sqft	8,607
			Isolated Footing Forms 2 Use	546.00 sqft	5,037	558	10.25 /sqft	5,594
			Keyway In Footing	2,658.00 lnft	18,592	1,712	7.64 /lnft	20,303
			Forms: Footings		*150,771*	*38,008*	*/sqft*	*188,779*
			Forms: Walls					
			Wall Forms	26,064.00 sqft	316,751	47,461	13.97 /sqft	364,212
			Forms: Walls		*316,751*	*47,461*	*/sqft*	*364,212*
			Forms: Blockouts					
			Ledge Blockouts	3,307.00 sqft	63,938	2,974	20.23 /sqft	66,912

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Forms: Blockouts		*63,938*	*2,974*	*/sqft*	*66,912*
			Forms: Piers					
			Pier Forms	2,672.00 sqft	45,461	3,442	18.30 /sqft	48,903
			Pier Forms @ Bridge Allow	3,808.00 sqft	64,789	4,905	18.30 /sqft	69,694
			Pier Forms	696.00 sqft	11,842	896	18.30 /sqft	12,738
			Forms: Piers		*122,092*	*9,243*	*/sqft*	*131,335*
			Forms: Grade Beams					
			Grade Bm Form - All Types	4,060.00 sqft	37,230	7,675	11.06 /sqft	44,904
			Forms: Grade Beams		*37,230*	*7,675*	*/sqft*	*44,904*
			Rebar: Footings					
			Footing Rebar 4#/plf	6.02 ton	10,745	7,524	3,034.66 /ton	18,269
			Footing Rebar #4/plf	0.49 ton	875	613	3,036.92 /ton	1,488
			Engaged Footing Rebar 44@650# each	14.30 ton	28,084	17,870	3,213.50 /ton	45,953
			Isolated Footing Rebar 18@1525# each	13.73 ton	26,161	17,158	3,155.02 /ton	43,318
			Engaged Footing 27@275# each	3.71 ton	7,287	4,637	3,213.88 /ton	11,924
			Engaged Footing 20@350# each	3.50 ton	6,874	4,447	3,234.58 /ton	11,321
			Isolated Footing 32@275# each	4.40 ton	8,383	5,498	3,154.92 /ton	13,882
			Matt Foundation Rebar 6@4500 each	13.50 ton	25,722	16,870	3,154.91 /ton	42,591
			Isolated Footing 7@750# each	2.63 ton	5,012	3,287	3,155.44 /ton	8,299
			Rebar: Footings		*119,141*	*77,903*	*/ton*	*197,044*
			Rebar: Walls					
			Wall Rebar #4 10#/plf	16.29 ton	20,362	20,357	2,499.61 /ton	40,719
			Rebar: Walls		*20,362*	*20,357*	*/ton*	*40,719*
			Rebar: Piers					
			Pier Rebar 40#/plf	3.88 ton	6,301	4,849	2,873.69 /ton	11,150
			Pier Rebar 40#/plf	14.06 ton	22,834	17,570	2,873.69 /ton	40,404
			Rebar: Piers		*29,136*	*22,418*	*/ton*	*51,554*
			Rebar: Grade Beams					
			Grade Beam Rebar #75/plf	30.46 ton	71,386	38,064	3,593.26 /ton	109,451
			Rebar: Grade Beams		*71,386*	*38,064*	*/ton*	*109,451*
			Conc: Footings					
			Footing Conc 3000 psi	275.00 cuyd	15,437	32,479	183.00 /cuyd	50,325
			Engaged Footing Conc 3000 psi	204.70 cuyd	12,640	24,176	189.49 /cuyd	38,788
			Isolated Footing Conc 3000 psi	291.50 cuyd	32,727	34,428	247.89 /cuyd	72,260
			Matt Foundation Conc 3000 psi	100.00 cuyd	11,227	11,811	247.89 /cuyd	24,789
			Isolated Footing Conc 3000 psi	45.50 cuyd	5,108	5,374	247.89 /cuyd	11,279
			Conc: Footings		*77,139*	*108,267*	*/cuyd*	*197,441*
			Conc: Walls					
			Wall Conc 4000 psi	246.30 cuyd	16,202	29,593	196.19 /cuyd	48,321
			Wall Conc 4000 psi	281.20 cuyd	18,498	33,787	196.02 /cuyd	55,120
			Conc: Walls		*34,701*	*63,380*	*/cuyd*	*103,441*
			Conc: Piers					
			Pier Conc 4000 psi	132.92 cuyd	18,654	15,971	282.38 /cuyd	37,534
			Conc: Piers		*18,654*	*15,971*	*/cuyd*	*37,534*
			Conc: Grade Beams					
			Grade Beam Conc 4000 psi	150.30 cuyd	26,795	18,059	305.18 /cuyd	45,868
			Conc: Grade Beams		*26,795*	*18,059*	*/cuyd*	*45,868*
			Grout					
			Grout Base Pl Metallic 2" (sf)	182.00 sqft	4,694	4,375	49.83 /sqft	9,069
			Grout		*4,694*	*4,375*	*/cuft*	*9,069*
			CONCRETE		*1,092,788*	*474,155*	*/sqft*	*1,588,263*
		5000.00	**METALS**					
			Fastener: Col Anchor Bolt					
			3/4" d. 16" long	728.00 each	29,634	3,720	45.82 /each	33,354
			Fastener: Col Anchor Bolt		*29,634*	*3,720*	*/each*	*33,354*
			Misc: Embeded Material					
			Bearing Plates	182.00 each	2,892	9,525	68.23 /each	12,418
			Misc: Embeded Material		*2,892*	*9,525*	*/each*	*12,418*
			METALS		*32,527*	*13,245*	*/sqft*	*45,772*
		7000.00	**THERMAL & MOISTURE PROT**					
			Damproofing: Bituminous					
			Ashphalt Ct. Troweled 1/8"	7,260.00 sqft	24,080	7,497	4.35 /sqft	31,577
			Damproofing: Bituminous		*24,080*	*7,497*	*/sqft*	*31,577*
			Insulation: Perimeter					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Insulation: Perimeter					
			Insul Board Polystyrene 2"	7,260.00 sqft	10,822	4,353	2.09 /sqft	15,175
			Insulation: Perimeter		*10,822*	*4,353*	*/sqft*	*15,175*
			THERMAL & MOISTURE PROT		*34,902*	*11,850*	*/sqft*	*46,752*
			A1010 STANDARD FOUNDATIONS	***1,727.40 cuyd***	***1,302,884***	***633,191***	***1,189.78 /cuyd***	***2,055,218***
	A1020		**SPECIAL FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - RAPS Freshman	1.00 lsum	-	-	300,978.00 /lsum	300,978
			Sub - RAPS Fieldhouse	1.00 lsum	-	-	383,845.00 /lsum	383,845
			Sub - RAPS Bridges	1.00 lsum	-	-	50,084.00 /lsum	50,084
			Sub - RAPS Lord	1.00 lsum	-	-	92,643.00 /lsum	92,643
			Division 2 Subcontractors				*/sub*	*827,550*
			Earthwk: Dispose Surplus					
			Dispose Surplus	13.00 cuyd	79	-	12.16 /cuyd	158
			Earthwk: Dispose Surplus		*79*		*/cuyd*	*158*
			Earthwk: Pits, Misc Excav					
			Excavate Pits & Misc.	19.00 cuyd	2,644	-	176.75 /cuyd	3,358
			Excavate Misc By Hand	1.90 cuyd	242	-	127.56 /cuyd	242
			Earthwk: Pits, Misc Excav		*2,886*		*/cuyd*	*3,601*
			Backfill: Pit, etc					
			Backfill Pits	8.00 cuyd	36	177	29.08 /cuyd	233
			Backfill: Pit, etc		*36*	*177*	*/cuyd*	*233*
			SITEWORK		*3,001*	*177*	*/sqft*	*831,541*
		3000.00	**CONCRETE**					
			Forms: Keyway Not @Footng					
			Keyway Not @ Footing	64.00 lnft	506	41	8.56 /lnft	548
			Forms: Keyway Not @Footng		*506*	*41*	*/lnft*	*548*
			Forms: Pits & Misc.					
			Pit Forms	296.00 sqft	7,194	1,246	28.52 /sqft	8,441
			Forms: Pits & Misc.		*7,194*	*1,246*	*/sqft*	*8,441*
			Rebar: Pits & Misc					
			Pit-Misc Rebar #5	0.48 ton	660	600	2,624.13 /ton	1,260
			Rebar: Pits & Misc		*660*	*600*	*/ton*	*1,260*
			Conc: Pit & Misc					
			Pit Conc 4000 psi	8.40 cuyd	572	1,028	200.18 /cuyd	1,681
			Conc: Pit & Misc		*572*	*1,028*	*/cuyd*	*1,681*
			CONCRETE		*8,933*	*2,916*	*/sqft*	*11,929*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofing: Cement.					
			W.P. Metallic Allow	164.00 sqft	1,213	696	12.74 /sqft	2,090
			Waterproofing: Cement.		*1,213*	*696*	*/sqft*	*2,090*
			THERMAL & MOISTURE PROT		*1,213*	*696*	*/sqft*	*2,090*
			A1020 SPECIAL FOUNDATIONS	***1.00 lsum***	***13,147***	***3,789***	***845,560.73 /lsum***	***845,561***
	A1030		**SLAB ON GRADE**					
		2100.00	**SITEWORK**					
			Earthwk: Fine Grade					
			Fine Grade SOG	15,049.78 sqyd	38,791	-	3.96 /sqyd	59,596
			Earthwk: Fine Grade		*38,791*		*/sqyd*	*59,596*
			Backfill: Slab on Grade					
			Gravel Fill 24"	5,016.60 cuyd	93,281	76,806	35.96 /cuyd	180,414
			Backfill: Slab on Grade		*93,281*	*76,806*	*/cuyd*	*180,414*
			SITEWORK		*132,072*	*76,806*	*/sqft*	*240,010*
		3000.00	**CONCRETE**					
			Forms: Edgeform Slabs					
			EdgeForm (Any Depth, LF)	6,772.00 lnft	38,497	2,857	6.11 /lnft	41,355
			Forms: Edgeform Slabs		*38,497*	*2,857*	*/lnft*	*41,355*
			Forms: Ramps					
			Ramp Forms 2 use	136.00 lnft	1,313	205	11.16 /lnft	1,518
			Forms: Ramps		*1,313*	*205*	*/lnft*	*1,518*
			Rebar: Slab On Grade					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Rebar: Slab On Grade					
			S.O.G. Rebar #4	46.19 ton	75,305	57,721	2,879.98 /ton	133,026
			Rebar: Slab On Grade		*75,305*	*57,721*	*/ton*	*133,026*
			Conc: Ramps					
			Ramp Conc 4000 psi	25.00 cuyd	1,285	3,147	185.04 /cuyd	4,626
			Conc: Ramps		*1,285*	*3,147*	*/cuyd*	*4,626*
			Conc: Slabs On Grade					
			S.O.G. Conc 4000 psi	1,226.33 cuyd	55,180	154,361	177.88 /cuyd	218,133
			Conc: Slabs On Grade		*55,180*	*154,361*	*/cuyd*	*218,133*
			Finish: Protect & Cure					
			Cure Conc S.O.G.	677.24 sqs	16,759	8,164	36.80 /sqs	24,923
			Cure Conc Ramp	13.50 sqs	367	163	39.27 /sqs	530
			Finish: Protect & Cure		*17,127*	*8,327*	*/sqs*	*25,453*
			Finish: General					
			Trowel Finish	6,462.00 sqft	10,416	-	1.61 /sqft	10,416
			Broom/Float Finish S.O.G.	61,262.00 sqft	54,313	-	0.89 /sqft	54,313
			Broom/Float Finish Ramp	1,350.00 sqft	1,414	-	1.05 /sqft	1,414
			Finish: General		*66,144*		*/sqft*	*66,144*
			Misc: Saw Concrete					
			Saw New Concrete	5,418.00 lnft	7,685	2,979	2.46 /lnft	13,329
			Misc: Saw Concrete		*7,685*	*2,979*	*/lnft*	*13,329*
			Concrete Misc Divisions					
			Misc Moisture SOG Additive Check if Needed?	67,724.00 sqft	37,049	0	1.55 /sqft	104,773
			Concrete Misc Divisions		*37,049*		*/sqft*	*104,773*
			CONCRETE		*299,584*	*229,598*	*/sqft*	*608,358*
		5000.00	**METALS**					
			Expansion Joint					
			Embedded Floor Joint 2" Alum	310.00 lnft	5,939	7,419	43.09 /lnft	13,358
			Expansion Joint		*5,939*	*7,419*	*/lnft*	*13,358*
			METALS		*5,939*	*7,419*	*/sqft*	*13,358*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 15 mil	677.24 sq	31,761	12,407	65.22 /sq	44,169
			Dampproofing: VaprBarrier		*31,761*	*12,407*	*/sqs*	*44,169*
			Insulation: Perimeter					
			Insul Board Polystyrene 2" Slab	67,724.00 sqft	108,719	41,035	2.21 /sqft	149,754
			Insulation: Perimeter		*108,719*	*41,035*	*/sqft*	*149,754*
			THERMAL & MOISTURE PROT		*140,480*	*53,442*	*/sqft*	*193,922*
			A1030 SLAB ON GRADE	***69,074.00 sqft***	***578,076***	***367,264***	***15.28 /sqft***	***1,055,648***
			A10 FOUNDATIONS	**######## sqft**	**1,894,106**	**1,004,244**	**20.17 /sqft**	**3,956,427**
B10			**SUPERSTRUCTURE**					
	B1010		**FLOOR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Rebar: Suspended Slab					
			Suspended Slab Rebar #4	7.40 ton	9,568	9,247	2,542.55 /ton	18,815
			Rebar: Suspended Slab		*9,568*	*9,247*	*/ton*	*18,815*
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6	1,257.60 sqs	81,231	39,630	96.10 /sqs	120,861
			Rebar: Mesh On Corruform		*81,231*	*39,630*	*/sqs*	*120,861*
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi	2,425.92 cuyd	110,646	291,477	172.88 /cuyd	419,385
			Conc: Slab On Corruform		*110,646*	*291,477*	*/cuyd*	*419,385*
			Finish: Protect & Cure					
			Cure Conc Elv. Slab	2,120.56 sqs	63,116	25,563	41.82 /sqs	88,679
			Finish: Protect & Cure		*63,116*	*25,563*	*/sqs*	*88,679*
			Finish: General					
			Trowel Finish	800.00 sqft	1,290	-	1.61 /sqft	1,290
			Broom/Float Finish Elv. Slab	124,960.00 sqft	130,928	-	1.05 /sqft	130,928
			Finish: General		*132,218*		*/sqft*	*132,218*
			CONCRETE		*396,778*	*365,917*	*/sqft*	*779,957*
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	436.80 ton	336,484	1,199,778	3,743.01 /ton	1,634,948

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Structural: Framing					
			Structural Framing (ton) Bridge Allowance Total	201.40 ton	155,146	553,194	3,743.01 /ton	753,843
			Structural Framing (ton)	60.70 ton	46,760	166,727	3,743.01 /ton	227,201
			Shear Studs	13,437.00 each	26,100	9,850	2.96 /each	39,718
			Shear Studs	2,693.00 each	5,231	1,771	2.88 /each	7,757
			Structural: Framing		*569,721*	*1,931,320*	*/ton*	*2,663,466*
			Structural: Joist K					
			Bar Joists	198.90 ton	137,435	327,196	2,414.53 /ton	480,249
			Structural: Joist K		*137,435*	*327,196*	*/ton*	*480,249*
			Structural: Joist LH/DLH					
			Long Span	51.00 ton	17,623	139,644	3,122.92 /ton	159,269
			Structural: Joist LH/DLH		*17,623*	*139,644*	*/ton*	*159,269*
			Structural: Deck Roof/Fl					
			Slab Form 2" 18ga Galv	111,520.00 sqft	98,449	323,388	3.82 /sqft	426,321
			Slab Form 2" 18ga Galv Bridges	8,952.00 sqft	7,903	25,959	3.82 /sqft	34,222
			Slab Form 2" 18ga Galv	13,440.00 sqft	11,865	38,974	3.82 /sqft	51,379
			Structural: Deck Roof/Fl		*118,216*	*388,321*	*/sqft*	*511,922*
			METALS		*842,994*	*2,786,481*	*/sqft*	*3,814,906*
			B1010 FLOOR CONSTRUCTION	***125,760.00 sqft***	***1,239,772***	***3,152,398***	***36.54 /sqft***	***4,594,863***
	B1020		**ROOF CONSTRUCTION**					
		5000.00	**METALS**					
			Structural: Framing					
			Structural Framing (ton)	338.40 ton	260,683	929,498	3,743.01 /ton	1,266,636
			Structural: Framing		*260,683*	*929,498*	*/ton*	*1,266,636*
			Structural: Joist K					
			Bar Joists	53.70 ton	37,105	88,338	2,414.53 /ton	129,660
			Structural: Joist K		*37,105*	*88,338*	*/ton*	*129,660*
			Structural: Deck Roof/Fl					
			Deck Steel 3" deep 18 ga >500 sq	24,528.00 sqft	21,653	50,503	2.98 /sqft	73,142
			Deck Steel 3" deep 18 ga 50-500 sq Bridges	4,860.00 sqft	5,363	13,988	4.02 /sqft	19,544
			Deck Steel 3 " Deep 20 ga 50 - 500 sq	9,012.00 sqft	7,956	18,556	2.98 /sqft	26,868
			Structural: Deck Roof/Fl		*34,972*	*83,047*	*/sqft*	*119,553*
			METALS		*332,760*	*1,100,883*	*/sqft*	*1,515,849*
		7000.00	**THERMAL & MOISTURE PROT**					
			Fireproofing: Spray On					
			Fireprfg Sprayd Deck Cem 2hr	24,528.00 sqft	67,694	50,384	5.22 /sqft	127,946
			Fireprfg Sprayd Beams Cemt 2hr	9,012.00 sqft	23,877	18,512	5.11 /sqft	46,015
			Fireproofing: Spray On		*91,571*	*68,895*	*/sqft*	*173,960*
			THERMAL & MOISTURE PROT		*91,571*	*68,895*	*/sqft*	*173,960*
			B1020 ROOF CONSTRUCTION	***38,400.00 sqft***	***424,331***	***1,169,778***	***44.01 /sqft***	***1,689,809***
			B10 SUPERSTRUCTURE	**######## sqft**	**1,664,103**	**4,322,176**	**32.04 /sqft**	**6,284,673**
B20			**EXTERIOR CLOSURE**					
	B2010		**EXTERIOR WALLS**					
		3000.00	**CONCRETE**					
			Precast Specialties					
			Precast Band 12"	956.00 lnft	17,164	26,601	46.90 /lnft	44,837
			Precast Specialties		*17,164*	*26,601*	*/sqft*	*44,837*
			CONCRETE		*17,164*	*26,601*	*/sqft*	*44,837*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Exterior Scaffold	16,030.00 sqft	30,806	6,221	2.59 /sqft	41,506
			Interior Scaffold	7,308.00 sqft	10,740	2,836	2.04 /sqft	14,937
			Misc: Scaffold		*41,546*	*9,057*	*/sqft*	*56,444*
			Misc: Material Handling					
			Concrete Block	9.00 m	-	-	238.91 /m	2,150
			Brick	73.00 m	-	-	80.27 /m	5,860

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Misc: Material Handling				*/m*	*8,010*
			Mortar					
			Mortar Type "N"	58.03 cuyd	7,856	11,779	338.36 /cuyd	19,635
			Mortar Color	2,298.00 lbs	-	21,800	9.49 /lbs	21,800
			Mortar		*7,856*	*33,578*	*/cuyd*	*41,435*
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	20.43 cuyd	6,058	3,177	470.86 /cuyd	9,620
			Mortar: Grout Fill Conc		*6,058*	*3,177*	*/cuyd*	*9,620*
			Access: Control Joint					
			Control Joint PEJ - 4"	672.00 lnft	2,253	860	4.63 /lnft	3,113
			Control Joint PEJ - 8"	154.00 lnft	808	277	7.05 /lnft	1,086
			Wall Expansion Jt w PVC Cover	256.00 lnft	3,098	2,594	22.24 /lnft	5,692
			Access: Control Joint		*6,160*	*3,731*	*/lnft*	*9,891*
			Access: Wall Flashing					
			Flash Shelf Lead Ct. Cop 5 oz.	956.00 sqft	3,822	3,174	7.32 /sqft	6,996
			Access: Wall Flashing		*3,822*	*3,174*	*/sqft*	*6,996*
			Access: Weep Holes					
			Weepholes - Metal	478.00 each	1,951	438	5.00 /each	2,389
			Access: Weep Holes		*1,951*	*438*	*/each*	*2,389*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	4,030.35 lbs	8,814	3,398	3.03 /lbs	12,212
			Reinforce: Vertical Wall		*8,814*	*3,398*	*/lbs*	*12,212*
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 8" Hot Dippd	4.80 mlf	3,084	923	834.77 /mlf	4,007
			Reinforce: Horizontl Wall		*3,084*	*923*	*/mlf*	*4,007*
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	9,017.00 each	15,776	1,429	1.91 /each	17,205
			Reinforce: Brick Anchors		*15,776*	*1,429*	*/each*	*17,205*
			Brick: All Types					
			Norman Brick 4"	72.13 m	290,199	107,633	5,515.48 /m	397,832
			Brick: All Types		*290,199*	*107,633*	*/m*	*397,832*
			Conc. Block: Backup					
			Blk 8" Standard Face Reg Wt	6,706.00 each	88,033	16,315	15.56 /each	104,348
			Conc. Block: Backup		*88,033*	*16,315*	*/each*	*104,348*
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	399.00 each	8,199	3,078	29.51 /each	11,774
			Conc. Block: 8" Lintel		*8,199*	*3,078*	*/each*	*11,774*
			Pre-cast/Stone Sills					
			Sills - Cast Stone 9" Stock	1,938.00 lnft	77,139	27,807	54.15 /lnft	104,946
			Pre-cast/Stone Sills		*77,139*	*27,807*	*/lnft*	*104,946*
			Cleaning: Masonry					
			Clean Brick - General	160.30 sqs	48,847	971	310.78 /sqs	49,818
			Cleaning: Masonry		*48,847*	*971*	*/sqs*	*49,818*
			MASONRY		*607,485*	*214,708*	*/sqft*	*836,925*
		5000.00	**METALS**					
			Struct: Cld-Frm Framing					
			8" Track 14 ga	8,870.00 lnft	97,225	27,137	14.02 /lnft	124,362
			8" Stud 14 ga	62,002.00 lnft	600,918	150,887	12.13 /lnft	751,806
			Struct: Cld-Frm Framing		*698,143*	*178,024*	*/lnft*	*876,167*
			Misc: Lintels					
			Stl Angles > 4000 lbs	19,244.00 lb	36,475	23,857	3.14 /lb	60,332
			Relieving Angle	28,825.00 lb	54,635	35,734	3.14 /lb	90,369
			Stl Angles > 4000 lbs	1,911.00 lb	3,622	2,369	3.14 /lb	5,991
			Relieving Angle	3,329.00 lb	6,310	4,127	3.14 /lb	10,437
			Misc: Lintels		*101,042*	*66,087*	*/lbs*	*167,129*
			METALS		*799,185*	*244,111*	*/sqft*	*1,043,296*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Sprayed Elastomeric 25 to 45 mil	41,983.00 sqft	225,683	61,532	6.84 /sqft	287,215
			Waterproofng: Elastomeric		*225,683*	*61,532*	*/sqs*	*287,215*
			Insulation: Batt					
			Mineral Wool 4"	28,406.00 sqft	16,286	35,325	1.82 /sqft	51,611
			Mineral Wool 2"	3,640.00 sqft	1,252	2,991	1.17 /sqft	4,243
			Mineral Wool 4"	9,069.00 sqft	5,200	11,278	1.82 /sqft	16,478
			Mineral Wool 2"	854.00 sqft	294	702	1.17 /sqft	995
			Mineral Wool 4"	3,654.00 sqft	2,095	4,544	1.82 /sqft	6,639

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Insulation: Batt					
			Mineral Wool 2"	1,802.00 sqft	620	1,481	1.17 /sqft	2,100
			Insulation: Batt		*25,746*	*56,320*	*/sqft*	*82,067*
			Insulation: Sprayed On					
			Insul Sprayd-on Cellulose 4"	34,837.00 sqft	46,150	44,483	3.00 /sqft	104,633
			Insulation: Sprayed On		*46,150*	*44,483*	*/sqft*	*104,633*
			Metal Facing Panels					
			Alluminum Wall Panel	14,203.00 sqft	328,521	365,163	48.84 /sqft	693,684
			Thermal Break Upcharge	14,203.00 sqft	202,790	161,529	25.65 /sqft	364,320
			Premium for Market	14,203.00 sqft	202,790	161,529	25.65 /sqft	364,320
			Alluminum Wall Panel	1,827.00 sqft	42,259	46,973	48.84 /sqft	89,232
			Thermal Break Upcharge	1,827.00 sqft	26,086	20,778	25.65 /sqft	46,864
			Premium for Market	1,827.00 sqft	26,086	20,778	25.65 /sqft	46,864
			Metal Facing Panels		*828,532*	*776,751*	*/sqft*	*1,605,284*
			Cladding: Siding					
			Verical Siding Steel Allow	9,923.00 sqft	108,512	143,784	25.43 /sqft	252,295
			Cladding: Siding		*108,512*	*143,784*	*/sqft*	*252,295*
			Sheetmetal: Soffits					
			Soffit @ Bridge	4,860.00 sqft	69,391	128,701	40.76 /sqft	198,092
			Soffit	1,360.00 sqft	19,418	36,015	40.76 /sqft	55,433
			Sheetmetal: Soffits		*88,809*	*164,716*	*/sqft*	*253,525*
			THERMAL & MOISTURE PROT		*1,323,432*	*1,247,586*	*/sqft*	*2,585,019*
		9000.00	**FINISHES**					
			GWB Int Frame: Furring					
			Clips for Metal Panels x 12'	1,630.00 each	93,928	18,376	68.90 /each	112,304
			GWB Int Frame: Furring		*93,928*	*18,376*	*/lnft*	*112,304*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	3,000	1,080	4,080.04 /lsum	4,080
			Misc. Accessories	1.00 lsum	969	348	1,317.38 /lsum	1,317
			Misc. Accessories	1.00 lsum	496	177	672.93 /lsum	673
			GWB: Fasteners		*4,465*	*1,605*	*/each*	*6,070*
			GWB: Boards & Sheathing					
			GWB 5/8" Walls	29,906.00 sqft	34,506	14,185	1.63 /sqft	48,691
			GWB 5/8" Head Wrap	1,560.00 lnft	11,520	740	7.86 /lnft	12,259
			GWB 5/8" Jamb Wrap	4,332.00 lnft	19,493	2,055	4.97 /lnft	21,548
			Ext Dens Glass Gold Sheathing 1/2	36,635.00 sqft	63,404	25,631	2.43 /sqft	89,035
			GWB: Boards & Sheathing		*128,922*	*42,610*	*/sqft*	*171,533*
			GWB: Finish Mud/Tape					
			Labor GWB Wall Finish	24,974.00 sqft	24,340	1,885	1.05 /sqft	26,224
			GWB: Finish Mud/Tape		*24,340*	*1,885*	*/sqft*	*26,224*
			FINISHES		*251,656*	*64,476*	*/sqft*	*316,132*
			B2010 EXTERIOR WALLS	***41,983.00 sqft***	***2,998,922***	***1,797,482***	***114.96 /sqft***	***4,826,210***
	B2020		**EXTERIOR WINDOWS**					
		4000.00	**MASONRY**					
			Access: Wall Flashing					
			Flash Head SS	2,160.00 sqft	15,571	15,829	14.54 /sqft	31,400
			Flash Sill Lead Ct. Cop 5 oz.	2,160.00 sqft	10,177	8,452	8.63 /sqft	18,630
			Access: Wall Flashing		*25,748*	*24,281*	*/sqft*	*50,030*
			MASONRY		*25,748*	*24,281*	*/sqft*	*50,030*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	70	70.07 /lsum	70
			Fastners & Misc	2.00 lsum	-	17	8.63 /lsum	17
			Fasteners: Frame Anchors			*87*	*/each*	*87*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	8,616.00 lnft	44,735	8,695	6.20 /lnft	53,430
			Blocking: Rough Bucks		*44,735*	*8,695*	*/mbf*	*53,430*
			WOOD & PLASTICS		*44,735*	*8,782*	*/sqft*	*53,517*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	8,616.00 sqft	61,511	9,567	8.25 /sqft	71,078
			Waterproofng: Elastomeric		*61,511*	*9,567*	*/sqs*	*71,078*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	8,616.00 lnft	31,405	670	3.72 /lnft	32,075

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Sealant - Jt Filler Gaskt					
			Polyurethane Sealant 1/2"	16,032.00 lnft	186,997	6,408	12.06 /lnft	193,406
			Sealant - Jt Filler Gaskt		*218,403*	*7,078*	*/lnft*	*225,481*
			THERMAL & MOISTURE PROT		*279,914*	*16,645*	*/sqft*	*296,558*
		8000.00	**DOORS & WINDOWS**					
			Aluminum Storefront					
			Storefront Inc Double Glaze	4,338.00 sqft	55,586	308,406	83.91 /sqft	363,992
			Aluminum Storefront		*55,586*	*308,406*	*/sqft*	*363,992*
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	12,890.00 sqft	183,253	650,306	64.67 /sqft	833,559
			Window: Aluminum		*183,253*	*650,306*	*/sqft*	*833,559*
			Alum Window Walls					
			Curtn Wall Avg Ins Gl Bronz	14,070.00 sqft	234,245	1,095,849	94.53 /sqft	1,330,094
			Alum Window Walls		*234,245*	*1,095,849*	*/sqft*	*1,330,094*
			DOORS & WINDOWS		*473,084*	*2,054,561*	*/sqft*	*2,527,645*
			B2020 EXTERIOR WINDOWS	***31,298.00 sqft***	***823,481***	***2,104,269***	***93.54 /sqft***	***2,927,750***
	B2030		**EXTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	3.00 each	201	49	87.57 /each	263
			Grout Double Door Frame	1.00 each	90	23	118.44 /each	118
			Mortar: Grout Fill Conc		*291*	*72*	*/cuyd*	*381*
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	39.00 sqft	200	286	12.47 /sqft	486
			Access: Wall Flashing		*200*	*286*	*/sqft*	*486*
			MASONRY		*492*	*357*	*/sqft*	*867*
		5000.00	**METALS**					
			Misc: Channel Jambs					
			Channel Jambs 10"	36.00 lnft	620	1,209	51.62 /lnft	1,858
			Misc: Channel Jambs		*620*	*1,209*	*/lnft*	*1,858*
			METALS		*620*	*1,209*	*/sqft*	*1,858*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	2.00 lsum	-	2	1.08 /lsum	2
			Fasteners: Frame Anchors			*2*	*/each*	*2*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	237.00 lnft	820	239	4.47 /lnft	1,060
			Blocking: Rough Bucks		*820*	*239*	*/mbf*	*1,060*
			WOOD & PLASTICS		*820*	*241*	*/sqft*	*1,062*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Polyethylene Rubberized Ashphalt	237.00 sqft	1,692	263	8.25 /sqft	1,955
			Waterproofng: Elastomeric		*1,692*	*263*	*/sqs*	*1,955*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	237.00 lnft	864	18	3.72 /lnft	882
			Polyurethane Sealant 1/2"	474.00 lnft	5,529	189	12.06 /lnft	5,718
			Sealant - Jt Filler Gaskt		*6,393*	*208*	*/lnft*	*6,601*
			THERMAL & MOISTURE PROT		*8,085*	*471*	*/sqft*	*8,556*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 16ga Galv Single	3.00 each	335	543	292.68 /each	878
			H.M. Frame 16ga Galv Double	1.00 each	149	225	374.02 /each	374
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Hlf Gl	2.00 each	250	1,457	853.92 /each	1,708
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Full Gl	3.00 each	396	2,710	1,035.36 /each	3,106
			Doors: Steel with Frames		*1,130*	*4,936*	*/each*	*6,066*
			Doors: Overhead					
			Door OH Sectional Steel 12' x 12'	1.00 each	1,355	1,975	3,330.04 /each	3,330
			Doors: Overhead		*1,355*	*1,975*	*/each*	*3,330*
			Doors: Hardware					
			Overhead Door Hardware	1.00 each	252	377	629.57 /each	630
			Overhead Electric Door Operator Deluxe	1.00 each	126	789	915.22 /each	915

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Hardware		*378*	*1,166*	*/sqft*	*1,545*
			Aluminum Doors & Frames					
			Alum Frame 3' x 7' Bronze Fin	1.00 each	241	384	625.19 /each	625
			Alum Frame 6' x 7' Bronze Fin	10.00 each	2,816	4,398	721.46 /each	7,215
			Alum Door Med 3'-0 x 7'-0 Full Gl	21.00 each	6,947	16,141	1,099.41 /each	23,088
			Aluminum Doors & Frames		*10,004*	*20,923*	*/each*	*30,927*
			Hardware: Finishing					
			Finishing Hardware Ext Budget	26.00 each	7,209	37,614	1,723.94 /each	44,822
			Hardware: Finishing		*7,209*	*37,614*	*/set*	*44,822*
			DOORS & WINDOWS		*20,077*	*66,614*	*/sqft*	*86,691*
		9000.00	**FINISHES**					
			Painting: Exterior					
			Paint Ext Door & Frame	5.00 each	359	55	82.76 /each	414
			Paint Overhead Door	1.00 each		31	31.21 /each	31
			Painting: Exterior		*359*	*86*	*/sqft*	*445*
			FINISHES		*359*	*86*	*/sqft*	*445*
			B2030 EXTERIOR DOORS	***26.00 lvs***	***30,452***	***68,979***	***3,826.10 /lvs***	***99,479***
			B20 EXTERIOR CLOSURE	**######## sqft**	**3,852,856**	**3,970,730**	**40.04 /sqft**	**7,853,438**
B30			**ROOFING**					
	B3010		**ROOF COVERINGS**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Poly Vapor Barrier 8 mil Fire Retardant	384.00 sq	18,009	4,872	59.59 /sq	22,881
			Dampproofing: VaprBarrier		*18,009*	*4,872*	*/sqs*	*22,881*
			Insulation: Protection Bd					
			Hardbd Protection Bd 1/2"	38,400.00 sqft	58,328	29,676	2.29 /sqft	88,005
			Insulation: Protection Bd		*58,328*	*29,676*	*/sqft*	*88,005*
			Insulation: Roof 1st Lay					
			Poly Iso 4.0" Layer 1	340.26 sqs	74,581	96,302	502.21 /sqs	170,883
			Insulation: Roof 1st Lay		*74,581*	*96,302*	*/sqs*	*170,883*
			Insulation: Roof 2nd Lay					
			Tapered Upcharge	36.79 sq	5,778	4,091	268.26 /sq	9,869
			Perlite Tapered	14.25 sq	2,238	1,585	268.27 /sq	3,823
			Poly Iso 3.0" Layer 2	340.26 sqs	48,170	72,217	353.81 /sqs	120,387
			Insulation: Roof 2nd Lay		*56,186*	*77,893*	*/sqs*	*134,079*
			Membrane: EPDM					
			T.P.O. Membrane	38,400.00 sqft	78,176	85,274	4.35 /sqft	167,145
			Membrane: EPDM		*78,176*	*85,274*	*/sqs*	*167,145*
			Sheetmetal: Fascia					
			Exterior Edge	1,814.00 lnft	35,736	45,856	44.98 /lnft	81,592
			Sheetmetal: Fascia		*35,736*	*45,856*	*/lnft*	*81,592*
			Sheetmetal: Gravel Stop					
			Gravel Stop 6" High Dur Fin	1,892.00 lnft	18,640	16,743	18.70 /lnft	35,383
			Sheetmetal: Gravel Stop		*18,640*	*16,743*	*/lnft*	*35,383*
			Sheetmetal: Exp Joints					
			Interior Edge	524.00 lnft	6,760	13,981	39.58 /lnft	20,740
			Sheetmetal: Exp Joints		*6,760*	*13,981*	*/lnft*	*20,740*
			Sheetmetal: Vents/Accsry					
			Misc Accessories	38,400.00 sqft	21,888	42,223	1.67 /sqft	64,111
			Sheetmetal: Vents/Accsry		*21,888*	*42,223*	*/each*	*64,111*
			THERMAL & MOISTURE PROT		*368,303*	*412,821*	*/sqft*	*784,820*
			B3010 ROOF COVERINGS	***38,400.00 sqft***	***368,303***	***412,821***	***20.44 /sqft***	***784,820***
			B30 ROOFING	**######## sqft**	**368,303**	**412,821**	**4.00 /sqft**	**784,820**
C10			**INTERIOR CONSTRUCTION**					
	C1010		**PARTITIONS**					
		4000.00	**MASONRY**					
			Conc. Block: 12"					
			Blk 12" Standard Face Reg Wt	7,776.00 sqft	204,159	48,733	33.07 /sqft	257,167
			Blk 12" 2 hr Rated Separation Wall	2,380.00 sqft	94,028	22,413	49.48 /sqft	117,750

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc. Block: 12"		*298,187*	*71,146*	*/each*	*374,917*
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	38,198.00 sqft	778,434	205,130	26.28 /sqft	1,003,740
			Blk 8" Standard Face Reg Wt	2,314.00 sqft	47,157	12,427	25.75 /sqft	59,583
			Conc. Block: 8"		*825,590*	*217,556*	*/each*	*1,063,324*
			Conc. Block: 6"					
			Blk 6" Standard Face Reg Wt	6,519.00 sqft	118,995	28,723	23.22 /sqft	151,372
			Blk 6" Standard Face Reg Wt Addtional not shown	6,200.00 sqft	113,172	27,317	23.22 /sqft	143,964
			Blk 6" Standard Face Reg Wt	1,300.00 sqft	23,730	5,728	23.22 /sqft	30,186
			Blk 6" Standard Face Reg Wt Additinal Not Shown	770.00 sqft	14,055	3,393	23.22 /sqft	17,879
			Conc. Block: 6"		*269,951*	*65,160*	*/each*	*343,402*
			MASONRY		*1,393,729*	*353,863*	*/sqft*	*1,781,642*
		5000.00	**METALS**					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	12,312.00 lb	40,293	12,974	4.51 /lb	55,494
			Angle Bolted To Masonry	1,216.00 lb	3,980	1,281	4.50 /lb	5,477
			Misc: Bolt On Material		*44,272*	*14,255*	*/lbs*	*60,972*
			METALS		*44,272*	*14,255*	*/sqft*	*60,972*
		9000.00	**FINISHES**					
			GWB: Wall Board Systems					
			GWB On Studs 2 Layer 5/8" on 3-5/8"	13,748.00 sqft	113,503	34,235	10.75 /sqft	147,738
			GWB On Studs 4 Layer 5/8" on 6"	47,348.00 sqft	580,925	202,123	16.54 /sqft	783,048
			GWB On Studs 2 Layer 5/8" Additional not Shown	17,332.00 sqft	143,092	43,160	10.75 /sqft	186,252
			GWB On Studs 4 Layer 5/8" on 6"	768.00 sqft	9,423	3,279	16.54 /sqft	12,701
			GWB On Studs 2 Layer 5/8" Additional not Shown	164.00 sqft	1,354	408	10.75 /sqft	1,762
			GWB On Studs 2 Layer 5/8" on 3-5/8"	3,744.00 sqft	30,910	9,323	10.75 /sqft	40,234
			GWB On Studs 4 Layer 5/8" on 6"	4,576.00 sqft	56,144	19,534	16.54 /sqft	75,679
			GWB On Studs 2 Layer 5/8" Additional not Shown	2,363.00 sqft	19,509	5,884	10.75 /sqft	25,393
			GWB: Wall Board Systems		*954,860*	*317,947*	*/sqft*	*1,272,807*
			FINISHES		*954,860*	*317,947*	*/sqft*	*1,272,807*
			C1010 PARTITIONS	***155,500.00 sqft***	***2,392,861***	***686,064***	***20.04 /sqft***	***3,115,420***
	C1020		**INTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	41.00 each	2,749	667	87.57 /each	3,591
			Grout Double Door Frame	25.00 each	2,250	569	118.44 /each	2,961
			Mortar: Grout Fill Conc		*4,998*	*1,236*	*/cuyd*	*6,551*
			MASONRY		*4,998*	*1,236*	*/sqft*	*6,551*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,209.00 lnft	13,926	295	11.76 /lnft	14,221
			Sealant - Jt Filler Gaskt		*13,926*	*295*	*/lnft*	*14,221*
			THERMAL & MOISTURE PROT		*13,926*	*295*	*/sqft*	*14,221*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single	130.00 each	15,479	22,422	291.55 /each	37,902
			H.M. Frame 18ga Interior Single Add	79.00 each	9,407	13,626	291.55 /each	23,033
			H.M. Frame 18ga Interior Single	25.00 each	2,977	4,312	291.55 /each	7,289
			H.M. Frame 18ga Interior Single Add	16.00 each	1,905	2,760	291.55 /each	4,665
			H.M. Frame 18ga Interior Single	12.00 each	1,429	2,070	291.55 /each	3,499
			H.M. Frame 18ga Interior Single Add	7.00 each	834	1,207	291.55 /each	2,041
			H.M. Frame 18ga Interior Double	5.00 each	744	1,159	380.49 /each	1,902
			H.M. Frame 18ga Interior Double Add	3.00 each	446	695	380.49 /each	1,141
			H.M. Frame 18ga Interior Double	12.00 each	1,785	2,781	380.50 /each	4,566
			H.M. Frame 18ga Interior Double Add	8.00 each	1,190	1,854	380.50 /each	3,044
			H.M. Frame 18ga Interior Double	3.00 each	446	695	380.49 /each	1,141
			H.M. Frame 18ga Interior Double Add	2.00 each	297	464	380.50 /each	761
			H.M. Door 18 ga 3-0 x 7-0 Vision	36.00 each	4,025	20,180	672.36 /each	24,205
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	22.00 each	2,460	12,332	672.36 /each	14,792

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Steel with Frames					
			H.M. Door 18 ga 3-0 x 7-0 Vision	49.00 each	5,478	27,467	672.36 /each	32,946
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	32.00 each	3,578	17,938	672.36 /each	21,516
			H.M. Door 18 ga 3-0 x 7-0 Vision	7.00 each	783	3,924	672.36 /each	4,707
			Metal Sidelight Frame Only Int Allow	420.00 sqft	4,846	16,571	50.99 /sqft	21,417
			Metal Sidelight Frame Only Int	96.00 sqft	1,108	3,788	50.99 /sqft	4,895
			Doors: Steel with Frames		*59,215*	*156,246*	*/each*	*215,461*
			Doors: Wood					
			Door M Core 3-0 x 7-0 Vision	104.00 each	16,247	33,521	478.55 /each	49,769
			Door M Core 3-0 x 7-0 Vision Add	64.00 each	9,998	20,629	478.55 /each	30,627
			Door M Core 3-0 x 7-0 Vision	22.00 each	3,437	7,091	478.55 /each	10,528
			Doors: Wood		*29,683*	*61,241*	*/each*	*90,924*
			Aluminum Doors & Frames					
			Alum Frame 6' x 7' Bronze Fin	15.00 each	4,225	6,597	721.46 /each	10,822
			Alum Door Med 3'-0 x 7'-0 Half Gl	30.00 each	9,626	18,790	947.19 /each	28,416
			Aluminum Doors & Frames		*13,851*	*25,387*	*/each*	*39,238*
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	168.00 each	27,952	163,175	1,137.66 /each	191,127
			Finishing Hardware Int Budget w Closer Add	104.00 each	17,304	101,013	1,137.66 /each	118,316
			Finishing Hardware Int Budget w Closer	51.00 each	8,485	49,535	1,137.66 /each	58,021
			Finishing Hardware Int Budget w Closer Add	32.00 each	5,324	31,081	1,137.66 /each	36,405
			Finishing Hardware Int Budget w Closer	18.00 each	2,995	17,483	1,137.66 /each	20,478
			Finishing Hardware Int Budget w Closer Add	11.00 each	1,830	10,684	1,137.66 /each	12,514
			Hardware: Finishing		*63,890*	*372,971*	*/set*	*436,861*
			Glass: All Types					
			Glass Sheet 1/4" Tempered	516.00 sqft	9,356	6,063	29.88 /sqft	15,419
			Glass: All Types		*9,356*	*6,063*	*/sqft*	*15,419*
			DOORS & WINDOWS		*175,995*	*621,908*	*/sqft*	*797,902*
		9000.00	**FINISHES**					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	4,714.00 lnft	11,684	157	2.51 /lnft	11,841
			GWB: Finish Mud/Tape		*11,684*	*157*	*/sqft*	*11,841*
			Painting: Interior					
			Paint Wd Door & Metal Frame	104.00 each	6,791	1,160	76.46 /each	7,951
			Paint Wd Door & Metal Frame Add	64.00 each	4,179	714	76.46 /each	4,893
			Paint Wd Door & Metal Frame	14.00 each	914	156	76.46 /each	1,070
			Paint Wd Door & Metal Frame Add	3.00 each	196	33	76.46 /each	229
			Paint Metal Door & Frame	36.00 each	1,958	361	64.43 /each	2,319
			Paint Metal Door & Frame Add	22.00 each	1,197	221	64.43 /each	1,417
			Paint Metal Door & Frame	49.00 each	2,666	491	64.43 /each	3,157
			Paint Metal Door & Frame Add	32.00 each	1,741	321	64.43 /each	2,062
			Paint Metal Door & Frame	4.00 each	218	40	64.43 /each	258
			Paint Metal Door & Frame Add	8.00 each	435	80	64.43 /each	515
			Paint Int Bor. Lt. Frame	516.00 sqft	1,829	78	3.70 /sqft	1,907
			Painting: Interior		*22,124*	*3,656*	*/sqft*	*25,779*
			FINISHES		*33,808*	*3,813*	*/sqft*	*37,621*
			C1020 INTERIOR DOORS	***384.00 lvs***	***228,726***	***627,252***	***2,229.94 /lvs***	***856,295***
	C1030		**SPECIALTIES/MILLWORK**					
		5000.00	**METALS**					
			Misc: Ladders					
			Ladders	44.00 vlf	2,971	2,490	127.24 /vlf	5,598
			Cage	30.00 lnft	740	2,312	102.88 /lnft	3,086
			Misc: Ladders		*3,711*	*4,802*	*/vlf*	*8,685*
			Stairs: Grating					
			Grate Weld StlGlv 3/4 x 1/8	9.00 sqft	77	139	24.60 /sqft	221
			Stairs: Grating		*77*	*139*	*/sqft*	*221*
			METALS		*3,788*	*4,942*	*/sqft*	*8,906*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	362	362.21 /lsum	362

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	94	93.79 /lsum	94
			Fastners & Misc	1.00 lsum	-	1	1.07 /lsum	1
			Fasteners: Frame Anchors			*457*	*/each*	*457*
			Blocking: Misc.					
			Block Toilet Partition & Urinal	45.00 each	1,889	432	51.56 /each	2,320
			Block H.C. Toilet Partition & Shower	59.00 each	3,721	700	74.92 /each	4,421
			Block Misc Toilet Accessories	665.00 each	16,776	2,688	29.27 /each	19,464
			Blocking 2 x 4 R.L.	4,942.00 lnft	19,267	1,680	4.24 /lnft	20,947
			Blocking 2 x 6 R.L.	2,669.00 lnft	12,854	1,298	5.30 /lnft	14,151
			Blocking: Misc.		*54,506*	*6,797*	*/mbf*	*61,303*
			Plywood: Panel Board					
			Panel Board	80.00 each	13,654	2,782	205.46 /each	16,437
			Plywood: Panel Board		*13,654*	*2,782*	*/each*	*16,437*
			I Trim: Shelving					
			Custom Wood Shelving Allow	80.00 lnft	4,588	1,691	78.48 /lnft	6,278
			Custom Wood Shelving	74.00 lnft	4,244	1,564	78.48 /lnft	5,807
			I Trim: Shelving		*8,831*	*3,255*	*/lnft*	*12,086*
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	1,984.00 lnft	17,453	29,864	23.85 /lnft	47,317
			Apron At Stools	1,984.00 lnft	8,395	4,440	6.47 /lnft	12,835
			I Trim: Dr & Window Matrl		*25,847*	*34,304*	*/lnft*	*60,152*
			WOOD & PLASTICS		*102,839*	*47,595*	*/sqft*	*150,434*
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint Shelves 3 ct	154.00 lnft	478	38	3.35 /lnft	516
			Paint Wood Sill	1,984.00 lnft	6,152	406	3.31 /lnft	6,559
			Paint Wood Apron	1,984.00 lnft	5,449	278	2.89 /lnft	5,727
			Paint Ladder	44.00 lnft	199	28	5.17 /lnft	227
			Painting: Interior		*12,278*	*751*	*/sqft*	*13,029*
			FINISHES		*12,278*	*751*	*/sqft*	*13,029*
		10000.00	**SPECIALTIES**					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	4,768.00 sqft	20,355	65,020	17.91 /sqft	85,375
			Tackboard Alum Fr	4,768.00 sqft	20,355	44,717	13.65 /sqft	65,072
			Chalkboards/Tackboards		*40,710*	*109,737*	*/sqft*	*150,447*
			Toilet Partition Phenolic					
			Toilet Partition Reg Flr Mtd	40.00 each	11,109	36,695	1,195.10 /each	47,804
			Toilet Partition HC Flr Mtd	15.00 each	4,166	20,180	1,623.06 /each	24,346
			Urinal Screens Wall Hung	21.00 each	4,080	9,395	641.67 /each	13,475
			Toilet Partition Phenolic		*19,355*	*66,270*	*/each*	*85,625*
			Shower/Dressing Compart					
			Compartment Showers	32.00 each	15,388	49,329	2,022.42 /each	64,718
			Compartment Showers HC	2.00 each	962	3,083	2,022.43 /each	4,045
			Shower/Dressing Compart		*16,350*	*52,412*	*/each*	*68,762*
			Corner Gaurds					
			4" x 4" x 5/16" galv angle in Masonry	24.00 lnft	847	457	54.33 /lnft	1,304
			Corner Gaurds		*847*	*457*	*/lnft*	*1,304*
			Directory/Bulletin Boards					
			Buiding Directory	2.00 each	1,756	3,419	2,587.75 /each	5,175
			Directory/Bulletin Boards		*1,756*	*3,419*	*/each*	*5,175*
			Plaques					
			Custom Bronze Plaque 30" x 36"	2.00 each	1,454	9,771	5,612.60 /each	11,225
			Plaques		*1,454*	*9,771*	*/each*	*11,225*
			Signs					
			Cast Alum Letters 8"	15.00 each	5,256	660	394.40 /each	5,916
			Interior Stock	130.00 each	2,832	2,067	37.69 /each	4,899
			Interior Custom	71.00 each	4,649	4,523	129.18 /each	9,172
			Signs		*12,737*	*7,250*	*/each*	*19,987*
			Lockers					
			Locker Double Tier 6'	836.00 opng	47,507	208,179	305.84 /opng	255,686
			Locker Double Tier 6' Gym Allow	975.00 opng	55,406	242,793	305.84 /opng	298,198
			Locker HC Double Tier	44.00 opng	2,890	9,154	273.73 /opng	12,044
			Locker HC Double Tier Gym Allow	51.00 opng	3,350	10,611	273.73 /opng	13,960
			Box Lockers 5 Tier Allow	1,026.00 opng	45,999	60,832	104.12 /opng	106,830
			Locker: Bench Allow	272.00 lnft	6,120	8,254	52.85 /lnft	14,374
			Team Lockers Allow	433.00 each	68,933	117,627	430.86 /each	186,561

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Lockers		*230,204*	*657,449*	*/each*	*887,653*
			Fire Extinguishers					
			Fire Ext Cabinet	20.00 each	4,555	4,075	431.47 /each	8,629
			Fire Blanket	8.00 each	911	937	230.93 /each	1,847
			Fire Ext Cabinet	9.00 each	2,050	1,834	431.47 /each	3,883
			Fire Extinguishers		*7,515*	*6,845*	*/each*	*14,360*
			Toilet Accessories					
			Shower Rod	34.00 each	2,503	1,492	117.49 /each	3,995
			Shower Curtain	112.00 lnft	257	924	10.54 /lnft	1,180
			Shower Bench	272.00 each	26,074	37,971	235.46 /each	64,046
			Shower Control HC	2.00 each	106	308	207.15 /each	414
			Grab Bar 1-1/4" S.S. 36"	24.00 each	1,150	990	89.16 /each	2,140
			Mirror 1/4" Plate No Frame Dance	720.00 sqft	8,669	13,816	31.23 /sqft	22,484
			Mirror S.S.	32.00 each	1,992	2,161	129.80 /each	4,154
			ADA Mirror S.S.	43.00 each	3,215	2,774	139.28 /each	5,989
			Janitor Utility Unit	6.00 each	288	501	131.48 /each	789
			Sanitary Napkin Dispenser Recessed	7.00 each	447	5,116	794.75 /each	5,563
			Sanitary Napkin Dispenser Surface	15.00 each	599	3,163	250.76 /each	3,761
			Clothes Hook Single	28.00 each	745	423	41.70 /each	1,167
			Soap Dispenser	61.00 each	5,848	10,982	275.89 /each	16,829
			Toilet Tissue Disp Dbl	83.00 each	3,312	2,304	67.66 /each	5,616
			Towel Dispenser Surface Mtd	28.00 each	1,679	1,149	100.99 /each	2,828
			Towel Disp/Waste Recpt	16.00 each	3,068	5,381	528.06 /each	8,449
			Hand Dryer	16.00 each	3,834	12,125	997.49 /each	15,960
			Toilet Accessories		*63,785*	*101,579*	*/each*	*165,364*
			SPECIALTIES		*394,714*	*1,015,190*	*/sqft*	*1,409,904*
		11000.00	**EQUIPMENT**					
			Equip: Gym					
			Dance Bar	120.00 lnft	4,114	24,449	238.03 /lnft	28,563
			Equip: Gym		*4,114*	*24,449*	*/lsum*	*28,563*
			EQUIPMENT		*4,114*	*24,449*	*/sqft*	*28,563*
			C1030 SPECIALTIES/MILLWORK	***202,236.00 sqft***	***517,733***	***1,092,927***	***7.97 /sqft***	***1,610,837***
			C10 INTERIOR CONSTRUCTION	**######## sqft**	**3,139,321**	**2,406,243**	**28.46 /sqft**	**5,582,552**
C20			**STAIRCASES**					
	C2010		**STAIR CONSTRUCTION**					
		5000.00	**METALS**					
			Stairs: Stair Parts					
			Custom Steel Stairs 7'-0"	268.00 risr	48,999	255,969	1,146.36 /risr	307,225
			Wall Rail Steel 1-1/2" 1 pipe	216.00 lnft	5,137	3,376	40.52 /lnft	8,752
			Wall Rail Steel SS 1-1/2" 2 pipe	228.00 lnft	11,839	67,160	348.90 /lnft	79,550
			Ornamental Steel Well Rail Mid	233.00 lnft	18,021	21,614	173.70 /lnft	40,473
			Ornamental Composite Glass Mid	296.00 lnft	45,820	80,793	434.86 /lnft	128,719
			Landing Steel Pan	896.00 sqft	22,383	65,729	99.49 /sqft	89,139
			Stairs: Stair Parts		*152,198*	*494,641*	*/flt*	*653,858*
			METALS		*152,198*	*494,641*	*/sqft*	*653,858*
			C2010 STAIR CONSTRUCTION	***9.00 flt***	***152,198***	***494,641***	***72,650.87 /flt***	***653,858***
	C2020		**STAIR FINISHES**					
		9000.00	**FINISHES**					
			Flooring Resilient Tile					
			Radial Rubber Floor 3/16"	896.00 sqft	7,453	7,073	16.21 /sqft	14,527
			Floor Resil Tile Safety Tread	1,736.00 lnft	8,774	22,552	18.05 /lnft	31,326
			Floor Resil Rubber Riser	1,876.00 lnft	4,346	11,527	8.46 /lnft	15,873
			Flooring Resilient Tile		*20,573*	*41,153*	*/sqft*	*61,726*
			Painting: Interior					
			Paint Stair Assembly	2,772.00 sqft	9,333	1,793	4.01 /sqft	11,126
			Paint Int Pipe Rails	1,914.00 lnft	2,205	413	1.37 /lnft	2,617
			Painting: Interior		*11,537*	*2,206*	*/sqft*	*13,743*
			FINISHES		*32,110*	*43,359*	*/sqft*	*75,469*
			C2020 STAIR FINISHES	***9,194.00 sqft***	***32,110***	***43,359***	***8.21 /sqft***	***75,469***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			C20 STAIRCASES	######## sqft	**184,308**	**538,000**	**3.72 /sqft**	**729,327**
C30			**INTERIOR FINISHES**					
	C3010		**WALL FINISHES**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	3	3.23 /lsum	3
			Fasteners: Frame Anchors			*3*	*/each*	*3*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	1,044.00 lnft	4,070	355	4.24 /lnft	4,425
			Blocking: Misc.		*4,070*	*355*	*/mbf*	*4,425*
			WOOD & PLASTICS		*4,070*	*358*	*/sqft*	*4,428*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Porcelain Tile Wall	8,660.00 sqft	86,274	87,501	20.07 /sqft	173,775
			Ceramic Tile Wall Grade 2	12,520.00 sqft	140,682	72,010	16.99 /sqft	212,691
			Porcelain Tile Wall	1,325.00 sqft	13,200	13,388	20.07 /sqft	26,588
			Ceramic Tile Wall Grade 2	9,660.00 sqft	108,545	55,560	16.99 /sqft	164,105
			Backerboard 1/2"	15,380.00 sqft	101,149	16,231	7.63 /sqft	117,381
			Ceramic Tile		*449,850*	*244,690*	*/sqft*	*694,541*
			Painting: Interior					
			Paint GDW Wall Roller p + 2ct	88,903.00 sqft	63,015	15,334	0.88 /sqft	78,349
			Paint GDW Wall Roller p + 2ct Additional	24,761.00 sqft	17,551	4,271	0.88 /sqft	21,822
			Paint GDW Wall Roller p + 2ct	7,549.00 sqft	5,351	1,302	0.88 /sqft	6,653
			Paint GDW Wall Roller p + 2ct Additional	297.00 sqft	211	51	0.88 /sqft	262
			Paint GDW Wall Roller p + 2ct	15,406.00 sqft	10,920	2,657	0.88 /sqft	13,577
			Paint GDW Wall Roller p + 2ct Add	3,999.00 sqft	2,835	690	0.88 /sqft	3,524
			Paint Int CMU Spray p+2ct	6,170.00 sqft	5,467	1,530	1.13 /sqft	6,996
			Paint Int CMU Spray p+2ct Additional	11,266.00 sqft	9,982	2,793	1.13 /sqft	12,775
			Epoxy Paint Int CMU	85,331.00 sqft	181,450	41,394	2.61 /sqft	222,844
			Epoxy Paint Int CMU Add	1,144.00 sqft	2,433	555	2.61 /sqft	2,988
			Painting: Interior		*299,213*	*70,577*	*/sqft*	*369,790*
			Sound Absorbing Panels					
			Sound Absorbing Panel Allow	3,132.00 sqft	11,492	35,113	14.88 /sqft	46,606
			Sound Absorbing Panels		*11,492*	*35,113*	*/sqft*	*46,606*
			FINISHES		*760,555*	*350,381*	*/sqft*	*1,110,936*
			C3010 WALL FINISHES	***280,123.00 sqft***	***764,625***	***350,739***	***3.98 /sqft***	***1,115,364***
	C3020		**FLOOR FINISHES**					
		3000.00	**CONCRETE**					
			Conc: Slurry Coat					
			Leveling Compound Moisture Mitigation?	110,111.00 sqft	481,504	130,866	6.27 /sqft	690,060
			Conc: Slurry Coat		*481,504*	*130,866*	*/sqft*	*690,060*
			Finish: Floor Hardner					
			Floor Hardner Med Service	8,262.00 sqft	11,320	3,460	1.79 /sqft	14,780
			Finish: Floor Hardner		*11,320*	*3,460*	*/sqft*	*14,780*
			CONCRETE		*492,825*	*134,327*	*/sqft*	*704,840*
		6000.00	**WOOD & PLASTICS**					
			I Trim: Wood Base					
			Wood Base 6"	5,280.00 lnft	37,039	47,897	16.09 /lnft	84,936
			I Trim: Wood Base		*37,039*	*47,897*	*/lnft*	*84,936*
			WOOD & PLASTICS		*37,039*	*47,897*	*/sqft*	*84,936*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Ceramic Tile Floor Grade 2	16,124.00 sqft	343,679	109,073	28.08 /sqft	452,752
			Ceramic Trim: Cove Base	3,205.00 lnft	73,140	13,452	27.02 /lnft	86,592
			Porcelain Paving Tile 5240	5,240.00 sqft	66,164	61,289	24.32 /sqft	127,452
			Ceramic Tile		*482,983*	*183,814*	*/sqft*	*666,797*
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	4,900.00 sqft	103,875	50,054	31.41 /sqft	153,929
			Tile Quary Shape Cove Base 3/4	735.00 lnft	17,454	4,477	29.84 /lnft	21,931
			Floor: Quarry Tile		*121,329*	*54,531*	*/sqft*	*175,860*
			Flooring Wood Strip					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Flooring Wood Strip					
			Floating Wood Floor	29,200.00 sqft	217,636	146,223	12.46 /sqft	363,859
			Flooring Wood Strip		*217,636*	*146,223*	*/sqft*	*363,859*
			Flooring Resilient Tile					
			Floor LVT 1/8"	121,430.00 sqft	153,429	806,275	7.90 /sqft	959,704
			Floor Resil Base 4"	17,520.00 lnft	31,360	15,563	2.68 /lnft	46,923
			Floor Resil Base 4"	2,496.00 lnft	4,468	1,968	2.58 /lnft	6,435
			Synthetic Gym Floor 3/8"	6,000.00 sqft	52,436	29,041	13.58 /sqft	81,477
			Synthetic Gym Floor 1/2"	29,200.00 sqft	255,188	197,679	15.51 /sqft	452,867
			Radial Rubber Floor 3/16"	1,145.00 sqft	9,524	9,039	16.21 /sqft	18,564
			Flooring Resilient Tile		*506,405*	*1,059,565*	*/sqft*	*1,565,970*
			Flooring Carpet					
			Carpet Commercial 32oz	1,289.18 sqyd	19,954	57,632	60.18 /sqyd	77,586
			Flooring Carpet		*19,954*	*57,632*	*/sqyd*	*77,586*
			Painting: Interior					
			Paint Wood Base 3 ct	5,280.00 lnft	5,614	569	1.17 /lnft	6,183
			Paint Floor Lines	7,009.00 lnft	6,210	1,662	1.12 /lnft	7,872
			Painting: Interior		*11,824*	*2,231*	*/sqft*	*14,055*
			FINISHES		*1,360,131*	*1,503,996*	*/sqft*	*2,864,127*
			C3020 FLOOR FINISHES	***196,161.00 sqft***	***1,889,995***	***1,686,220***	***18.63 /sqft***	***3,653,904***
	C3030		**CEILING FINISHES**					
		9000.00	**FINISHES**					
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	7,700.00 lnft	51,210	4,773	7.27 /lnft	55,983
			GWB Int Frame: S Studs		*51,210*	*4,773*	*/each*	*55,983*
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8"	10,264.00 lnft	77,678	7,170	8.27 /lnft	84,847
			GWB Int Frame: Track		*77,678*	*7,170*	*/lnft*	*84,847*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	1,973	708	2,681.24 /lsum	2,681
			Misc. Accessories	1.00 lsum	7,984	2,869	10,852.86 /lsum	10,853
			Misc. Accessories	1.00 lsum	196	71	267.30 /lsum	267
			GWB: Fasteners		*10,153*	*3,648*	*/each*	*13,801*
			GWB: Boards & Sheathing					
			GWB 5/8" Soffit	10,264.00 sqft	43,818	5,532	4.81 /sqft	49,350
			GWB 5/8" Water Resistant Clgs	20,624.00 sqft	26,176	10,516	1.78 /sqft	36,692
			GWB: Boards & Sheathing		*69,993*	*16,048*	*/sqft*	*86,042*
			GWB: Finish Mud/Tape					
			Labor GWB Ceiling Finish	20,624.00 sqft	25,582	1,556	1.32 /sqft	27,139
			Labor GWB Soffit Finish	10,264.00 sqft	13,641	852	1.41 /sqft	14,493
			GWB: Finish Mud/Tape		*39,223*	*2,408*	*/sqft*	*41,632*
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel Heavy Duty w Isolation	18,680.00 sqft	125,268	69,674	10.44 /sqft	194,942
			Susp Clg 1-1/2" Channel	1,944.00 sqft	7,220	4,170	5.86 /sqft	11,390
			Suspended Wood Panels	2,620.00 sqft	18,110	50,036	26.01 /sqft	68,147
			Ceiling: Susp. System		*150,598*	*123,881*	*/sqft*	*274,479*
			Ceiling: 2x4 Tile					
			Upgrade for Ultima Material Allow	93,196.00 sqft		126,245	1.36 /sqft	126,245
			Upgrade for Sound Material Allow	24,306.00 sqft	77,736	151,132	9.42 /sqft	228,869
			Upgrade for Ultima Material Allow	18,413.00 sqft		24,943	1.36 /sqft	24,943
			Insulation Clg @ Bridge	9,720.00 sqft	31,087	60,438	9.42 /sqft	91,525
			Upgrade for Ultima Material Allow	12,974.00 sqft	0	17,575	1.36 /sqft	17,575
			Insulation Clg @ Soffit	1,360.00 sqft	4,350	8,456	9.42 /sqft	12,806
			MinFbr SqEdge Std 2x4 3/4"	97,810.00 sqft	151,364	330,151	4.92 /sqft	481,516
			MinFbr Tegulr Std 2x4 3/4"	23,229.00 sqft	50,327	73,765	5.34 /sqft	124,092
			Mylar Faced Std 2x4 3/4"	4,900.00 sqft	7,583	23,340	6.31 /sqft	30,923
			Ceiling: 2x4 Tile		*322,447*	*816,046*	*/sqft*	*1,138,493*
			Ceiling: 2x2 Tile					
			MinFbr Tegulr Std 2x2 3/4"	1,500.00 sqft	2,786	6,146	5.95 /sqft	8,931
			Ceiling: 2x2 Tile		*2,786*	*6,146*	*/sqft*	*8,931*
			Ceiling: Metal Systems					
			Metal Ceiling Panels	2,620.00 sqft	28,652	13,416	16.06 /sqft	42,068
			Ceiling: Metal Systems		*28,652*	*13,416*	*/sqft*	*42,068*
			Painting: Interior					
			Epoxy Paint GDW Clg	20,624.00 sqft	43,855	15,785	2.89 /sqft	59,641

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Painting: Interior					
			Paint GDW Soffit Roller p+2ct	10,264.00 sqft	11,822	1,770	1.32 /sqft	13,593
			Paint Misc Stl Exp Deck 3 Coat	37,462.00 sqft	23,234	3,231	0.71 /sqft	26,465
			Paint Exist Structure	37,462.00 sqft	49,904	5,250	1.47 /sqft	55,153
			Paint Exist Mechanicals	37,462.00 sqft	12,860	2,019	0.40 /sqft	14,879
			Painting: Interior		*141,675*	*28,055*	*/sqft*	*169,730*
			Sound Absorbing Panels					
			Custom Acoustic Ceiling Panel	7,440.00 sqft	96,402	83,812	24.22 /sqft	180,214
			Sound Absorbing Panels		*96,402*	*83,812*	*/sqft*	*180,214*
			FINISHES		*990,817*	*1,105,403*	*/sqft*	*2,096,220*
			C3030 CEILING FINISHES	***196,161.00 sqft***	***990,817***	***1,105,403***	***10.69 /sqft***	***2,096,220***
			C30 INTERIOR FINISHES	**######## sqft**	**3,645,437**	**3,142,362**	**35.00 /sqft**	**6,865,488**
D10			**CONVEYING SYSTEMS**					
	D1010		**ELEVATORS**					
		5000.00	**METALS**					
			Misc: Embeded Material					
			Embedded Angle in Concrete LF	20.00 lnft	794	443	61.84 /lnft	1,237
			Misc: Embeded Material		*794*	*443*	*/each*	*1,237*
			Misc: Ladders					
			Ladders	4.00 vlf	270	226	127.24 /vlf	509
			Misc: Ladders		*270*	*226*	*/vlf*	*509*
			METALS		*1,064*	*669*	*/sqft*	*1,746*
		9000.00	**FINISHES**					
			Painting: Interior					
			Paint Ladder	4.00 lnft	18	3	5.17 /lnft	21
			Painting: Interior		*18*	*3*	*/sqft*	*21*
			FINISHES		*18*	*3*	*/sqft*	*21*
		14000.00	**CONVEYING SYSTEMS**					
			Elevators					
			Elevator Hyd Passenger 2 stop	1.00 each	22,863	42,569	65,912.91 /each	65,913
			Capacity Upgrade 3000# Hyd	1.00 lsum	-	5,414	5,415.25 /lsum	5,415
			Travel Over Base Hyd	36.00 vlf	6,496	27,670	952.86 /vlf	34,303
			Additional Stops Hyd	3.00 each	6,267	3,596	3,331.66 /each	9,995
			Speed Upgrade 125 fpm Hyd	1.00 lsum	-	2,903	2,904.59 /lsum	2,905
			Doors Stainless Steel	1.00 lsum	-	4,382	4,383.60 /lsum	4,384
			Emergency Power	1.00 lsum	-	2,853	2,855.00 /lsum	2,855
			Walls Stainless Steel	1.00 lsum	-	4,490	4,491.40 /lsum	4,491
			Maint Contract 12 mos	1.00 lsum	3,702	-	3,703.53 /lsum	3,704
			Sig Device Hall Latern	5.00 each	-	2,797	561.01 /each	2,805
			Elevators		*39,329*	*96,675*	*/each*	*136,769*
			Lifts					
			Lift Commercial Allow	2.00 each	6,942	28,953	18,017.29 /each	36,035
			Lifts		*6,942*	*28,953*	*/each*	*36,035*
			CONVEYING SYSTEMS		*46,270*	*125,628*	*/sqft*	*172,804*
			D1010 ELEVATORS	***1.00 each***	***47,352***	***126,300***	***174,570.19 /each***	***174,570***
			D10 CONVEYING SYSTEMS	**######## sqft**	**47,352**	**126,300**	**0.89 /sqft**	**174,570**
D20			**PLUMBING**					
	D2010		**PLUMBING FIXTURES**					
		15100.00	**PLUMBING**					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	187,555.00 sqft	431,377	412,456	4.50 /sqft	843,832
			Plumbing Fixtures & Equip		*431,377*	*412,456*	*/each*	*843,832*
			PLUMBING		*431,377*	*412,456*	*/sqft*	*843,832*
			D2010 PLUMBING FIXTURES	***196,161.00 sqft***	***431,377***	***412,456***	***4.30 /sqft***	***843,832***
	D2020		**DOMESTIC WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Domestic Water (Sqft)	187,555.00 sqft	438,879	384,150	4.39 /sqft	823,029

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Piping		*438,879*	*384,150*	*/lnft*	*823,029*
			PLUMBING		*438,879*	*384,150*	*/sqft*	*823,029*
			D2020 DOMESTIC WATER	***196,161.00 sqft***	***438,879***	***384,150***	***4.20 /sqft***	***823,029***
	D2030		**SANITARY WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Sanitary Water (Sqft)	187,555.00 sqft	335,723	327,539	3.54 /sqft	663,262
			Piping		*335,723*	*327,539*	*/lnft*	*663,262*
			PLUMBING		*335,723*	*327,539*	*/sqft*	*663,262*
			D2030 SANITARY WATER	***196,161.00 sqft***	***335,723***	***327,539***	***3.38 /sqft***	***663,262***
	D2040		**RAINWATER DRAINAGE**					
		15100.00	**PLUMBING**					
			Piping					
			Rain Water Drainage(Sqft)	196,507.00 sqft	247,599	241,491	2.49 /sqft	489,090
			Piping		*247,599*	*241,491*	*/lnft*	*489,090*
			PLUMBING		*247,599*	*241,491*	*/sqft*	*489,090*
			D2040 RAINWATER DRAINAGE	***196,161.00 sqft***	***247,599***	***241,491***	***2.49 /sqft***	***489,090***
	D2050		**SPECIAL PLUMBING SYSTEMS**					
		15100.00	**PLUMBING**					
			Plumbing					
			Special Plumbing Systems (Sqft)	187,555.00 sqft	140,666	139,507	1.49 /sqft	280,173
			Plumbing		*140,666*	*139,507*	*/sqft*	*280,173*
			PLUMBING		*140,666*	*139,507*	*/sqft*	*280,173*
			D2050 SPECIAL PLUMBING SYSTEMS	***196,161.00 sqft***	***140,666***	***139,507***	***1.43 /sqft***	***280,173***
			D20 PLUMBING	**######## sqft**	**1,594,244**	**1,505,143**	**15.80 /sqft**	**3,099,387**
D30			**HVAC**					
	D3020		**HEAT GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Heat Generation					
			Heat Generating Systems (Sqft)	196,507.00 sqft	457,861	307,160	3.89 /sqft	765,021
			Heat Generation		*457,861*	*307,160*	*/each*	*765,021*
			HVAC SYSTEMS		*457,861*	*307,160*	*/sqft*	*765,021*
			D3020 HEAT GENERATING SYSTEMS	***196,161.00 sqft***	***457,861***	***307,160***	***3.90 /sqft***	***765,021***
	D3030		**COOLING GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Refrigeration					
			Cooling Generating Systems (Sqft)	196,507.00 sqft	919,653	591,018	7.69 /sqft	1,510,671
			Refrigeration		*919,653*	*591,018*	*/each*	*1,510,671*
			HVAC SYSTEMS		*919,653*	*591,018*	*/sqft*	*1,510,671*
			D3030 COOLING GENERATING SYSTEMS	***196,161.00 sqft***	***919,653***	***591,018***	***7.70 /sqft***	***1,510,671***
	D3040		**DISTRIBUTION SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Air Distribution					
			Distribution Systems (Sqft)	187,555.00 sqft	2,965,245	1,849,986	25.67 /sqft	4,815,231
			Air Distribution		*2,965,245*	*1,849,986*	*/sqft*	*4,815,231*
			HVAC SYSTEMS		*2,965,245*	*1,849,986*	*/sqft*	*4,815,231*
			D3040 DISTRIBUTION SYSTEMS	***196,161.00 sqft***	***2,965,245***	***1,849,986***	***24.55 /sqft***	***4,815,231***
	D3050		**TERMINAL PACKAGE UNITS**					
		15500.00	**HVAC SYSTEMS**					
			Air Handling					
			Terminal Package Units (Sqft)	196,507.00 sqft	112,009	67,787	0.92 /sqft	179,796

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Air Handling		*112,009*	*67,787*	*/each*	*179,796*
			HVAC SYSTEMS		*112,009*	*67,787*	*/sqft*	*179,796*
			D3050 TERMINAL PACKAGE UNITS	***196,161.00 sqft***	***112,009***	***67,787***	***0.92 /sqft***	***179,796***
	D3060		**CONTROL & INSTRUMENTATION**					
		15500.00	**HVAC SYSTEMS**					
			Controls					
			Control & Instrumentation (Sqft)	200,896.00 sqft	757,378	474,279	6.13 /sqft	1,231,657
			Controls		*757,378*	*474,279*	*/sqft*	*1,231,657*
			HVAC SYSTEMS		*757,378*	*474,279*	*/sqft*	*1,231,657*
			D3060 CONTROL & INSTRUMENTATION	***196,161.00 sqft***	***757,378***	***474,279***	***6.28 /sqft***	***1,231,657***
	D3070		**SYSTEM TESTING & BALANCING**					
		15500.00	**HVAC SYSTEMS**					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	196,507.00 sqft	64,847	42,367	0.55 /sqft	107,214
			Test & Balancing Misc		*64,847*	*42,367*	*/sqft*	*107,214*
			HVAC SYSTEMS		*64,847*	*42,367*	*/sqft*	*107,214*
			D3070 SYSTEM TESTING & BALANCING	***196,161.00 sqft***	***64,847***	***42,367***	***0.55 /sqft***	***107,214***
	D3090		**OTHER HVAC SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			HVAC					
			HVAC (Sqft) Other	196,507.00 sqft	227,948	197,006	2.16 /sqft	424,954
			HVAC		*227,948*	*197,006*	*/sqft*	*424,954*
			HVAC SYSTEMS		*227,948*	*197,006*	*/sqft*	*424,954*
			D3090 OTHER HVAC SYSTEMS	***196,161.00 sqft***	***227,948***	***197,006***	***2.17 /sqft***	***424,954***
			D30 HVAC	**######## sqft**	**5,504,941**	**3,529,604**	**46.06 /sqft**	**9,034,545**
D40			**FIRE PROTECTION**					
	D4010		**SPRINKLER SYSTEMS**					
		15000.00	**FIRE PROTECTION**					
			Sprinkler					
			Fire Protection (Sqft)	196,507.00 sqft	736,901	580,427	6.70 /sqft	1,317,328
			Sprinkler		*736,901*	*580,427*	*/sqft*	*1,317,328*
			FIRE PROTECTION		*736,901*	*580,427*	*/sqft*	*1,317,328*
			D4010 SPRINKLER SYSTEMS	***196,161.00 sqft***	***736,901***	***580,427***	***6.72 /sqft***	***1,317,328***
			D40 FIRE PROTECTION	**######## sqft**	**736,901**	**580,427**	**6.72 /sqft**	**1,317,328**
D50			**ELECTRICAL**					
	D5010		**SERVICE & DISTRIBUTION**					
		16000.00	**ELECTRICAL**					
			Service Distribution					
			Service & Distribution (Sqft)	196,507.00 sqft	695,635	832,510	7.78 /sqft	1,528,145
			Service Distribution		*695,635*	*832,510*	*/sqft*	*1,528,145*
			ELECTRICAL		*695,635*	*832,510*	*/sqft*	*1,528,145*
			D5010 SERVICE & DISTRIBUTION	***196,161.00 sqft***	***695,635***	***832,510***	***7.79 /sqft***	***1,528,145***
	D5020		**LIGHTING & BRANCH WIRING**					
		16000.00	**ELECTRICAL**					
			Lighting					
			Lighting & Branch Wiring (Sqft)	196,507.00 sqft	1,699,786	1,762,463	17.62 /sqft	3,462,249
			Lighting		*1,699,786*	*1,762,463*	*/each*	*3,462,249*
			ELECTRICAL		*1,699,786*	*1,762,463*	*/sqft*	*3,462,249*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			D5020 LIGHTING & BRANCH WIRING	***196,161.00 sqft***	***1,699,786***	***1,762,463***	***17.65 /sqft***	***3,462,249***
	D5030		**COMMUNICATION & SECURITY**					
		16000.00	**ELECTRICAL**					
			Communications					
			Communication & Security (Sqft)	196,507.00 sqft	1,318,562	1,387,516	13.77 /sqft	2,706,078
			Communications		*1,318,562*	*1,387,516*	*/sqft*	*2,706,078*
			ELECTRICAL		*1,318,562*	*1,387,516*	*/sqft*	*2,706,078*
			D5030 COMMUNICATION & SECURITY	***196,161.00 sqft***	***1,318,562***	***1,387,516***	***13.80 /sqft***	***2,706,078***
	D5040		**SPECIAL ELECTRICAL SYSTEMS**					
		16000.00	**ELECTRICAL**					
			Special Systems					
			Special Electrical Systems(Sqft)	196,507.00 sqft	377,293	391,894	3.91 /sqft	769,187
			Special Systems		*377,293*	*391,894*	*/each*	*769,187*
			ELECTRICAL		*377,293*	*391,894*	*/sqft*	*769,187*
			D5040 SPECIAL ELECTRICAL SYSTEMS	***196,161.00 sqft***	***377,293***	***391,894***	***3.92 /sqft***	***769,187***
			D50 ELECTRICAL	**######## sqft**	**4,091,276**	**4,374,383**	**43.16 /sqft**	**8,465,659**
E10			**EQUIPMENT**					
	E1020		**INSTITUTIONAL EQUIPMENT**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	6	6.46 /lsum	6
			Fasteners: Frame Anchors			*6*	*/each*	*6*
			Blocking: Misc.					
			Blocking 2 x 6 R.L.	1,260.00 lnft	6,068	613	5.30 /lnft	6,681
			Blocking: Misc.		*6,068*	*613*	*/mbf*	*6,681*
			WOOD & PLASTICS		*6,068*	*619*	*/sqft*	*6,687*
		10000.00	**SPECIALTIES**					
			Partitions Operable					
			Operable Partition 2-1/4" t Avg	3,416.00 sqft	20,889	254,089	80.50 /sqft	274,978
			Operable Partition Track	122.00 lnft	-	15,894	130.28 /lnft	15,894
			Partitions Operable		*20,889*	*269,983*	*/each*	*290,872*
			SPECIALTIES		*20,889*	*269,983*	*/sqft*	*290,872*
		11000.00	**EQUIPMENT**					
			Division 11 Subcontractrs					
			Kitchen Equipment Sub	1.00 lsum	-	-	1,060,000.00 /lsum	1,060,000
			Division 11 Subcontractrs				*/sub*	*1,060,000*
			Equip: Residental Food					
			Electric Range & Oven	4.00 each	952	2,061	753.40 /each	3,014
			Microwave	4.00 each	1,265	1,984	812.20 /each	3,249
			Refrigerator 21-29 cf	4.00 each	1,293	5,213	1,626.46 /each	6,506
			Dishwasher Built-In	4.00 each	2,616	2,350	1,241.55 /each	4,966
			Garbage Disposer	4.00 each	698	517	303.77 /each	1,215
			Ice Maker	4.00 each	515	3,506	1,005.09 /each	4,020
			Equip: Residental Food		*7,339*	*15,631*	*/each*	*22,970*
			Equip: Gym					
			Basketball Backboard Wall Swing	4.00 each	6,391	6,839	3,307.36 /each	13,229
			Basketball Backboard Clg Swing	2.00 each	6,042	13,104	9,573.24 /each	19,146
			Bleacher Manual to 15 tier	1,414.00 seat	83,831	202,731	202.66 /seat	286,562
			Power Operation Avg	1,414.00 seat	6,679	99,689	75.23 /seat	106,368
			Gym Divider Curtain Electric	3,416.00 sqft	25,777	37,009	18.38 /sqft	62,785
			Wall Pads	3,048.00 sqft	7,034	21,686	9.42 /sqft	28,719
			Floor Sleeves	4.00 each	344	742	271.42 /each	1,086
			Scoreboard Basketball Min	1.00 each	1,129	2,288	3,421.11 /each	3,421
			Shotclock Min	2.00 each	1,129	2,288	1,710.56 /each	3,421
			Wrestling Mats	960.00 sqft	-	5,537	5.77 /sqft	5,537
			Scorers Table	8.00 lnft	332	1,319	206.44 /lnft	1,652

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Equip: Gym		*138,689*	*393,230*	*/lsum*	*531,927*
			Equip: Laboratory/Science					
			Science Casework Avg	179,192.00 sqft	139,764	370,884	2.85 /sqft	510,649
			Equip: Laboratory/Science		*139,764*	*370,884*	*/lnft*	*510,649*
			EQUIPMENT		*285,792*	*779,745*	*/sqft*	*2,125,545*
			E1020 INSTITUTIONAL EQUIPMENT	***196,161.00 sqft***	***312,749***	***1,050,347***	***12.35 /sqft***	***2,423,104***
			E10 EQUIPMENT	**######## sqft**	**312,749**	**1,050,347**	**12.35 /sqft**	**2,423,104**
E20			**FURNISHINGS**					
	E2010		**FIXED FURNISHINGS**					
		6000.00	**WOOD & PLASTICS**					
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	100.00 lnft	390	34	4.24 /lnft	424
			Blocking 2 x 6 R.L.	56.00 lnft	270	27	5.30 /lnft	297
			Blocking: Misc.		*660*	*61*	*/mbf*	*721*
			WOOD & PLASTICS		*660*	*61*	*/sqft*	*721*
		12000.00	**FURNISHINGS**					
			Casework					
			School Casework	120,421.00 sqft	111,153	389,442	4.16 /sqft	500,595
			Casework		*111,153*	*389,442*	*/lnft*	*500,595*
			Display Casework					
			Display Case	50.00 lnft	3,848	28,244	641.83 /lnft	32,092
			Display case 7' h	27.00 lnft	3,636	38,362	1,555.45 /lnft	41,997
			Display Casework		*7,483*	*66,605*	*/lnft*	*74,089*
			Shades					
			Vinyl Heavy Wt	10,378.00 sqft	13,090	48,442	5.93 /sqft	61,532
			Vinyl Heavy Wt Int	1,298.00 sqft	1,637	6,059	5.93 /sqft	7,696
			Vinyl Heavy Wt	42.00 sqft	53	197	5.95 /sqft	250
			Vinyl Heavy Wt Int	42.00 sqft	53	197	5.95 /sqft	250
			Vinyl Heavy Wt	1,214.00 sqft	1,531	5,667	5.93 /sqft	7,198
			Vinyl Heavy Wt Int	54.00 sqft	68	252	5.93 /sqft	320
			Shades		*16,433*	*60,813*	*/sqft*	*77,246*
			Furniture					
			Library Charge Desk	29.00 lnft	3,801	14,881	644.19 /lnft	18,682
			Reception Desk	15.00 lnft	1,966	5,676	509.44 /lnft	7,642
			Furniture		*5,767*	*20,556*	*/lnft*	*26,323*
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	544.00 sqft	6,986	16,215	42.65 /sqft	23,201
			Floor Mats		*6,986*	*16,215*	*/sqft*	*23,201*
			FURNISHINGS		*147,823*	*553,631*	*/sqft*	*701,454*
			E2010 FIXED FURNISHINGS	***196,161.00 sqft***	***148,482***	***553,692***	***3.58 /sqft***	***702,174***
			E20 FURNISHINGS	**######## sqft**	**148,482**	**553,692**	**3.58 /sqft**	**702,174**
F10			**SPECIAL CONSTRUCTION**					
	F1030		**SPECIAL CONSTRUCTION**					
		13000.00	**SPECIAL CONSTRUCTION**					
			Pre-Engineered Buildings					
			Pre-Eng Bldg to 60' wide 30' Eave	33,567.00 sqft	701,436	401,656	39.15 /sqft	1,314,173
			4' Eave with Soffit	620.00 lnft	14,584	23,660	69.27 /lnft	42,949
			End Wall Eave with Soffit	192.00 lnft	2,258	5,133	42.40 /lnft	8,140
			Frame Opening	2,596.00 sqft	7,360	17,491	10.44 /sqft	27,102
			Flash Roof Eave Painted	620.00 lnft	4,491	2,693	11.59 /lnft	7,185
			Flash Rake Painted	192.00 lnft	1,391	938	12.13 /lnft	2,328
			Flash Ridge Painted	326.00 lnft	2,361	2,625	15.30 /lnft	4,987
			Gutter	620.00 lnft	3,352	3,876	11.66 /lnft	7,228
			Insulation R13	55,948.00 sqft	45,187	51,868	1.74 /sqft	97,055
			Pre-Engineered Buildings		*782,419*	*509,941*	*/sqft*	*1,511,148*
			Penthouse					
			Penthouse Roof	64.00 sqft	1,435	1,952	52.92 /sqft	3,387
			Penthouse Walls	256.00 sqft	8,041	16,848	97.22 /sqft	24,889

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Penthouse		*9,476*	*18,800*	*/sqft*	*28,276*
			Swimming Pool Equipment					
			Diving Stand 3 Meter	1.00 each	4,615	12,246	16,861.28 /each	16,861
			Diving Stand 1 Meter	1.00 each	684	6,908	7,591.57 /each	7,592
			Starting Platform	8.00 each	2,735	30,408	4,142.90 /each	33,143
			Pool Ladder 4 Step	2.00 each	615	1,677	1,146.41 /each	2,293
			Access Ramp	1.00 each	680	11,566	12,246.18 /each	12,246
			Concrete Bottom & Sides Tile Finish	6,750.00 sqft	454,578	199,012	101.55 /sqft	685,447
			Stainless Steel Gutters	250.00 lnft	-	73,035	292.14 /lnft	73,035
			Filtration & Chlorination System	4,500.00 sqft	40,696	31,774	16.79 /sqft	75,559
			Swimming Pool Equipment		*504,603*	*366,626*	*/each*	*906,175*
			SPECIAL CONSTRUCTION		*1,296,499*	*895,367*	*/sqft*	*2,445,599*
			F1030 SPECIAL CONSTRUCTION	***33,567.00 sqft***	***1,296,499***	***895,367***	***72.86 /sqft***	***2,445,599***
			F10 SPECIAL CONSTRUCTION	**######## sqft**	**1,296,499**	**895,367**	**12.47 /sqft**	**2,445,599**
F20			**SELECTIVE DEMOLITION**					
	F2010		**SELECTIVE DEMOLITION**					
		2050.00	**DEMOLITION**					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	392,850.00 /lsum	392,850
			Demo: Subcontractors				*/sub*	*392,850*
			Demo: Building					
			Large Building Avg Field House	1,482,752.00 cuft	288,801	-	0.30 /cuft	436,998
			Bridges	97,920.00 cuft	26,766	-	0.40 /cuft	39,546
			Disposal Building	4,623.80 cuyd	47,185	-	13.49 /cuyd	62,354
			Disposal Bridges	861.72 cuyd	8,794	-	13.49 /cuyd	11,621
			Demo: Building		*371,545*		*/cuft*	*550,518*
			Demo: Concrete					
			Remove Isolated Footings	2,800.00 sqft	30,834	-	12.01 /sqft	33,616
			Remove Concrete Walls 12"	3,048.00 sqft	75,522	-	24.84 /sqft	75,711
			Demo: Concrete		*106,356*		*/cuyd*	*109,327*
			DEMOLITION		*477,901*		*/sqft*	*1,052,696*
			F2010 SELECTIVE DEMOLITION	***######### cuft***	***477,901***		***0.66 /cuft***	***1,052,696***
			F20 SELECTIVE DEMOLITION	**######## sqft**	**477,901**		**5.37 /sqft**	**1,052,696**
G10			**SITE PREPARATION**					
	G1030		**EARTHWORK**					
		2100.00	**SITEWORK**					
			Site Clearing					
			Site Preparation	7.40 acre		-	132,692.00 /acre	981,921
			Site Clearing				*/acre*	*981,921*
			SITEWORK				*/sqft*	*981,921*
			G1030 EARTHWORK	***7.40 acre***			***132,692.00 /acre***	***981,921***
			G10 SITE PREPARATION	**7.40 acre**			**######## /acre**	**981,921**
G20			**SITE IMPROVEMENTS**					
	G2040		**SITE DEVELOPMENT**					
		2100.00	**SITEWORK**					
			Improvmnts: Misc					
			Site Improvemnts	7.40 acre	-	-	394,348.00 /acre	2,918,175
			Improvmnts: Misc				*/lsum*	*2,918,175*
			SITEWORK				*/sqft*	*2,918,175*
			G2040 SITE DEVELOPMENT	***7.40 acre***			***394,348.00 /acre***	***2,918,175***
			G20 SITE IMPROVEMENTS	**7.40 acre**			**######## /acre**	**2,918,175**

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
G30			**SITE CIVIL/MECHANICAL UTILITIES**					
	G3030		**STORM SEWER SYSTEM**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Utilities	7.40 acre	-	-	124,491.00 /acre	921,233
			Division 2 Subcontractors				*/sub*	*921,233*
			SITEWORK				*/sqft*	*921,233*
			G3030 STORM SEWER SYSTEM	***7.40 acre***			***124,491.00 /acre***	***921,233***
			G30 SITE CIVIL/MECHANICAL UTILITIES	**7.40 acre**			**######## /acre**	**921,233**
G40			**SITE ELECTRICAL UTILITIES**					
	G4010		**ELECTRICAL DISTRIBUTION**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - Site Electrical	7.40 acre	-	-	93,928.00 /acre	695,067
			Division 2 Subcontractors				*/sub*	*695,067*
			SITEWORK				*/sqft*	*695,067*
			G4010 ELECTRICAL DISTRIBUTION	***7.40 acre***			***93,928.00 /acre***	***695,067***
			G40 SITE ELECTRICAL UTILITIES	**7.40 acre**			**93,928.00 /acre**	**695,067**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Cost per Unit	ent of Total	
Labor	28,958,780		154,307.988 hrs			147.628 /sf	43.69%	
Material	28,411,839					144.839 /sf	42.86%	
Subcontract	7,908,021					40.314 /sf	11.93%	
Equipment	1,009,544		12,247.592 hrs			5.147 /sf	1.52%	
Other								
	66,288,184	**66,288,184**				**337.927 /sf**	**100.00**	**100.00%**
Total		***66,288,184***				***337.927 /sf***		

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10		**FOUNDATIONS**					
	A1010	STANDARD FOUNDATIONS	312.40 cuyd	207,913	88,522	980.58 /cuyd	306,332
	A1020	SPECIAL FOUNDATIONS	1.00 lsum			31,703.00 /lsum	31,703
	A1030	SLAB ON GRADE	3,340.00 sqft	21,536	35,825	17.17 /sqft	57,361
		A10 FOUNDATIONS	**628,558.00 sqft**	**229,449**	**124,347**	**0.63 /sqft**	**395,396**
B10		**SUPERSTRUCTURE**					
	B1010	FLOOR CONSTRUCTION	1.00 lsum	193,809	40,125	240,272.86 /lsum	240,273
	B1020	ROOF CONSTRUCTION	450,811.00 sqft			5.60 /sqft	2,524,126
		B10 SUPERSTRUCTURE	**628,558.00 sqft**	**193,809**	**40,125**	**4.40 /sqft**	**2,764,398**
B20		**EXTERIOR CLOSURE**					
	B2010	EXTERIOR WALLS	95,923.00 sqft	1,053,932	627,054	17.76 /sqft	1,703,203
	B2020	EXTERIOR WINDOWS	37,984.00 sqft	1,395,599	2,523,707	103.18 /sqft	3,919,306
	B2030	EXTERIOR DOORS	50.00 lvs	65,685	148,605	4,288.74 /lvs	214,437
		B20 EXTERIOR CLOSURE	**628,558.00 sqft**	**2,515,217**	**3,299,366**	**9.29 /sqft**	**5,836,946**
B30		**ROOFING**					
	B3010	ROOF COVERINGS	114,155.00 sqft	2,620,854	1,747,338	39.75 /sqft	4,537,737
	B3020	ROOF OPENINGS	1,784.00 sqft	66,664	104,794	96.11 /sqft	171,458
		B30 ROOFING	**628,558.00 sqft**	**2,687,518**	**1,852,132**	**7.49 /sqft**	**4,709,195**
C10		**INTERIOR CONSTRUCTION**					
	C1010	PARTITIONS	166,824.00 sqft	2,600,801	766,430	20.29 /sqft	3,384,204
	C1020	INTERIOR DOORS	1,040.00 lvs	902,073	2,443,057	3,216.75 /lvs	3,345,422
	C1030	SPECIALTIES/MILLWORK	450,811.00 sqft	657,321	1,092,593	3.88 /sqft	1,749,952
		C10 INTERIOR CONSTRUCTION	**628,558.00 sqft**	**4,160,194**	**4,302,080**	**13.49 /sqft**	**8,479,578**
C20		**STAIRCASES**					
	C2010	STAIR CONSTRUCTION	21.00 flt	335,522	920,758	60,539.97 /flt	1,271,339
	C2020	STAIR FINISHES	28,493.00 sqft	82,681	105,741	6.61 /sqft	188,422
		C20 STAIRCASES	**628,558.00 sqft**	**418,204**	**1,026,499**	**2.32 /sqft**	**1,459,761**
C30		**INTERIOR FINISHES**					
	C3010	WALL FINISHES	569,898.00 sqft	963,890	378,354	2.38 /sqft	1,355,228
	C3020	FLOOR FINISHES	450,811.00 sqft	2,505,793	2,959,105	12.61 /sqft	5,683,679
	C3030	CEILING FINISHES	450,811.00 sqft	1,792,638	2,032,348	8.55 /sqft	3,853,960
		C30 INTERIOR FINISHES	**628,558.00 sqft**	**5,262,320**	**5,369,807**	**17.33 /sqft**	**10,892,866**
D10		**CONVEYING SYSTEMS**					
	D1010	ELEVATORS	2.00 each	51,152	160,207	106,183.73 /each	212,367
		D10 CONVEYING SYSTEMS	**628,558.00 sqft**	**51,152**	**160,207**	**0.34 /sqft**	**212,367**
D20		**PLUMBING**					
	D2010	PLUMBING FIXTURES	450,811.00 sqft	1,042,768	815,337	4.12 /sqft	1,858,106
	D2020	DOMESTIC WATER	450,811.00 sqft	1,047,244	974,545	4.49 /sqft	2,021,789
	D2030	SANITARY WATER	450,811.00 sqft	801,097	622,358	3.16 /sqft	1,423,455

UNI 1	UNI 2	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
	D2040	RAINWATER DRAINAGE	450,811.00 sqft	563,900	439,028	2.23 /sqft	1,002,928
	D2050	SPECIAL PLUMBING SYSTEMS	450,811.00 sqft	340,130	265,346	1.34 /sqft	605,477
		D20 PLUMBING	**628,558.00 sqft**	**3,795,139**	**3,116,615**	**11.00 /sqft**	**6,911,754**
D30		**HVAC**					
	D3020	HEAT GENERATING SYSTEMS	450,811.00 sqft	1,042,768	694,725	3.85 /sqft	1,737,493
	D3030	COOLING GENERATING SYSTEMS	450,811.00 sqft	1,391,849	897,354	5.08 /sqft	2,289,203
	D3040	DISTRIBUTION SYSTEMS	450,811.00 sqft	7,075,607	4,414,400	25.49 /sqft	11,490,008
	D3050	TERMINAL PACKAGE UNITS	450,811.00 sqft	255,098	154,383	0.91 /sqft	409,481
	D3060	CONTROL & INSTRUMENTATION	450,811.00 sqft	1,687,226	1,056,561	6.09 /sqft	2,743,787
	D3070	SYSTEM TESTING & BALANCING	450,811.00 sqft	147,688	96,490	0.54 /sqft	244,178
	D3090	OTHER HVAC SYSTEMS	450,811.00 sqft	519,146	448,677	2.15 /sqft	967,823
		D30 HVAC	**450,811.00 sqft**	**12,119,383**	**7,762,590**	**44.10 /sqft**	**19,881,973**
D40		**FIRE PROTECTION**					
	D4010	SPRINKLER SYSTEMS	450,811.00 sqft	1,678,275	1,321,908	6.66 /sqft	3,000,183
		D40 FIRE PROTECTION	**450,811.00 sqft**	**1,678,275**	**1,321,908**	**6.66 /sqft**	**3,000,183**
D50		**ELECTRICAL**					
	D5010	SERVICE & DISTRIBUTION	450,811.00 sqft	1,584,292	1,640,324	7.15 /sqft	3,224,615
	D5020	LIGHTING & BRANCH WIRING	450,811.00 sqft	3,871,221	4,013,968	17.49 /sqft	7,885,189
	D5030	COMMUNICATION & SECURITY	450,811.00 sqft	3,338,648	3,512,222	15.20 /sqft	6,850,871
	D5040	SPECIAL ELECTRICAL SYSTEMS	450,811.00 sqft	953,260	984,194	4.30 /sqft	1,937,454
		D50 ELECTRICAL	**450,811.00 sqft**	**9,747,421**	**########**	**44.14 /sqft**	**19,898,130**
E10		**EQUIPMENT**					
	E1020	INSTITUTIONAL EQUIPMENT	450,811.00 sqft	452,533	986,335	5.37 /sqft	2,418,868
		E10 EQUIPMENT	**450,811.00 sqft**	**452,533**	**986,335**	**5.37 /sqft**	**2,418,868**
E20		**FURNISHINGS**					
	E2010	FIXED FURNISHINGS	450,811.00 sqft	614,768	2,264,380	6.39 /sqft	2,879,149
		E20 FURNISHINGS	**450,811.00 sqft**	**614,768**	**2,264,380**	**6.39 /sqft**	**2,879,149**
F10		**SPECIAL CONSTRUCTION**					
	F1030	SPECIAL CONSTRUCTION	275.00 sqft	26,907	10,079	134.49 /sqft	36,986
		F10 SPECIAL CONSTRUCTION	**275.00 sqft**	**26,907**	**10,079**	**134.49 /sqft**	**36,986**
F20		**SELECTIVE DEMOLITION**					
	F2010	SELECTIVE DEMOLITION	450,811.00 sqft	4,336,812	27,672	17.15 /sqft	7,730,096
		F20 SELECTIVE DEMOLITION	**628,558.00 sqft**	**4,336,812**	**27,672**	**12.30 /sqft**	**7,730,096**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit		cent of Total	
Labor	48,289,101		196,781.095 hrs		107.899	/sf	49.52%	
Material	41,814,851				93.433	/sf	42.88%	
Subcontract	6,692,979				14.955	/sf	6.86%	
Equipment	710,717		28,270.632 hrs		1.588	/sf	0.73%	
Other								
	97,507,648	**97,507,648**			**217.875**	**/sf**	**100.00**	**100.00%**
Total		***97,507,648***			***217.875***	***/sf***		

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
A10			**FOUNDATIONS**					
	A1010		**STANDARD FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Earthwk: Dispose Surplus					
			Dispose Surplus	833.00 cuyd	5,081	-	12.18 /cuyd	10,142
			Earthwk: Dispose Surplus		*5,081*		*/cuyd*	*10,142*
			Earthwk: Footings (Hand)					
			Excavate Footing By Hand	36.90 cuyd	4,707	-	127.56 /cuyd	4,707
			Excavate Engaged Footing By Hand	6.30 cuyd	804	-	127.56 /cuyd	804
			Earthwk: Footings (Hand)		*5,511*		*/cuyd*	*5,511*
			Earthwk: Footings (Mach)					
			Excavate Footing By Machine	749.00 cuyd	3,683	-	6.27 /cuyd	4,698
			Excavate Engaged Footing By Machine	40.00 cuyd	315	-	10.04 /cuyd	402
			Earthwk: Footings (Mach)		*3,998*		*/cuyd*	*5,099*
			Backfill: Footing					
			Backfill Footings-Exist	365.00 cuyd	1,083	8,077	26.76 /cuyd	9,769
			Backfill Footings	205.30 cuyd	609	4,543	26.76 /cuyd	5,495
			Backfill: Footing		*1,693*	*12,620*	*/cuyd*	*15,263*
			SITEWORK		*16,282*	*12,620*	*/sqft*	*36,015*
		3000.00	**CONCRETE**					
			Forms: Footings					
			Footing Forms 2 Use	1,857.00 sqft	14,540	7,670	11.96 /sqft	22,211
			Engaged Footing Forms 2 use	306.67 sqft	2,631	303	9.57 /sqft	2,935
			Keyway In Footing	924.00 lnft	6,463	595	7.64 /lnft	7,058
			Forms: Footings		*23,635*	*8,568*	*/sqft*	*32,203*
			Forms: Walls					
			Wall Forms	7,392.00 sqft	89,834	13,543	13.99 /sqft	103,376
			Forms: Walls		*89,834*	*13,543*	*/sqft*	*103,376*
			Forms: Blockouts					
			Ledge Blockouts	284.00 sqft	5,491	255	20.23 /sqft	5,746
			Forms: Blockouts		*5,491*	*255*	*/sqft*	*5,746*
			Forms: Piers					
			Pier Forms	256.00 sqft	4,356	330	18.30 /sqft	4,685
			Forms: Piers		*4,356*	*330*	*/sqft*	*4,685*
			Forms: Ramps					
			Ramp Forms 2 use	636.00 lnft	6,140	960	11.16 /lnft	7,099
			Forms: Ramps		*6,140*	*960*	*/lnft*	*7,099*
			Forms: Stairs					
			Stair Forms	780.00 sqft	17,235	2,191	24.91 /sqft	19,426
			Forms: Stairs		*17,235*	*2,191*	*/sqft*	*19,426*
			Forms: Pits & Misc.					
			Pad Forms	122.00 sqft	674	397	8.78 /sqft	1,071
			Forms: Pits & Misc.		*674*	*397*	*/sqft*	*1,071*
			Rebar: Footings					
			Footing Rebar #5	1.00 ton	1,785	1,250	3,034.22 /ton	3,034
			Footing Rebar 4#/plf	0.57 ton	1,018	713	3,036.54 /ton	1,731
			Rebar: Footings		*2,803*	*1,962*	*/ton*	*4,765*
			Rebar: Walls					
			Wall Rebar #4	3.42 ton	4,275	4,274	2,499.54 /ton	8,548
			Wall Rebar 10#/plf	1.42 ton	1,775	1,774	2,499.55 /ton	3,549
			Rebar: Walls		*6,050*	*6,048*	*/ton*	*12,098*
			Rebar: Piers					
			Pier Rebar 40#/plf	0.64 ton	1,039	800	2,873.70 /ton	1,839
			Rebar: Piers		*1,039*	*800*	*/ton*	*1,839*
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.16 ton	375	200	3,593.13 /ton	575
			Rebar: Steps & Stairs		*375*	*200*	*/ton*	*575*
			Rebar: WWM @ Ramp/Misc					
			Wiremesh - Ramp 6x6 6/6	19.20 sqs	1,330	605	100.78 /sqs	1,935
			Wiremesh - Pad 6x6 6/6	12.20 sqs	870	384	102.84 /sqs	1,255
			Rebar: WWM @ Ramp/Misc		*2,200*	*989*	*/sqs*	*3,190*
			Conc: Footings					
			Footing Conc 3000 psi	73.71 cuyd	4,138	8,706	183.08 /cuyd	13,495
			Engaged Footing Conc 3000 psi	16.10 cuyd	994	1,902	189.57 /cuyd	3,052
			Conc: Footings		*5,132*	*10,607*	*/cuyd*	*16,547*
			Conc: Walls					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc: Walls					
			Wall Conc 4000 psi	143.91 cuyd	9,467	17,291	196.28 /cuyd	28,247
			Conc: Walls		*9,467*	*17,291*	*/cuyd*	*28,247*
			Conc: Piers					
			Pier Conc 4000 psi	4.70 cuyd	660	565	282.58 /cuyd	1,328
			Conc: Piers		*660*	*565*	*/cuyd*	*1,328*
			Conc: Ramps					
			Ramp Conc 4000 psi	35.56 cuyd	1,828	4,476	185.11 /cuyd	6,583
			Conc: Ramps		*1,828*	*4,476*	*/cuyd*	*6,583*
			Conc: Pit & Misc					
			Pad Conc 4000 psi	22.59 cuyd	410	2,585	132.87 /cuyd	3,001
			Conc: Pit & Misc		*410*	*2,585*	*/cuyd*	*3,001*
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	15.80 cuyd	624	1,898	165.84 /cuyd	2,620
			Conc: Stairs & Steps		*624*	*1,898*	*/cuyd*	*2,620*
			Finish: Protect & Cure					
			Cure Conc Ext Stair	2.55 sqs	69	27	37.86 /sqs	97
			Cure Conc Ramp	19.20 sqs	522	204	37.85 /sqs	727
			Conc Cure Pad	12.20 sqs	365	130	40.57 /sqs	495
			Finish: Protect & Cure		*957*	*361*	*/sqs*	*1,318*
			Finish: General					
			Trowel Finish Pad	1,220.00 sqft	2,950	-	2.42 /sqft	2,950
			Broom/Float Finish Ramp	1,920.00 sqft	2,012	-	1.05 /sqft	2,012
			Stair Finish	255.00 sqft	822	1	3.23 /sqft	823
			Rub Risers	306.00 lnft	1,480	20	4.90 /lnft	1,500
			Finish: General		*7,263*	*21*	*/sqft*	*7,284*
			CONCRETE		*186,170*	*74,048*	*/sqft*	*263,002*
		7000.00	**THERMAL & MOISTURE PROT**					
			Damproofing: Bituminous					
			Ashphalt Ct. Troweled 1/8"	1,136.00 sqft	3,768	1,173	4.35 /sqft	4,941
			Damproofing: Bituminous		*3,768*	*1,173*	*/sqft*	*4,941*
			Insulation: Perimeter					
			Insul Board Polystyrene 2"	1,136.00 sqft	1,693	681	2.09 /sqft	2,375
			Insulation: Perimeter		*1,693*	*681*	*/sqft*	*2,375*
			THERMAL & MOISTURE PROT		*5,461*	*1,854*	*/sqft*	*7,316*
			A1010 STANDARD FOUNDATIONS	***312.40 cuyd***	***207,913***	***88,522***	***980.58 /cuyd***	***306,332***
	A1020		**SPECIAL FOUNDATIONS**					
		2100.00	**SITEWORK**					
			Division 2 Subcontractors					
			Sub - RAP	1.00 lsum	-	-	31,703.00 /lsum	31,703
			Division 2 Subcontractors				*/sub*	*31,703*
			SITEWORK				*/sqft*	*31,703*
			A1020 SPECIAL FOUNDATIONS	***1.00 lsum***			***31,703.00 /lsum***	***31,703***
	A1030		**SLAB ON GRADE**					
		3000.00	**CONCRETE**					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. Allow	3,340.00 sqft	21,536	35,825	17.17 /sqft	57,361
			Conc: Slabs On Grade		*21,536*	*35,825*	*/cuyd*	*57,361*
			CONCRETE		*21,536*	*35,825*	*/sqft*	*57,361*
			A1030 SLAB ON GRADE	***3,340.00 sqft***	***21,536***	***35,825***	***17.17 /sqft***	***57,361***
			A10 FOUNDATIONS	**######## sqft**	**229,449**	**124,347**	**0.63 /sqft**	**395,396**
B10			**SUPERSTRUCTURE**					
	B1010		**FLOOR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Rebar: Mesh On Corruform					
			Wiremesh-Corruform 6x6 6/6 Ramp	0.45 sqs	44	14	128.38 /sqs	58
			Rebar: Mesh On Corruform		*44*	*14*	*/sqs*	*58*
			Conc: Slab On Corruform					
			Conc @ Curruform 4000 psi Ramp	0.83 cuyd	57	100	199.41 /cuyd	166

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Conc: Slab On Corruform		*57*	*100*	*/cuyd*	*166*
			Finish: Protect & Cure					
			Cure Conc Elv. Slab ramp	0.45 sqs	20	5	55.30 /sqs	25
			Finish: Protect & Cure		*20*	*5*	*/sqs*	*25*
			Finish: General					
			Broom/Float Finish Elv. Slab Ramp	45.00 sqft	73	-	1.61 /sqft	73
			Finish: General		*73*		*/sqft*	*73*
			CONCRETE		*193*	*119*	*/sqft*	*321*
		5000.00	**METALS**					
			Structural: Framing					
			Angle Framing < 4" Allow	10,824.00 lb	105,692	7,118	11.01 /lb	119,138
			Structural: Framing		*105,692*	*7,118*	*/ton*	*119,138*
			Struct: Cld-Frm Framing					
			6" Track 16 ga Ramp Framing	1,352.00 lnft	12,635	2,518	11.21 /lnft	15,154
			6" Stud 16 ga Ramp Framing	1,064.00 lnft	9,085	1,766	10.20 /lnft	10,851
			10" Track 16 ga	684.00 lnft	7,540	2,441	14.59 /lnft	9,982
			10" Stud 16 ga	789.00 lnft	7,920	2,438	13.13 /lnft	10,358
			C Stud 12" 16 ga.	5,544.00 lnft	49,894	23,093	13.17 /lnft	72,987
			Struct: Cld-Frm Framing		*87,074*	*32,257*	*/lnft*	*119,332*
			Structural: Deck Roof/Fl					
			Slab Form 2" 20ga Galv Ramp	45.00 sqft	55	133	4.23 /sqft	190
			Structural: Deck Roof/Fl		*55*	*133*	*/sqft*	*190*
			METALS		*192,821*	*39,508*	*/sqft*	*238,659*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	4	4.31 /lsum	4
			Fasteners: Frame Anchors			*4*	*/each*	*4*
			Plywood: Subfloor					
			Subfloor 3/4" T & G Plywood	492.00 sqft	795	494	2.62 /sqft	1,288
			Plywood: Subfloor		*795*	*494*	*/sqft*	*1,288*
			WOOD & PLASTICS		*795*	*498*	*/sqft*	*1,293*
			B1010 FLOOR CONSTRUCTION	***1.00 lsum***	***193,809***	***40,125***	***######## /lsum***	***240,273***
	B1020		**ROOF CONSTRUCTION**					
		5000.00	**METALS**					
			Structural: Framing					
			Misc Remedial Structural Allowance	312,828.00 sqft			5.64 /sqft	1,764,350
			Misc Remedial Structural Allowance	134,712.00 sqft			5.64 /sqft	759,776
			Structural: Framing				*/ton*	*2,524,126*
			METALS				*/sqft*	*2,524,126*
			B1020 ROOF CONSTRUCTION	***450,811.00 sqft***			***5.60 /sqft***	***2,524,126***
			B10 SUPERSTRUCTURE	**######## sqft**	**193,809**	**40,125**	**4.40 /sqft**	**2,764,398**
B20			**EXTERIOR CLOSURE**					
	B2010		**EXTERIOR WALLS**					
		3000.00	**CONCRETE**					
			Precast Specialties					
			Precast Coping	288.00 lnft	6,486	11,668	64.47 /lnft	18,567
			Precast Band 18"	284.00 lnft	6,396	13,077	70.00 /lnft	19,880
			Precast Specialties		*12,882*	*24,745*	*/sqft*	*38,447*
			CONCRETE		*12,882*	*24,745*	*/sqft*	*38,447*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Exterior Scaffold	3,600.00 sqft	6,918	1,397	2.59 /sqft	9,323
			Interior Scaffold	11,076.00 sqft	16,277	4,298	2.04 /sqft	22,643
			Misc: Scaffold		*23,196*	*5,695*	*/sqft*	*31,966*
			Misc: Material Handling					
			Concrete Block	13.00 m	-	-	239.32 /m	3,111
			Brick	17.00 m	-	-	80.41 /m	1,367
			Misc: Material Handling				*/m*	*4,478*
			Mortar: All Types					
			Mortar Type "N"	8.60 cuyd	1,164	1,746	338.36 /cuyd	2,910
			Mortar Color	516.00 lbs	-	4,987	9.66 /lbs	4,987
			Mortar: All Types		*1,164*	*6,732*	*/cuyd*	*7,897*
			Mortar: Grout Fill Conc					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	32.45 cuyd	9,622	5,050	470.97 /cuyd	15,283
			Mortar: Grout Fill Conc		*9,622*	*5,050*	*/cuyd*	*15,283*
			Access: Control Joint					
			Control Joint PEJ - 4"	156.00 lnft	523	200	4.63 /lnft	723
			Control Joint PEJ - 8"	468.00 lnft	2,456	843	7.05 /lnft	3,299
			Control Joint Sealant	1,704.00 lnft	22,111	1,003	13.57 /lnft	23,114
			Access: Control Joint		*25,091*	*2,045*	*/lnft*	*27,136*
			Access: Wall Flashing					
			Flash Shelf Lead Ct. Cop 5 oz.	284.00 sqft	1,135	926	7.26 /sqft	2,062
			Access: Wall Flashing		*1,135*	*926*	*/sqft*	*2,062*
			Access: Weep Holes					
			Weepholes - Metal	142.00 each	580	132	5.01 /each	711
			Access: Weep Holes		*580*	*132*	*/each*	*711*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	6,267.85 lbs	13,708	5,284	3.03 /lbs	18,992
			Reinforce: Vertical Wall		*13,708*	*5,284*	*/lbs*	*18,992*
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 8" Hot Dippd	8.52 mlf	5,474	1,639	834.91 /mlf	7,113
			Reinforce: Horizontl Wall		*5,474*	*1,639*	*/mlf*	*7,113*
			Reinforce: Brick Anchors					
			Brick Anchors Z Ties 8"	2,025.00 each	3,543	321	1.91 /each	3,864
			Reinforce: Brick Anchors		*3,543*	*321*	*/each*	*3,864*
			Brick: All Types					
			Jumbo Brick 4"	16.20 m	65,177	24,174	5,515.48 /m	89,351
			Brick: All Types		*65,177*	*24,174*	*/m*	*89,351*
			Conc. Block: Backup					
			Blk 8" Standard Face Reg Wt	11,823.00 each	155,207	28,763	15.56 /each	183,970
			Conc. Block: Backup		*155,207*	*28,763*	*/each*	*183,970*
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	639.00 each	13,131	4,929	29.51 /each	18,857
			Conc. Block: 8" Lintel		*13,131*	*4,929*	*/each*	*18,857*
			Pre-cast/Stone Sills					
			Sills - Cast Stone 9" Stock	366.00 lnft	14,568	5,273	54.21 /lnft	19,841
			Pre-cast/Stone Sills		*14,568*	*5,273*	*/lnft*	*19,841*
			Stone Coping					
			Terra Cotta Coping Patch	24.00 lnft	1,050	749	74.95 /lnft	1,799
			Stone Coping		*1,050*	*749*	*/lnft*	*1,799*
			Stone Veneer					
			Terra Cotta Highlight Panels	36.00 sqft	365	480	26.94 /sqft	970
			Stone Veneer		*365*	*480*	*/sqft*	*970*
			Masonry Restoration					
			Cut & Repoint Brick Soft Mortr	2,802.00 sqft	22,212	1,808	11.21 /sqft	31,403
			Repoint Stone Hard Mortar Stairs	584.00 sqft	7,152	596	13.27 /sqft	7,748
			Masonry Restoration		*29,364*	*2,403*	*/m*	*39,151*
			Cleaning: Masonry					
			Clean Exist Brick Smooth Allow	693.67 sqs	172,944	13,310	268.51 /sqs	186,255
			Clean Brick - General	36.00 sqs	10,970	211	310.57 /sqs	11,181
			Clean TC Cornice Allow	4,195.00 sqft	19,572	398	4.76 /sqft	19,970
			Clean Brick - Acid Graffiti	50.00 sqft	547	22	11.37 /sqft	568
			Cleaning: Masonry		*204,033*	*13,941*	*/sqs*	*217,974*
			MASONRY		*566,408*	*108,536*	*/sqft*	*691,414*
		5000.00	**METALS**					
			Misc: Lintels					
			Stl Angles > 4000 lbs	3,501.00 lb	6,636	5,338	3.42 /lb	11,974
			Relieving Angle	6,986.00 lb	13,241	10,652	3.42 /lb	23,894
			Misc: Lintels		*19,877*	*15,991*	*/lbs*	*35,868*
			METALS		*19,877*	*15,991*	*/sqft*	*35,868*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.07 /lsum	1
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Fasteners: Frame Anchors			*6*	*/each*	*6*
			Blocking: Rough Bucks					
			2 x 6 PT Louvers	120.00 lnft	443	121	4.70 /lnft	564
			Blocking: Rough Bucks		*443*	*121*	*/mbf*	*564*
			Wood Siding					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Wood Siding					
			Hardboard Siding	252.00 sqft	925	559	5.89 /sqft	1,483
			Wood Siding		*925*	*559*	*/sqft*	*1,483*
			WOOD & PLASTICS		*1,368*	*686*	*/sqft*	*2,054*
		7000.00	**THERMAL & MOISTURE PROT**					
			Waterproofng: Elastomeric					
			Sprayed Elastomeric 25 to 45 mil	7,200.00 sqft	38,704	10,553	6.84 /sqft	49,257
			Waterproofng: Elastomeric		*38,704*	*10,553*	*/sqs*	*49,257*
			Insulation: Batt					
			Mineral Wool 4"	7,200.00 sqft	4,128	8,954	1.82 /sqft	13,082
			Mineral Wool 2"	7,200.00 sqft	2,477	5,916	1.17 /sqft	8,393
			Insulation: Batt		*6,605*	*14,870*	*/sqft*	*21,474*
			Metal Facing Panels					
			Alluminum Wall Panel	3,600.00 sqft	83,269	42,107	34.83 /sqft	125,376
			Thermal Breal Upcharge	3,600.00 sqft	51,401	42,107	25.97 /sqft	93,507
			Market Premium Upcharge	3,600.00 sqft	51,401	42,107	25.97 /sqft	93,507
			Metal Facing Panels		*186,071*	*126,320*	*/sqft*	*312,391*
			Cladding: Siding					
			Exterior Cement Board	1,952.00 sqft	9,685	4,187	7.11 /sqft	13,872
			Exterior Cement Board Soffit	220.00 sqft	1,650	472	9.65 /sqft	2,122
			Cladding: Siding		*11,334*	*4,659*	*/sqft*	*15,994*
			Sheetmetal: Soffits					
			Bridge Soffit Aluminum Allow	1,777.00 sqft	24,103	4,615	16.16 /sqft	28,718
			Sheetmetal: Soffits		*24,103*	*4,615*	*/sqft*	*28,718*
			Metal Framed Skylights					
			Bridge Glazing Allowance	3,612.00 sqft	122,610	298,650	116.63 /sqft	421,260
			Metal Framed Skylights		*122,610*	*298,650*	*/sqft*	*421,260*
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	120.00 lnft	437	11	3.73 /lnft	448
			Polyurethane Sealant 1/2"	240.00 lnft	2,799	123	12.18 /lnft	2,922
			Rake Out Masonry Jt. Filler	1,704.00 lnft	6,398	625	7.01 /lnft	11,951
			Sealant - Jt Filler Gaskt		*9,634*	*758*	*/lnft*	*15,321*
			THERMAL & MOISTURE PROT		*399,062*	*460,424*	*/sqft*	*864,414*
		9000.00	**FINISHES**					
			GWB Ext Frame: C Studs					
			Bridge Soffit C Stud 800	1,333.00 lnft	6,460	2,134	6.45 /lnft	8,594
			GWB Ext Frame: C Studs		*6,460*	*2,134*	*/each*	*8,594*
			GWB Ext Frame: Track					
			Bridge Regular Leg Track 800 20 ga	344.00 lnft	6,747	493	21.05 /lnft	7,241
			GWB Ext Frame: Track		*6,747*	*493*	*/lnft*	*7,241*
			GWB Int Frame: Furring					
			Z Furring 3.0" 20g x 12'	231.00 each	13,311	2,604	68.90 /each	15,916
			GWB Int Frame: Furring		*13,311*	*2,604*	*/lnft*	*15,916*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	254	88	342.23 /lsum	342
			Misc. Accessories	1.00 lsum	565	202	766.95 /lsum	767
			GWB: Fasteners		*819*	*290*	*/each*	*1,109*
			GWB: Boards & Sheathing					
			GWB 5/8" Head Wrap	366.00 lnft	2,703	174	7.86 /lnft	2,876
			GWB 5/8" Jamb Wrap	732.00 lnft	3,294	347	4.97 /lnft	3,641
			GWB: Boards & Sheathing		*5,997*	*521*	*/sqft*	*6,517*
			Painting: Exterior					
			Scrape & Prep Ext Misc Surfaces	3,312.00 sqft	5,575	-	1.68 /sqft	5,575
			Paint Louvers	204.00 sqft	256	121	1.85 /sqft	377
			Paint Ext Misc Exposed Metal	3,312.00 sqft	5,615	964	1.99 /sqft	6,579
			Painting: Exterior		*11,447*	*1,085*	*/sqft*	*12,532*
			FINISHES		*44,781*	*7,127*	*/sqft*	*51,908*
		15500.00	**HVAC SYSTEMS**					
			Louvers/Filters					
			Fixed Blade Stormproof	204.00 sqft	9,554	9,544	93.62 /sqft	19,098
			Louvers/Filters		*9,554*	*9,544*	*/sqft*	*19,098*
			HVAC SYSTEMS		*9,554*	*9,544*	*/sqft*	*19,098*
			B2010 EXTERIOR WALLS	***95,923.00 sqft***	***1,053,932***	***627,054***	***17.76 /sqft***	***1,703,203***
	B2020		**EXTERIOR WINDOWS**					
		4000.00	**MASONRY**					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	4,259.00 sqft	21,892	17,676	9.29 /sqft	39,568
			Flash Sill Lead Ct. Cop 5 oz.	4,194.00 sqft	19,761	17,655	8.92 /sqft	37,416
			Access: Wall Flashing		*41,653*	*35,331*	*/sqft*	*76,984*
			MASONRY		*41,653*	*35,331*	*/sqft*	*76,984*
		5000.00	**METALS**					
			Misc: Lintels					
			Stl Angles Allow 10%	3,018.00 lb	5,720	4,116	3.26 /lb	9,836
			Misc: Lintels		*5,720*	*4,116*	*/lbs*	*9,836*
			METALS		*5,720*	*4,116*	*/sqft*	*9,836*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	194	194.04 /lsum	194
			Fastners & Misc	1.00 lsum	-	46	46.35 /lsum	46
			Fasteners: Frame Anchors			*240*	*/each*	*240*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Windows	23,817.00 lnft	123,660	24,034	6.20 /lnft	147,694
			Blocking: Rough Bucks		*123,660*	*24,034*	*/mbf*	*147,694*
			WOOD & PLASTICS		*123,660*	*24,275*	*/sqft*	*147,935*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Backer Rod ½"	23,817.00 lnft	86,813	2,116	3.73 /lnft	88,929
			Polyurethane Sealant 1/2"	47,614.00 lnft	555,370	24,319	12.18 /lnft	579,689
			Sealant - Jt Filler Gaskt		*642,183*	*26,435*	*/lnft*	*668,617*
			THERMAL & MOISTURE PROT		*642,183*	*26,435*	*/sqft*	*668,617*
		8000.00	**DOORS & WINDOWS**					
			Aluminum Storefront					
			Storefront Inc Double Glaze	6,321.00 sqft	80,996	449,386	83.91 /sqft	530,381
			Aluminum Storefront		*80,996*	*449,386*	*/sqft*	*530,381*
			Window: Aluminum					
			Custom Proj 4" .125 w Ins Gl Kynar	21,038.00 sqft	299,091	1,273,424	74.75 /sqft	1,572,515
			Special Custom Proj 4" .125 w Ins Gl Kynar	3,035.00 sqft	86,295	183,708	88.96 /sqft	270,003
			Circular Custom Proj 4" .125 w Ins Gl Kynar	99.00 sqft	3,093	5,992	91.77 /sqft	9,085
			Custom Proj 4" .125 w Ins Gl Kynar	6,663.00 sqft	94,726	403,309	74.75 /sqft	498,035
			Window: Aluminum		*483,205*	*1,866,433*	*/sqft*	*2,349,639*
			Windows: Screens					
			Security Screens SS	2,200.00 sqft	4,398	53,242	26.20 /sqft	57,640
			Windows: Screens		*4,398*	*53,242*	*/each*	*57,640*
			Alum Window Walls					
			Curtn Wall Avg Ins Gl Bronz	828.00 sqft	13,785	64,489	94.53 /sqft	78,274
			Alum Window Walls		*13,785*	*64,489*	*/sqft*	*78,274*
			DOORS & WINDOWS		*582,384*	*2,433,551*	*/sqft*	*3,015,934*
			B2020 EXTERIOR WINDOWS	***37,984.00 sqft***	***1,395,599***	***2,523,707***	***103.18 /sqft***	***3,919,306***
	B2030		**EXTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	2.00 each	134	35	89.00 /each	178
			Grout Double Door Frame	24.00 each	2,160	594	120.47 /each	2,891
			Mortar: Grout Fill Conc		*2,294*	*629*	*/cuyd*	*3,069*
			Access: Wall Flashing					
			Flash Head Lead Ct. Cop 5 oz.	122.00 sqft	627	506	9.29 /sqft	1,133
			Flash Sill Lead Ct. Cop 5 oz.	57.00 sqft	269	240	8.92 /sqft	509
			Access: Wall Flashing		*896*	*746*	*/sqft*	*1,642*
			MASONRY		*3,189*	*1,375*	*/sqft*	*4,711*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	4	4.32 /lsum	4
			Fastners & Misc	1.00 lsum	-	2	2.15 /lsum	2
			Fasteners: Frame Anchors			*6*	*/each*	*6*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 PT Doors	667.00 lnft	2,309	673	4.47 /lnft	2,982

UNI 1	UNI 2	Group	Description	Takeoff Quantity		Labor Amount	Material Amount	Total Cost/Unit		Total Amount
			Blocking: Rough Bucks			*2,309*	*673*		*/mbf*	*2,982*
			WOOD & PLASTICS			*2,309*	*680*		*/sqft*	*2,988*
		7000.00	**THERMAL & MOISTURE PROT**							
			Sealant - Jt Filler Gaskt							
			Backer Rod ½"	667.00	lnft	2,431	59	3.73	/lnft	2,490
			Polyurethane Sealant 1/2"	1,334.00	lnft	15,560	681	12.18	/lnft	16,241
			Sealant - Jt Filler Gaskt			*17,991*	*741*		*/lnft*	*18,732*
			THERMAL & MOISTURE PROT			*17,991*	*741*		*/sqft*	*18,732*
		8000.00	**DOORS & WINDOWS**							
			Doors: Steel with Frames							
			H.M. Frame 16ga Galv Single	1.00	each	112	168	279.74	/each	280
			H.M. Door Ins 16ga Galv 3-0 x 7-0 Hlf Gl	1.00	each	125	701	825.89	/each	826
			Doors: Steel with Frames			*237*	*869*		*/each*	*1,106*
			Aluminum Doors & Frames							
			Alum Frame 3' x 7' Bronze Fin	1.00	each	241	381	621.95	/each	622
			Alum Frame 6' x 7' Bronze Fin	24.00	each	6,759	10,452	717.15	/each	17,212
			Alum Door Med 3'-0 x 7'-0 Half Gl	30.00	each	9,626	18,790	947.19	/each	28,416
			Alum Door Med 3'-0 x 7'-0 Full Gl	19.00	each	6,285	14,604	1,099.41	/each	20,889
			Aluminum Doors & Frames			*22,912*	*44,226*		*/each*	*67,138*
			Aluminum Storefront							
			Storefront Inc Double Glaze	399.00	sqft	5,113	28,367	83.91	/sqft	33,479
			Aluminum Storefront			*5,113*	*28,367*		*/sqft*	*33,479*
			Hardware: Finishing							
			Finishing Hardware Ext Budget	50.00	each	13,863	72,334	1,723.94	/each	86,197
			Hardware: Finishing			*13,863*	*72,334*		*/set*	*86,197*
			DOORS & WINDOWS			*42,125*	*145,795*		*/sqft*	*187,920*
		9000.00	**FINISHES**							
			Painting: Exterior							
			Paint Ext Door & Frame	1.00	each	72	15	86.27	/each	86
			Painting: Exterior			*72*	*15*		*/sqft*	*86*
			FINISHES			*72*	*15*		*/sqft*	*86*
			B2030 EXTERIOR DOORS	***50.00***	***lvs***	***65,685***	***148,605***	***4,288.74***	***/lvs***	***214,437***
			B20 EXTERIOR CLOSURE	########	**sqft**	**2,515,217**	**3,299,366**	**9.29**	**/sqft**	**5,836,946**
B30			**ROOFING**							
	B3010		**ROOF COVERINGS**							
		2050.00	**DEMOLITION**							
			Demo: General							
			General Disposal	1,171.00	cuyd	26,736	-	31.41	/cuyd	36,775
			Demo: General			*26,736*			*/cuyd*	*36,775*
			Demo: Concrete							
			Remove Precast Concrete Coping	284.00	sqft	1,377	-	203.43	/sqft	57,773
			Demo: Concrete			*1,377*			*/cuyd*	*57,773*
			Demo: Roofing							
			Remove Membrane Roof	114,155.00	sqft	235,706	-	2.07	/sqft	235,706
			Remove Skylights	1,784.00	sqft	15,171	-	8.50	/sqft	15,171
			Remove Roof Drains	46.00	each	2,504	-	54.43	/each	2,504
			Remove Coping	1,548.00	lnft	6,450	-	4.17	/lnft	6,450
			Demo: Roofing			*259,831*			*/sqs*	*259,831*
			DEMOLITION			*287,944*			*/sqft*	*354,380*
		7000.00	**THERMAL & MOISTURE PROT**							
			Dampproofing: VaprBarrier							
			Vapor Retarder Check spec?	653.56	sq	142,388	92,573	359.51	/sq	234,961
			Poly Vapor Barrier 8 mil Fire Retardant	510.07	sq	23,921	7,651	61.90	/sq	31,573
			Dampproofing: VaprBarrier			*166,310*	*100,224*		*/sqs*	*266,534*
			Insulation: Protection Bd							
			Hardbd Protection Bd 1/2"	114,155.00	sqft	173,398	88,221	2.29	/sqft	261,619
			Insulation: Protection Bd			*173,398*	*88,221*		*/sqft*	*261,619*
			Insulation: Roof 1st Lay							
			Poly Iso 4.0" Layer 1	1,141.55	sqs	250,213	323,088	502.21	/sqs	573,301

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Insulation: Roof 1st Lay		*250,213*	*323,088*	*/sqs*	*573,301*
			Insulation: Roof 2nd Lay					
			Tapered Upcharge	171.31 sq	26,906	22,464	288.19 /sq	49,370
			Poly Iso 4.0" Layer 2	1,141.55 sqs	120,165	323,088	388.29 /sqs	443,253
			Insulation: Roof 2nd Lay		*147,071*	*345,552*	*/sqs*	*492,623*
			Membrane: Mod Bit					
			160 Mil SBS Gran Cap Sheet Check Spec	65,356.00 sqft	376,492	140,055	8.35 /sqft	545,951
			160 Mil SBS Gran Cap Sheet	48,799.00 sqft	281,113	104,574	8.35 /sqft	407,642
			SBS Membrane Base Sheet Check Spec	65,356.00 sqft	254,132	132,798	6.24 /sqft	407,686
			SBS Membrane Smooth 145 mil	48,799.00 sqft	400,587	99,156	10.88 /sqft	530,738
			Membrane: Mod Bit		*1,312,325*	*476,583*	*/sqs*	*1,892,018*
			Sheetmetal: Coping					
			Coping - L. C. Copper	1,832.00 lnft	63,039	181,852	133.67 /lnft	244,891
			Sheetmetal: Coping		*63,039*	*181,852*	*/lnft*	*244,891*
			Sheetmetal: Exp Joints					
			Roof to Roof Joint Alum Cover	346.00 lnft	8,462	20,608	84.02 /lnft	29,069
			Expansion Joint Filler 9"	346.00 lnft	3,784	2,294	17.57 /lnft	6,078
			Interior Edge	1,362.00 lnft	17,570	42,872	44.38 /lnft	60,442
			Sheetmetal: Exp Joints		*29,815*	*65,774*	*/lnft*	*95,589*
			Sheetmetal: Vents/Accsry					
			Misc Roof Access	114,155.00 sqft	190,738	166,044	3.13 /sqft	356,781
			Sheetmetal: Vents/Accsry		*190,738*	*166,044*	*/each*	*356,781*
			THERMAL & MOISTURE PROT		*2,332,909*	*1,747,338*	*/sqft*	*4,183,357*
			B3010 ROOF COVERINGS	***114,155.00 sqft***	***2,620,854***	***1,747,338***	***39.75 /sqft***	***4,537,737***
	B3020		**ROOF OPENINGS**					
		7000.00	**THERMAL & MOISTURE PROT**					
			Membrane: Base Flashing					
			Flash Vents PVC	40.00 each	917	841	43.96 /each	1,758
			Flash Drains PVC	46.00 each	1,181	967	46.69 /each	2,148
			Membrane: Base Flashing		*2,098*	*1,808*	*/lnft*	*3,906*
			Sheetmetal: Flashing					
			Flash Roof Fans	24.00 each	2,385	3,389	240.59 /each	5,774
			Flash AHU etc	17.00 each	3,379	4,801	481.19 /each	8,180
			Flash Roof Fans	12.00 each	1,193	1,695	240.59 /each	2,887
			Flash AHU etc	25.00 each	4,969	7,061	481.19 /each	12,030
			Flash Skylights	498.00 lnft	4,551	1,675	12.50 /lnft	6,226
			Sheetmetal: Flashing		*16,476*	*18,621*	*/lnft*	*35,097*
			Metal Framed Skylights					
			Lean to Skyroof Translucent Panel	544.00 sqft	14,190	23,076	68.51 /sqft	37,267
			Lean to Skyroof Double Med Span	1,240.00 sqft	33,900	61,289	76.77 /sqft	95,188
			Metal Framed Skylights		*48,090*	*84,365*	*/sqft*	*132,455*
			THERMAL & MOISTURE PROT		*66,664*	*104,794*	*/sqft*	*171,458*
			B3020 ROOF OPENINGS	***1,784.00 sqft***	***66,664***	***104,794***	***96.11 /sqft***	***171,458***
			B30 ROOFING	**######## sqft**	**2,687,518**	**1,852,132**	**7.49 /sqft**	**4,709,195**
C10			**INTERIOR CONSTRUCTION**					
	C1010		**PARTITIONS**					
		3000.00	**CONCRETE**					
			Rebar: Dowels					
			Drill & Grout No. 4x1' Dowel	599.00 each	35,506	6,185	73.51 /each	44,032
			Rebar: Dowels		*35,506*	*6,185*	*/each*	*44,032*
			CONCRETE		*35,506*	*6,185*	*/sqft*	*44,032*
		4000.00	**MASONRY**					
			Misc: Scaffold					
			Interior Scaffold	18,659.19 sqft	27,422	7,442	2.06 /sqft	38,346
			Misc: Scaffold		*27,422*	*7,442*	*/sqft*	*38,346*
			Misc: Material Handling					
			Concrete Block	21.00 m	-	-	239.32 /m	5,026
			Misc: Material Handling				*/m*	*5,026*
			Mortar: All Types					
			Mortar Type "N"	51.75 cuyd	7,006	10,504	338.36 /cuyd	17,510

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Mortar: All Types		*7,006*	*10,504*	*/cuyd*	*17,510*
			Mortar: Grout Fill Conc					
			Grout Fill 3000 psi,1/2" Gravl	44.86 cuyd	13,301	6,573	461.98 /cuyd	20,724
			Mortar: Grout Fill Conc		*13,301*	*6,573*	*/cuyd*	*20,724*
			Reinforce: Vertical Wall					
			Re-Bar #5 & #6	7,331.89 lbs	16,035	6,272	3.04 /lbs	22,307
			Reinforce: Vertical Wall		*16,035*	*6,272*	*/lbs*	*22,307*
			Reinforce: Horizontl Wall					
			Horiz Wall Reinf 4" Hot Dippd	3.42 mlf	1,631	457	610.39 /mlf	2,088
			Horiz Wall Reinf 8" Hot Dippd	10.94 mlf	7,029	2,259	849.06 /mlf	9,289
			Reinforce: Horizontl Wall		*8,660*	*2,716*	*/mlf*	*11,376*
			Conc. Block: 8"					
			Blk 8" Standard Face Reg Wt	14,796.00 each	205,334	37,323	16.40 /each	242,657
			Blk 8" Standard Face Reg Wt	51,194.00 sqft	1,043,278	274,920	25.75 /sqft	1,318,198
			Blk 8" Standard Face Reg Wt - Infill	307.00 each	6,218	804	22.87 /each	7,022
			Conc. Block: 8"		*1,254,830*	*313,048*	*/each*	*1,567,878*
			Conc. Block: 6"					
			Blk 6" Standard Face Reg Wt Add	14,359.00 sqft	262,102	63,266	22.66 /sqft	325,368
			Conc. Block: 6"		*262,102*	*63,266*	*/each*	*325,368*
			Conc. Block: 4"					
			Blk 4" Standard Face Reg Wt	5,490.00 each	98,839	8,309	19.52 /each	107,148
			Conc. Block: 4"		*98,839*	*8,309*	*/each*	*107,148*
			Conc. Block: 8" Lintel					
			Lintel 8" Stand Face Reg Wt	821.00 each	16,871	6,333	29.52 /each	24,234
			Conc. Block: 8" Lintel		*16,871*	*6,333*	*/each*	*24,234*
			Unit Masonry Glazed Conc					
			CMU Glazed 1 Face 4"	320.00 each	6,481	3,229	30.34 /each	9,710
			Unit Masonry Glazed Conc		*6,481*	*3,229*	*/sqft*	*9,710*
			Unit Masonry Glass					
			Glass Block 4" 8"x8" Under 1000 (sqft)	176.00 sqft	6,403	3,586	56.76 /sqft	9,989
			Unit Masonry Glass		*6,403*	*3,586*	*/each*	*9,989*
			MASONRY		*1,717,950*	*431,277*	*/sqft*	*2,159,615*
		5000.00	**METALS**					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	23,208.00 lb	75,951	26,757	4.61 /lb	106,953
			Misc: Bolt On Material		*75,951*	*26,757*	*/lbs*	*106,953*
			METALS		*75,951*	*26,757*	*/sqft*	*106,953*
		7000.00	**THERMAL & MOISTURE PROT**					
			Insulation: Sound Blankt					
			Sound Blanket 16" x 3- 5/8"	12,622.92 sqft	14,474	7,428	1.74 /sqft	21,903
			Insulation: Sound Blankt		*14,474*	*7,428*	*/sqft*	*21,903*
			THERMAL & MOISTURE PROT		*14,474*	*7,428*	*/sqft*	*21,903*
		9000.00	**FINISHES**					
			GWB Int Frame: S Studs					
			S Infill Stud 358 20 ga	252.00 lnft	1,676	141	7.21 /lnft	1,817
			S Bracing Stud 600 20 ga	9,348.00 lnft	69,673	8,979	8.41 /lnft	78,652
			S Stud 600 x 13' 20 ga	10.00 each	413	119	53.20 /each	532
			GWB Int Frame: S Studs		*71,762*	*9,239*	*/each*	*81,001*
			GWB Int Frame: Track					
			Track:Infill 20 ga 3-5/8"	96.00 lnft	727	62	8.22 /lnft	789
			Track: Standard 20 ga 6.00 "	5,426.00 lnft	37,331	6,305	8.04 /lnft	43,636
			GWB Int Frame: Track		*38,057*	*6,368*	*/lnft*	*44,425*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	4,523	1,625	6,147.44 /lsum	6,147
			Misc. Accessories	1.00 lsum	4,015	1,443	5,458.66 /lsum	5,459
			GWB: Fasteners		*8,538*	*3,068*	*/each*	*11,606*
			GWB: Boards & Sheathing					
			GWB 5/8" Infill	672.00 sqft	1,473	348	2.71 /sqft	1,821
			GWB 5/8" Infill @ Bracing of Demountable	49,851.84 sqft	109,286	25,795	2.71 /sqft	135,082
			GWB: Boards & Sheathing		*110,759*	*26,143*	*/sqft*	*136,902*
			GWB: Finish Mud/Tape					
			Acoustic Sealant	48.00 lnft	119	2	2.51 /lnft	121
			Labor GWB Wall Finish	264.00 sqft	257	20	1.05 /sqft	277
			Labor GWB Infill Finish	336.00 sqft	625	28	1.94 /sqft	653

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB: Finish Mud/Tape		*1,001*	*49*	*/sqft*	*1,051*
			GWB: Wall Board Systems					
			GWB On Studs 3-5/8"	12,636.00 sqft	104,322	31,466	10.75 /sqft	135,788
			GWB On Studs 6"	23,244.00 sqft	240,252	99,226	14.61 /sqft	339,478
			GWB On Studs 3-5/8" Additional	7,642.00 sqft	63,092	19,030	10.75 /sqft	82,122
			GWB On Studs 6"	11,986.00 sqft	25,650	51,167	6.41 /sqft	76,817
			GWB On Studs 3-5/8" Add	3,404.00 sqft	4,902	8,477	3.93 /sqft	13,378
			GWB: Wall Board Systems		*438,218*	*209,365*	*/sqft*	*647,583*
			Shaftwall					
			Shaftwall 2 Hour Assembly	7,623.00 sqft	75,641	22,348	12.85 /sqft	97,988
			Shaftwall		*75,641*	*22,348*	*/sqft*	*97,988*
			FINISHES		*743,977*	*276,579*	*/sqft*	*1,020,556*
		10000.00	**SPECIALTIES**					
			Partitions Wire Mesh					
			Wire Mesh Partition 4 x 10	78.00 each	11,250	16,565	356.59 /each	27,814
			Partit Doors Swinging 3 x 7	5.00 each	1,693	1,639	666.24 /each	3,331
			Partitions Wire Mesh		*12,942*	*18,203*	*/each*	*31,145*
			SPECIALTIES		*12,942*	*18,203*	*/sqft*	*31,145*
			C1010 PARTITIONS	***166,824.00 sqft***	***2,600,801***	***766,430***	***20.29 /sqft***	***3,384,204***
	C1020		**INTERIOR DOORS**					
		4000.00	**MASONRY**					
			Mortar: Grout Fill Conc					
			Grout Single Door Frame	63.00 each	4,224	1,114	89.00 /each	5,607
			Grout Double Door Frame	4.00 each	360	99	120.47 /each	482
			Mortar: Grout Fill Conc		*4,584*	*1,213*	*/cuyd*	*6,089*
			Stone Marble					
			Marble Threshold	84.00 lnft	4,037	2,382	76.41 /lnft	6,419
			Stone Marble		*4,037*	*2,382*	*/sqft*	*6,419*
			MASONRY		*8,621*	*3,594*	*/sqft*	*12,508*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	42	42.04 /lsum	42
			Fastners & Misc	1.00 lsum	-	8	7.55 /lsum	8
			Fasteners: Frame Anchors			*50*	*/each*	*50*
			Blocking: Rough Bucks					
			Rough Bucks 2 x 6 Doors	8,139.00 lnft	28,172	4,150	3.97 /lnft	32,322
			Rough Bucks 2 x 6 Doors	1,604.00 lnft	5,552	742	3.92 /lnft	6,294
			Blocking: Rough Bucks		*33,724*	*4,892*	*/mbf*	*38,616*
			WOOD & PLASTICS		*33,724*	*4,941*	*/sqft*	*38,666*
		7000.00	**THERMAL & MOISTURE PROT**					
			Sealant - Jt Filler Gaskt					
			Polysulfide Sealant 1/4" Interior	1,271.00 lnft	14,640	367	11.81 /lnft	15,007
			Sealant - Jt Filler Gaskt		*14,640*	*367*	*/lnft*	*15,007*
			THERMAL & MOISTURE PROT		*14,640*	*367*	*/sqft*	*15,007*
		8000.00	**DOORS & WINDOWS**					
			Doors: Steel with Frames					
			H.M. Frame 18ga Interior Single 10 new opng	281.00 each	33,459	48,164	290.47 /each	81,623
			H.M. Frame 18ga Interior Single	109.00 each	12,979	18,683	290.47 /each	31,662
			H.M. Frame 18ga Interior Single Add	175.00 each	20,838	29,995	290.47 /each	50,833
			H.M. Frame 18ga Interior Double	46.00 each	6,841	10,513	377.26 /each	17,354
			H.M. Frame 18ga Interior Double Add	21.00 each	3,123	4,799	377.26 /each	7,922
			H.M. Door 18ga 3-0 x 7-0 Flush	43.00 each	4,232	20,303	570.58 /each	24,535
			H.M. Door 18ga 3-0 x 7-0 Flush Add	19.00 each	1,870	8,971	570.58 /each	10,841
			H.M. Door 18 ga 3-0 x 7-0 Vision	220.00 each	24,597	123,323	672.36 /each	147,920
			H.M. Door 18 ga 3-0 x 7-0 Vision Add	99.00 each	11,069	55,495	672.36 /each	66,564
			H.M. Door 18ga 3-0 x 7-0 Vision Lab	65.00 each	6,847	44,705	793.11 /each	51,552
			H.M. Door 18ga 3-0 x 7-0 Vision Lab Add	29.00 each	3,055	19,945	793.11 /each	23,000
			Metal Sidelight Frame Only Int Allow	2,971.00 sqft	34,279	117,220	50.99 /sqft	151,500
			Metal Sidelight Frame Only Int Add	1,331.00 sqft	15,357	52,514	50.99 /sqft	67,871
			Metal Sidelight Frame Only Int	842.00 sqft	9,715	33,221	50.99 /sqft	42,936
			Doors: Steel with Frames		*188,261*	*587,852*	*/each*	*776,113*
			Doors: Wood					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Doors: Wood					
			Door M Core 3-0 x 7-0 Flush	87.00 each	12,939	25,135	437.63 /each	38,074
			Door M Core 3-0 x 7-0 Flush Add	40.00 each	5,949	11,556	437.63 /each	17,505
			Door M Core 3-0 x 7-0 Vision Default 10 new	290.00 each	45,305	93,473	478.55 /each	138,778
			Door M Core 3-0 x 7-0 Vision	9.00 each	1,406	2,901	478.55 /each	4,307
			Door M Core 3-0 x 7-0 Vision Add	134.00 each	20,934	43,191	478.55 /each	64,125
			Door M Core 3-0 x 7-0 Louver	3.00 each	498	1,277	591.84 /each	1,776
			STC Acoustical Upgrade Allow	9.00 each	7,920	36,955	4,986.11 /each	44,875
			Door M Core 3-0 x 7-0 Louver Add	1.00 each	166	426	591.84 /each	592
			STC Acoustical Upgrade Allow Add	4.00 each	3,520	16,424	4,986.11 /each	19,944
			Doors: Wood		*98,637*	*231,339*	*/each*	*329,976*
			Doors: Access					
			Access Door Fire Rated 4' x 4'	1.00 each	118	619	737.11 /each	737
			Doors: Access		*118*	*619*	*/each*	*737*
			Hardware: Finishing					
			Finishing Hardware Int Budget w Closer	677.00 each	112,640	657,555	1,137.66 /each	770,195
			Finishing Hardware Int Budget w Closer Add	363.00 each	60,396	352,574	1,137.66 /each	412,970
			HC Electric Opener Upcharge Allow CHECK w your HW consultant?	276.00 each	163,208	515,319	2,458.43 /each	678,526
			HC Electric Opener Single	4.00 each	2,365	12,733	3,774.67 /each	15,099
			Hardware: Finishing		*338,609*	*1,538,181*	*/set*	*1,876,790*
			Glass: All Types					
			Glass Sheet 1/4" Tempered Allow	4,302.00 sqft	78,003	50,549	29.88 /sqft	128,552
			Glass Sheet 1/4" Tempered	842.00 sqft	15,267	9,894	29.88 /sqft	25,161
			Glass: All Types		*93,269*	*60,443*	*/sqft*	*153,712*
			DOORS & WINDOWS		*718,895*	*2,418,434*	*/sqft*	*3,137,329*
		9000.00	**FINISHES**					
			GWB: Finish Mud/Tape					
			Acoustic Sealant	16,278.00 lnft	40,347	542	2.51 /lnft	40,889
			GWB: Finish Mud/Tape		*40,347*	*542*	*/sqft*	*40,889*
			Painting: Interior					
			Paint Wd Door & Metal Frame	529.00 each	34,543	6,729	78.02 /each	41,272
			Refinish & Stain Exist Door	7.00 each	904	46	135.73 /each	950
			Paint Metal Door & Frame	457.00 each	24,861	5,222	65.83 /each	30,083
			Paint Exist Metal Door & Frame	223.00 each	7,253	2,332	42.98 /each	9,585
			Paint Exist Frame	5.00 each	54	17	14.35 /each	72
			Paint Int Bor. Lt. Frame	5,144.00 sqft	18,231	832	3.71 /sqft	19,062
			Painting: Interior		*85,847*	*15,178*	*/sqft*	*101,025*
			FINISHES		*126,193*	*15,720*	*/sqft*	*141,913*
			C1020 INTERIOR DOORS	***1,040.00 lvs***	***902,073***	***2,443,057***	***3,216.75 /lvs***	***3,345,422***
	C1030		**SPECIALTIES/MILLWORK**					
		5000.00	**METALS**					
			Misc: Ladders					
			Ladders	12.00 vlf	810	660	125.65 /vlf	1,508
			Misc: Ladders		*810*	*660*	*/vlf*	*1,508*
			METALS		*810*	*660*	*/sqft*	*1,508*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	603	602.60 /lsum	603
			Fastners & Misc	1.00 lsum	-	239	239.32 /lsum	239
			Fasteners: Frame Anchors			*842*	*/each*	*842*
			Blocking: Misc.					
			Block Toilet Partition & Urinal	126.00 each	5,288	1,175	51.29 /each	6,463
			Block H.C. Toilet Partition	36.00 each	2,270	446	75.46 /each	2,717
			Block Misc Toilet Accessories	750.00 each	18,920	3,153	29.43 /each	22,073
			Blocking 2 x 4 R.L.	11,241.00 lnft	43,825	3,741	4.23 /lnft	47,566
			Blocking 2 x 6 R.L.	2,298.00 lnft	11,067	1,172	5.33 /lnft	12,239
			Blocking: Misc.		*81,370*	*9,687*	*/mbf*	*91,057*
			Plywood: Panel Board					
			Panel Board	73.00 each	12,460	2,400	203.55 /each	14,859
			Plywood: Panel Board		*12,460*	*2,400*	*/each*	*14,859*
			I Trim: Cabinets					
			Counter Tops Custom p Lam 24" B.S.	22.00 lnft	804	1,094	86.25 /lnft	1,897

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			I Trim: Cabinets		*804*	*1,094*	*/lnft*	*1,897*
			I Trim: Shelving					
			Custom Wood Shelving	236.00 lnft	13,533	4,710	77.30 /lnft	18,243
			I Trim: Shelving		*13,533*	*4,710*	*/lnft*	*18,243*
			I Trim: Dr & Window Matrl					
			Window Stools (Wood)	4,194.00 lnft	36,893	63,131	23.85 /lnft	100,024
			Apron At Stools	4,194.00 lnft	17,746	12,433	7.20 /lnft	30,179
			I Trim: Dr & Window Matrl		*54,639*	*75,563*	*/lnft*	*130,203*
			WOOD & PLASTICS		*162,806*	*94,296*	*/sqft*	*257,102*
		8000.00	**DOORS & WINDOWS**					
			Glass: All Types					
			Glass Mirror Plated	408.00 sqft	3,856	3,936	19.10 /sqft	7,792
			Glass: All Types		*3,856*	*3,936*	*/sqft*	*7,792*
			DOORS & WINDOWS		*3,856*	*3,936*	*/sqft*	*7,792*
		9000.00	**FINISHES**					
			Painting: Interior					
			Refinish Counter	66.00 lnft	205	19	3.38 /lnft	223
			Paint Lockers	2,987.00 lnft	20,378	3,220	7.90 /lnft	23,598
			Paint Ladder	12.00 lnft	54	9	5.26 /lnft	63
			Refinish Exist Trim	312.00 lnft	803	595	4.48 /lnft	1,399
			Refinish Exist Window Trim	14,246.00 lnft	36,676	27,182	4.48 /lnft	63,859
			Painting: Interior		*58,117*	*31,025*	*/sqft*	*89,142*
			FINISHES		*58,117*	*31,025*	*/sqft*	*89,142*
		10000.00	**SPECIALTIES**					
			Chalkboards/Tackboards					
			Markerboard Alum Fr	10,560.00 sqft	45,081	144,004	17.91 /sqft	189,085
			Tackboard Alum Fr	10,560.00 sqft	45,081	97,330	13.49 /sqft	142,412
			Chalkboards/Tackboards		*90,163*	*241,334*	*/sqft*	*331,497*
			Toilet Partition Phenolic					
			HDPE Toilet Partition Reg Flr Mtd	76.00 each	21,107	100,362	1,598.27 /each	121,468
			HDPE Toilet Partition HC Flr Mtd	36.00 each	9,998	56,233	1,839.74 /each	66,231
			HDPE Urinal Screens Wall Hung	50.00 each	9,715	28,675	767.80 /each	38,390
			Toilet Partition Phenolic		*40,820*	*185,269*	*/each*	*226,089*
			Hospital Cubicles					
			Cubicle Hosp Track Ceil Mountd	72.00 lnft	190	943	15.74 /lnft	1,133
			Hospital Cubicles		*190*	*943*	*/lnft*	*1,133*
			Directory/Bulletin Boards					
			Buiding Directory	2.00 each	1,756	3,603	2,679.38 /each	5,359
			Directory/Bulletin Boards		*1,756*	*3,603*	*/each*	*5,359*
			Plaques					
			Custom Plaque	2.00 each	1,454	10,295	5,874.55 /each	11,749
			Plaques		*1,454*	*10,295*	*/each*	*11,749*
			Signs					
			Interior Stock	297.00 each	6,471	4,979	38.55 /each	11,449
			Interior Custom	134.00 each	8,774	8,999	132.63 /each	17,773
			Signs		*15,244*	*13,978*	*/each*	*29,222*
			Lockers					
			Locker Single Tier 6'	1,383.00 each	206,351	348,865	401.46 /each	555,215
			Locker HC Single Tier 6'	73.00 each	11,986	27,307	538.26 /each	39,293
			Lockers		*218,337*	*376,171*	*/each*	*594,508*
			Fire Extinguishers					
			Fire Ext Allow	38.00 each	3,595	7,742	298.34 /each	11,337
			Fire Ext Cabinet	25.00 each	5,693	5,094	431.47 /each	10,787
			Fire Extinguishers		*9,288*	*12,836*	*/each*	*22,124*
			Toilet Accessories					
			Grab Bar 1-1/4" S.S. 36"	86.00 each	4,122	3,792	92.02 /each	7,914
			Mirror S.S.	96.00 each	5,977	6,484	129.80 /each	12,461
			Mirror HC	57.00 each	4,261	4,621	155.83 /each	8,882
			Janitor Utility Unit	7.00 each	336	624	137.13 /each	960
			Sanitary Napkin Dispenser Recessed	22.00 each	1,405	16,079	794.75 /each	17,485
			Sanitary Napkin Dispenser Surface	55.00 each	2,195	12,629	269.52 /each	14,823
			Clothes Hook Single	31.00 each	825	500	42.72 /each	1,324
			Soap Dispenser	150.00 each	14,379	27,004	275.89 /each	41,383
			Toilet Tissue Disp Dbl	143.00 each	5,706	4,239	69.55 /each	9,945
			Towel Dispenser Surface Mtd	32.00 each	1,919	1,402	103.79 /each	3,321
			Towel Disp/Waste Recpt	25.00 each	4,793	8,408	528.06 /each	13,201

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Toilet Accessories					
			Hand Dryer	26.00 each	6,231	19,564	992.10 /each	25,795
			Toilet Accessories		*52,149*	*105,346*	*/each*	*157,495*
			SPECIALTIES		*429,401*	*949,775*	*/sqft*	*1,379,175*
		11000.00	**EQUIPMENT**					
			Equip: Gym					
			Dance Bar	68.00 lnft	2,331	12,902	224.01 /lnft	15,233
			Equip: Gym		*2,331*	*12,902*	*/lsum*	*15,233*
			EQUIPMENT		*2,331*	*12,902*	*/sqft*	*15,233*
			C1030	***450,811.00 sqft***	***657,321***	***1,092,593***	***3.88 /sqft***	***1,749,952***
			SPECIALTIES/MILLWORK					
			C10 INTERIOR CONSTRUCTION	**######## sqft**	**4,160,194**	**4,302,080**	**13.49 /sqft**	**8,479,578**
C20			**STAIRCASES**					
	C2010		**STAIR CONSTRUCTION**					
		3000.00	**CONCRETE**					
			Forms: Stairs					
			Stair Forms	376.00 sqft	8,308	1,056	24.91 /sqft	9,364
			Forms: Stairs		*8,308*	*1,056*	*/sqft*	*9,364*
			Rebar: Steps & Stairs					
			Step-Stair Rebar #5	0.07 ton	165	88	3,615.60 /ton	253
			Rebar: Steps & Stairs		*165*	*88*	*/ton*	*253*
			Conc: Stairs & Steps					
			Stair/Step Conc 4000 psi	4.70 cuyd	186	565	165.84 /cuyd	779
			Conc: Stairs & Steps		*186*	*565*	*/cuyd*	*779*
			Conc: Fill Pan Stairs					
			Fill Pan Stairs 3000 psi	20.80 cuyd	1,257	2,345	173.19 /cuyd	3,602
			Conc: Fill Pan Stairs		*1,257*	*2,345*	*/cuyd*	*3,602*
			Finish: Protect & Cure					
			Cure Conc Ext Stair	1.25 sqs	34	13	37.86 /sqs	47
			Finish: Protect & Cure		*34*	*13*	*/sqs*	*47*
			Finish: General					
			Stair Finish	290.00 sqft	935	1	3.23 /sqft	936
			Rub Risers	125.00 lnft	604	8	4.90 /lnft	613
			Finish: General		*1,539*	*9*	*/sqft*	*1,548*
			CONCRETE		*11,489*	*4,076*	*/sqft*	*15,595*
		5000.00	**METALS**					
			Stairs: Stair Parts					
			Custom Steel Stairs 4'-0"	47.00 risr	5,127	33,186	820.26 /risr	38,552
			Custom Steel Stairs 5'-0"	140.00 risr	23,306	109,417	955.78 /risr	133,809
			Custom Steel Stairs 6'-0"	402.00 risr	70,341	333,251	1,012.07 /risr	406,851
			Custom Steel Stairs 7'-0"	52.00 risr	9,507	48,488	1,123.82 /risr	58,438
			Stair Railing Steel 1-1/2" 2 pipe	189.00 lnft	4,412	5,236	52.17 /lnft	9,860
			Stair Railing Galv 1-1/2" 2 pipe	658.00 lnft	15,433	28,302	67.58 /lnft	44,470
			Wall Rail Steel 1-1/2" 1 pipe	900.00 lnft	21,403	14,019	40.48 /lnft	36,428
			Wall Rail Galv 1-1/2" 1 pipe	6.00 lnft	143	132	46.88 /lnft	281
			Wall Railing Steel 1-1/2" 2 Pipe	132.00 lnft	4,406	3,863	64.21 /lnft	8,476
			Wall Rail Steel Galv 1-1/2" 2 pipe	40.00 lnft	1,344	1,363	69.23 /lnft	2,769
			Balcony Rail Allow	89.00 lnft	4,621	25,545	341.38 /lnft	30,383
			Ornamental Steel Well Rail Mid	1,129.00 lnft	87,321	112,396	180.53 /lnft	203,823
			Ornamental Alum Well Rail Mid	303.00 lnft	23,435	59,839	278.47 /lnft	84,377
			Ornamental Steel Well Rail Mid	63.00 lnft	4,873	6,272	180.53 /lnft	11,374
			Landing Steel Pan	1,829.00 sqft	45,691	134,172	99.50 /sqft	181,981
			Stairs: Stair Parts		*321,362*	*915,481*	*/flt*	*1,251,872*
			METALS		*321,362*	*915,481*	*/sqft*	*1,251,872*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	12	11.85 /lsum	12
			Fasteners: Frame Anchors			*12*	*/each*	*12*
			Framing: Stairs					
			Stair Ledger 2x12	8.00 lnft	57	12	8.64 /lnft	69
			Stair Stringer 2x12	36.00 lnft	561	53	17.06 /lnft	614
			Stair Risers Poplar	64.00 lnft	1,013	304	20.57 /lnft	1,316
			Stair Tread Oak 1-1/16" x 9-1/2"	56.00 lnft	1,040	821	33.23 /lnft	1,861

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Framing: Stairs		*2,671*	*1,190*	*/mbf*	*3,861*
			WOOD & PLASTICS		*2,671*	*1,201*	*/sqft*	*3,872*
			C2010 STAIR CONSTRUCTION	***21.00 flt***	***335,522***	***920,758***	***60,539.97 /flt***	***1,271,339***
	C2020		**STAIR FINISHES**					
		9000.00	**FINISHES**					
			Flooring Resilient Tile					
			Floor Vinyl Composition Tile 1/8"	1,168.00 sqft	1,476	3,087	3.91 /sqft	4,562
			Radial Rubber Floor 3/16"	1,829.00 sqft	15,214	14,439	16.21 /sqft	29,653
			Floor Resil Tile Safety Tread	4,786.00 lnft	24,189	53,672	16.27 /lnft	77,861
			Floor Resil Rubber Riser	5,284.00 lnft	12,240	27,911	7.60 /lnft	40,151
			Flooring Resilient Tile		*53,119*	*99,109*	*/sqft*	*152,228*
			Painting: Interior					
			Paint Stair Assembly	5,325.00 sqft	17,928	4,018	4.12 /sqft	21,947
			Paint Int Pipe Rails	10,101.00 lnft	11,634	2,613	1.41 /lnft	14,248
			Painting: Interior		*29,563*	*6,632*	*/sqft*	*36,194*
			FINISHES		*82,681*	*105,741*	*/sqft*	*188,422*
			C2020 STAIR FINISHES	***28,493.00 sqft***	***82,681***	***105,741***	***6.61 /sqft***	***188,422***
			C20 STAIRCASES	**######## sqft**	**418,204**	**1,026,499**	**2.32 /sqft**	**1,459,761**
C30			**INTERIOR FINISHES**					
	C3010		**WALL FINISHES**					
		4000.00	**MASONRY**					
			Unit Masonry Glazed Conc					
			Clean Glazed CMU	522.48 sqft	457	41	0.95 /sqft	498
			Unit Masonry Glazed Conc		*457*	*41*	*/sqft*	*498*
			Masonry Restoration					
			Cut & Repoint CMU Hard Mortar	543.00 lnft	6,181	679	16.46 /lnft	8,940
			Cut & Repoint Brick Soft Mortr	279.90 sqft	2,219	181	11.21 /sqft	3,137
			Repoint Brick Soft Mortar Allow	2,556.00 sqft	35,030	1,996	14.49 /sqft	37,027
			Masonry Restoration		*43,430*	*2,856*	*/m*	*49,103*
			Cleaning: Masonry					
			Clean Exist Brick Smooth	141.18 sqs	35,199	2,709	268.51 /sqs	37,908
			Cleaning: Masonry		*35,199*	*2,709*	*/sqs*	*37,908*
			MASONRY		*79,086*	*5,605*	*/sqft*	*87,509*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1,452	1,452.06 /lsum	1,452
			Fasteners: Frame Anchors			*1,452*	*/each*	*1,452*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	1,882.00 lnft	7,337	626	4.23 /lnft	7,964
			Blocking: Misc.		*7,337*	*626*	*/mbf*	*7,964*
			Prefinished Wood Paneling					
			Raised Wood Panel Arch Grade Allow	8,670.00 sqft	95,575	144,507	27.69 /sqft	240,082
			Prefinished Wood Paneling		*95,575*	*144,507*	*/sqft*	*240,082*
			WOOD & PLASTICS		*102,912*	*146,586*	*/sqft*	*249,498*
		9000.00	**FINISHES**					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch @ Wall Removal	3,192.00 sqft	65,762	4,693	22.62 /sqft	72,190
			Plaster Patch @ MEP Removal Allow	3,215.00 sqft	66,236	4,727	22.62 /sqft	72,710
			Plaster Patch @ CB/TB Removal Allow	8,000.00 sqft	164,817	11,763	22.62 /sqft	180,926
			Plaster Patch @ Wall Removal	2,431.00 sqft	50,084	3,575	22.62 /sqft	54,979
			Lath/Plastr: Gyp Plaster		*346,898*	*24,758*	*/sqft*	*380,805*
			Lath/Plastr: Finish Coat					
			Veneer Plaster Skim Ct Patch 10% 1 coat Allow	7,552.00 sqft	35,007	2,052	4.99 /sqft	37,645
			Veneer Plaster Walls 2 coat	2,786.58 sqft	13,276	1,532	5.47 /sqft	15,240
			Lath/Plastr: Finish Coat		*48,283*	*3,584*	*/sqft*	*52,885*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	127	46	173.28 /lsum	173
			Misc. Accessories	1.00 lsum	2,261	813	3,074.26 /lsum	3,074
			GWB: Fasteners		*2,388*	*859*	*/each*	*3,248*
			Ceramic Tile					
			Clean Ceramic Wall Tile	49,336.00 sqft	37,760	1,096	0.79 /sqft	38,855
			Patch Ceramic Wall Tile	216.00 sqft	3,553	866	20.46 /sqft	4,419

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Ceramic Tile					
			Ceramic Tile Wall Grade 2	2,240.00 sqft	25,170	8,780	15.16 /sqft	33,950
			Backerboard 1/2"	1,520.00 sqft	9,997	1,604	7.63 /sqft	11,601
			Ceramic Tile		*76,479*	*12,346*	*/sqft*	*88,825*
			Painting: Interior					
			Paint Exist Wainscot	39,138.00 sqft	24,274	3,797	0.72 /sqft	28,071
			Paint Wainscot	8,670.00 sqft	5,377	841	0.72 /sqft	6,218
			Paint Exist Wainscot	2,586.00 sqft	1,604	251	0.72 /sqft	1,855
			Paint GDW Wall Roller p + 2ct	53,897.00 sqft	38,203	10,458	0.90 /sqft	48,661
			Paint Exist GDW Roller 2ct	199,679.00 sqft	88,459	43,051	0.66 /sqft	131,510
			Paint Int CMU Spray p+2ct	84,183.00 sqft	74,587	23,595	1.17 /sqft	98,182
			Paint Exist Int Brick Spray 2 ct	7,952.00 sqft	3,523	1,457	0.63 /sqft	4,980
			Paint Exist Int CMU Spray 2 ct	44,261.00 sqft	19,608	8,111	0.63 /sqft	27,719
			Epoxy Paint Int CMU	7,920.00 sqft	16,841	3,842	2.61 /sqft	20,683
			Epoxy Paint Exist Int CMU	8,426.00 sqft	11,198	4,814	1.90 /sqft	16,012
			Painting: Interior		*283,673*	*100,218*	*/sqft*	*383,891*
			Sound Absorbing Panels					
			Tectum Absorbing Panel	7,528.00 sqft	24,170	84,398	14.42 /sqft	108,568
			Sound Absorbing Panels		*24,170*	*84,398*	*/sqft*	*108,568*
			FINISHES		*781,892*	*226,163*	*/sqft*	*1,018,221*
			C3010 WALL FINISHES	***569,898.00 sqft***	***963,890***	***378,354***	***2.38 /sqft***	***1,355,228***
	C3020		**FLOOR FINISHES**					
		3000.00	**CONCRETE**					
			Conc: Slabs On Grade					
			Patch Conc. Slab Trench etc. 10% allow	47.00 sqft	303	504	17.17 /sqft	807
			Patch Conc. Slab Trench etc.	1,198.00 sqft	7,724	12,850	17.17 /sqft	20,574
			Conc: Slabs On Grade		*8,027*	*13,354*	*/cuyd*	*21,381*
			Conc: Slurry Coat					
			Leveling Compound	5,054.00 sqft	22,101	6,121	6.30 /sqft	31,818
			Moisture Mitigation ?	178,939.00 sqft	782,482	224,821	6.34 /sqft	1,134,634
			Moisture Mitigation ?	124,680.00 sqft	545,213	151,004	6.28 /sqft	782,727
			Conc: Slurry Coat		*1,349,796*	*381,946*	*/sqft*	*1,949,179*
			Finish: Floor Hardner					
			Reseal Concrete 3474	15,963.00 sqft	7,719	1,205	0.56 /sqft	8,924
			Finish: Floor Hardner		*7,719*	*1,205*	*/sqft*	*8,924*
			CONCRETE		*1,365,543*	*396,504*	*/sqft*	*1,979,484*
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	2,458	2,457.84 /lsum	2,458
			Fasteners: Frame Anchors			*2,458*	*/each*	*2,458*
			Plywood: Subfloor					
			Subfloor 3/4" Cdx Plywood	86,573.00 sqft	139,843	99,858	2.77 /sqft	239,702
			Subfloor 3/4" T & G Plywood	15,771.00 sqft	25,475	15,826	2.62 /sqft	41,302
			Plywood: Subfloor		*165,318*	*115,685*	*/sqft*	*281,003*
			I Trim: Wood Base					
			Wood Base 6"	14,345.00 lnft	100,631	130,129	16.09 /lnft	230,760
			I Trim: Wood Base		*100,631*	*130,129*	*/lnft*	*230,760*
			WOOD & PLASTICS		*265,949*	*248,272*	*/sqft*	*514,221*
		7000.00	**THERMAL & MOISTURE PROT**					
			Dampproofing: VaprBarrier					
			Rosin Slip Sheet	55.75 sq	1,432	208	29.42 /sq	1,640
			Dampproofing: VaprBarrier		*1,432*	*208*	*/sqs*	*1,640*
			THERMAL & MOISTURE PROT		*1,432*	*208*	*/sqft*	*1,640*
		9000.00	**FINISHES**					
			Ceramic Tile					
			Clean Ceramic Tile Floor	7,357.00 sqft	4,379	163	0.62 /sqft	4,543
			Clean Ceramic Base	1,104.00 sqft	1,033	25	0.96 /sqft	1,058
			Clean Ceramic Tile Floor	2,098.00 sqft	1,249	47	0.62 /sqft	1,295
			Clean Marble Floor	446.00 sqft	265	10	0.62 /sqft	275
			Clean Ceramic Tile Base	399.00 sqft	373	4	0.95 /sqft	378
			Ceramic Tile Floor Grade 2	832.00 sqft	11,855	5,469	20.82 /sqft	17,324
			Patch Ceramic Tile Floor Grade 2 Allow	514.00 sqft	7,324	3,379	20.82 /sqft	10,702
			Ceramic Tile Floor Grade 2	4,192.00 sqft	89,351	28,357	28.08 /sqft	117,709
			Regrout Ceramic Tile Floor	114.00 sqft	1,056	20	9.44 /sqft	1,076

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Ceramic Tile					
			Ceramic Trim: Cove Base	125.00 lnft	2,853	532	27.07 /lnft	3,384
			Ceramic Trim: Cove Base Allow	629.00 lnft	14,354	2,675	27.07 /lnft	17,029
			Ceramic Tile		*134,093*	*40,681*	*/sqft*	*174,773*
			Floor: Quarry Tile					
			Tile Quary Flr Brown 8x8x3/4	1,976.00 sqft	41,889	20,185	31.41 /sqft	62,074
			Tile Quary Shape Cove Base 3/4	296.00 lnft	7,029	1,803	29.84 /lnft	8,832
			Floor: Quarry Tile		*48,918*	*21,988*	*/sqft*	*70,906*
			Floor: Terrazo					
			Clean Terrazzo	36,501.06 sqft	9,312	787	0.28 /sqft	10,099
			Clean Terrazzo Base	5,475.00 sqft	2,328	118	0.45 /sqft	2,446
			Patch Terrazzo Floor	100.00 sqft	9,686	1,077	118.62 /sqft	11,862
			Floor: Terrazo		*21,326*	*1,982*	*/sqft*	*24,407*
			Flooring Wood Strip					
			Wood Flooring	4,342.00 sqft	13,026	10,719	5.47 /sqft	23,745
			Oak Select 2-1/4" Repair Allow	253.00 sqft	2,234	1,073	13.07 /sqft	3,307
			Refinish Wood Floor Mid	253.00 sqft	947	308	4.96 /sqft	1,255
			Sand & Finish Floor	4,342.00 sqft	10,708	4,213	3.44 /sqft	14,921
			Flooring Wood Strip		*26,915*	*16,313*	*/sqft*	*43,227*
			Flooring Resilient Tile					
			Clean & Wax VCT Tile Floor	6,334.00 sqft	8,080	141	1.30 /sqft	8,220
			Floor Vinyl Composition Tile 1/8"	13,593.00 sqft	17,175	35,921	3.91 /sqft	53,096
			Floor LVT 1/8"	288,858.00 sqft	364,977	1,917,969	7.90 /sqft	2,282,946
			Floor Resil Base 4" Allow	37,505.00 lnft	67,133	34,148	2.70 /lnft	101,281
			Floor Resilient Sheet Vinyl .125	9,783.00 sqft	35,023	53,335	9.03 /sqft	88,357
			Radial Rubber Floor 3/16"	9,812.00 sqft	81,618	77,461	16.21 /sqft	159,079
			Flooring Resilient Tile		*574,005*	*2,118,974*	*/sqft*	*2,692,979*
			Flooring Carpet					
			Clean Carpet	332.89 sqyd	946	71	3.06 /sqyd	1,017
			Carpet Commercial 32oz	2,254.50 sqyd	34,895	100,787	60.18 /sqyd	135,682
			Carpet Tile 38 oz Patch	16.67 sqyd	147	1,014	69.64 /sqyd	1,161
			Flooring Carpet		*35,989*	*101,871*	*/sqyd*	*137,860*
			Flooring Epoxy MarbleChip					
			Floor Epoxy Composition Med	1,482.00 sqft	13,625	9,458	15.72 /sqft	23,296
			Floor Epoxy Composition Med Base	222.00 lnft	2,041	1,046	14.05 /lnft	3,119
			Flooring Epoxy MarbleChip		*15,666*	*10,504*	*/sqft*	*26,415*
			Painting: Interior					
			Paint Exist Conc Floor	912.00 sqft	704	108	0.89 /sqft	813
			Paint Wood Base 3 ct	14,345.00 lnft	15,252	1,701	1.18 /lnft	16,953
			Painting: Interior		*15,956*	*1,809*	*/sqft*	*17,765*
			FINISHES		*872,868*	*2,314,121*	*/sqft*	*3,188,334*
			C3020 FLOOR FINISHES	***450,811.00 sqft***	***2,505,793***	***2,959,105***	***12.61 /sqft***	***5,683,679***
	C3030		**CEILING FINISHES**					
		5000.00	**METALS**					
			Misc: Bolt On Material					
			Angle Bolted To Masonry	3,790.00 lb	12,403	4,370	4.61 /lb	17,466
			Misc: Bolt On Material		*12,403*	*4,370*	*/lbs*	*17,466*
			METALS		*12,403*	*4,370*	*/sqft*	*17,466*
		7000.00	**THERMAL & MOISTURE PROT**					
			Fireproofing: Spray On					
			Fireprfg Repair Allow	56,897.00 sqft	157,029	137,722	5.58 /sqft	317,640
			Fireproofing: Spray On		*157,029*	*137,722*	*/sqft*	*317,640*
			THERMAL & MOISTURE PROT		*157,029*	*137,722*	*/sqft*	*317,640*
		9000.00	**FINISHES**					
			Lath/Plastr: Gyp Plaster					
			Plaster Patch Ceiling @ Wall Removal	11,780.00 sqft	78,875	16,343	8.28 /sqft	97,504
			Gypsum Plaster Clg 2 coat System	1,468.11 sqyd	103,971	15,146	83.25 /sqyd	122,222
			Lath/Plastr: Gyp Plaster		*182,846*	*31,489*	*/sqft*	*219,726*
			GWB Int Frame: S Studs					
			S Soffit Stud 358 20 ga	16,436.00 lnft	109,310	9,169	7.21 /lnft	118,479
			GWB Int Frame: S Studs		*109,310*	*9,169*	*/each*	*118,479*
			GWB Int Frame: Track					
			Track: Soffit 20 ga 3-5/8" Allow	14,776.00 lnft	111,824	9,557	8.22 /lnft	121,381
			Track: Soffit 20 ga 3-5/8"	7,136.00 lnft	54,005	4,616	8.22 /lnft	58,621

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			GWB Int Frame: Track		*165,829*	*14,173*	*/lnft*	*180,002*
			GWB: Fasteners					
			Misc. Accessories	1.00 lsum	5,884	2,113	7,997.26 /lsum	7,997
			Misc. Accessories	1.00 lsum	3,738	1,345	5,083.65 /lsum	5,084
			GWB: Fasteners		*9,623*	*3,458*	*/each*	*13,081*
			GWB: Boards & Sheathing					
			GWB 5/8" Soffit	21,912.00 sqft	93,544	11,811	4.81 /sqft	105,354
			GWB 5/8" Infill Patch Reduce	888.00 sqft	1,947	459	2.71 /sqft	2,406
			GWB: Boards & Sheathing		*95,490*	*12,270*	*/sqft*	*107,760*
			GWB: Finish Mud/Tape					
			Labor GWB Ceiling Finish	7,740.00 sqft	9,601	584	1.32 /sqft	10,185
			Labor GWB Soffit Finish	21,912.00 sqft	29,121	1,819	1.41 /sqft	30,940
			GWB: Finish Mud/Tape		*38,722*	*2,403*	*/sqft*	*41,125*
			Blueboard					
			1/2" Plaster Base Clgs	11,932.00 sqft	16,521	3,730	1.70 /sqft	20,251
			Blueboard		*16,521*	*3,730*	*/sqft*	*20,251*
			Ceiling: Susp. System					
			Susp Clg 1-1/2" Channel	11,932.00 sqft	44,316	25,597	5.86 /sqft	69,913
			Ceiling: Susp. System		*44,316*	*25,597*	*/sqft*	*69,913*
			Ceiling: 2x4 Tile					
			MinFbr SqEdge Ultima 2x4 3/4"	61,086.00 sqft	94,533	259,774	5.80 /sqft	354,307
			MinFbr SqEdge Std 2x4 3/4"	138,944.00 sqft	215,021	418,085	4.56 /sqft	633,106
			MinFbr Tegulr Ultima 2x4 3/4"	230,394.00 sqft	499,160	1,023,263	6.61 /sqft	1,522,423
			Mylar Faced Std 2x4 3/4" 250-500 sf	1,976.00 sqft	3,058	9,149	6.18 /sqft	12,207
			Ceiling: 2x4 Tile		*811,771*	*1,710,272*	*/sqft*	*2,522,043*
			Ceiling: 2x2 Tile					
			Mylar Faced Std 2x2 3/4"	1,941.00 sqft	3,204	8,168	5.86 /sqft	11,372
			Ceiling: 2x2 Tile		*3,204*	*8,168*	*/sqft*	*11,372*
			Painting: Interior					
			Paint Exist Concrete	4,086.00 sqft	2,172	881	0.75 /sqft	3,053
			Epoxy Paint Exist GDW Clg Roller 2ct	668.00 sqft	947	144	1.63 /sqft	1,091
			Epoxy Paint GDW Clg	7,740.00 sqft	16,459	6,758	3.00 /sqft	23,217
			Epoxy Paint GDW Clg	4,192.00 sqft	8,914	3,208	2.89 /sqft	12,122
			Paint GDW Soffit Roller p+2ct	21,912.00 sqft	25,239	4,252	1.35 /sqft	29,490
			Paint Misc Stl Exp Deck 3 Coat	15,286.00 sqft	9,480	1,483	0.72 /sqft	10,964
			Paint Exist Structure	15,286.00 sqft	20,363	2,472	1.49 /sqft	22,834
			Paint Exist Mechanicals	15,286.00 sqft	5,247	989	0.41 /sqft	6,236
			Painting: Interior		*88,820*	*20,187*	*/sqft*	*109,008*
			Sound Absorbing Panels					
			Custom Acoustic Ceiling Panel	4,380.00 sqft	56,753	49,341	24.22 /sqft	106,094
			Sound Absorbing Panels		*56,753*	*49,341*	*/sqft*	*106,094*
			FINISHES		*1,623,206*	*1,890,257*	*/sqft*	*3,518,854*
			C3030 CEILING FINISHES	***450,811.00 sqft***	***1,792,638***	***2,032,348***	***8.55 /sqft***	***3,853,960***
			C30 INTERIOR FINISHES	**######## sqft**	**5,262,320**	**5,369,807**	**17.33 /sqft**	**########**
D10			**CONVEYING SYSTEMS**					
	D1010		**ELEVATORS**					
		14000.00	**CONVEYING SYSTEMS**					
			Elevators					
			Elevator Hyd Passenger 2 stop	1.00 each	22,863	42,569	65,923.07 /each	65,923
			Capacity Upgrade 4000# Hyd	1.00 lsum	-	10,364	10,365.45 /lsum	10,365
			Travel Over Base Hyd	24.00 vlf	4,331	18,447	952.94 /vlf	22,870
			Additional Stops Hyd	2.00 each	4,178	2,397	3,332.59 /each	6,665
			Speed Upgrade 125 fpm Hyd	1.00 lsum	-	2,903	2,903.05 /lsum	2,903
			Stainless Steel Clg	1.00 lsum	-	4,100	4,099.63 /lsum	4,100
			Doors Stainless Steel	1.00 lsum	-	4,382	4,382.07 /lsum	4,382
			Emergency Power	1.00 lsum	-	2,853	2,853.47 /lsum	2,853
			Walls Stainless Steel	1.00 lsum	-	4,490	4,489.87 /lsum	4,490
			Maint Contract 12 mos	1.00 lsum	3,702	-	3,702.00 /lsum	3,702
			Sig Device Hall Latern	3.00 each	-	1,678	559.48 /each	1,678
			Elevators		*35,074*	*94,184*	*/each*	*129,933*
			Lifts					
			Evacuation Chair	1.00 each	2,195	8,117	10,359.71 /each	10,360
			Lift Commercial	4.00 each	13,883	57,906	18,018.76 /each	72,075
			Lifts		*16,078*	*66,023*	*/each*	*82,435*

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			CONVEYING SYSTEMS		*51,152*	*160,207*	*/sqft*	*212,367*
			D1010 ELEVATORS	***2.00 each***	***51,152***	***160,207***	***######## /each***	***212,367***
			D10 CONVEYING SYSTEMS	**######## sqft**	**51,152**	**160,207**	**0.34 /sqft**	**212,367**
D20			**PLUMBING**					
	D2010		**PLUMBING FIXTURES**					
		15100.00	**PLUMBING**					
			Plumbing Fixtures & Equip					
			Plumbing Fixtures (Sqft)	447,540.00 sqft	1,042,768	815,337	4.15 /sqft	1,858,106
			Plumbing Fixtures & Equip		*1,042,768*	*815,337*	*/each*	*1,858,106*
			PLUMBING		*1,042,768*	*815,337*	*/sqft*	*1,858,106*
			D2010 PLUMBING FIXTURES	***450,811.00 sqft***	***1,042,768***	***815,337***	***4.12 /sqft***	***1,858,106***
	D2020		**DOMESTIC WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Domestic Water (Sqft)	447,540.00 sqft	1,047,244	974,545	4.52 /sqft	2,021,789
			Piping		*1,047,244*	*974,545*	*/lnft*	*2,021,789*
			PLUMBING		*1,047,244*	*974,545*	*/sqft*	*2,021,789*
			D2020 DOMESTIC WATER	***450,811.00 sqft***	***1,047,244***	***974,545***	***4.49 /sqft***	***2,021,789***
	D2030		**SANITARY WATER**					
		15100.00	**PLUMBING**					
			Piping					
			Sanitary Water (Sqft)	447,540.00 sqft	801,097	622,358	3.18 /sqft	1,423,455
			Piping		*801,097*	*622,358*	*/lnft*	*1,423,455*
			PLUMBING		*801,097*	*622,358*	*/sqft*	*1,423,455*
			D2030 SANITARY WATER	***450,811.00 sqft***	***801,097***	***622,358***	***3.16 /sqft***	***1,423,455***
	D2040		**RAINWATER DRAINAGE**					
		15100.00	**PLUMBING**					
			Piping					
			Rain Water Drainage(Sqft)	447,540.00 sqft	563,900	439,028	2.24 /sqft	1,002,928
			Piping		*563,900*	*439,028*	*/lnft*	*1,002,928*
			PLUMBING		*563,900*	*439,028*	*/sqft*	*1,002,928*
			D2040 RAINWATER DRAINAGE	***450,811.00 sqft***	***563,900***	***439,028***	***2.23 /sqft***	***1,002,928***
	D2050		**SPECIAL PLUMBING SYSTEMS**					
		15100.00	**PLUMBING**					
			Plumbing					
			Special Plumbing Systems (Sqft)	447,540.00 sqft	340,130	265,346	1.35 /sqft	605,477
			Plumbing		*340,130*	*265,346*	*/sqft*	*605,477*
			PLUMBING		*340,130*	*265,346*	*/sqft*	*605,477*
			D2050 SPECIAL PLUMBING SYSTEMS	***450,811.00 sqft***	***340,130***	***265,346***	***1.34 /sqft***	***605,477***
			D20 PLUMBING	**######## sqft**	**3,795,139**	**3,116,615**	**11.00 /sqft**	**6,911,754**
D30			**HVAC**					
	D3020		**HEAT GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Heat Generation					
			Heat Generating Systems (Sqft)	447,540.00 sqft	1,042,768	694,725	3.88 /sqft	1,737,493
			Heat Generation		*1,042,768*	*694,725*	*/each*	*1,737,493*
			HVAC SYSTEMS		*1,042,768*	*694,725*	*/sqft*	*1,737,493*
			D3020 HEAT GENERATING SYSTEMS	***450,811.00 sqft***	***1,042,768***	***694,725***	***3.85 /sqft***	***1,737,493***
	D3030		**COOLING GENERATING SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Refrigeration					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Refrigeration					
			Cooling Generating Systems (Sqft)	447,540.00 sqft	1,391,849	897,354	5.12 /sqft	2,289,203
			Refrigeration		*1,391,849*	*897,354*	*/each*	*2,289,203*
			HVAC SYSTEMS		*1,391,849*	*897,354*	*/sqft*	*2,289,203*
			D3030 COOLING GENERATING SYSTEMS	***450,811.00 sqft***	***1,391,849***	***897,354***	***5.08 /sqft***	***2,289,203***
	D3040		**DISTRIBUTION SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			Air Distribution					
			Distribution Systems (Sqft)	447,540.00 sqft	7,075,607	4,414,400	25.67 /sqft	11,490,008
			Air Distribution		*7,075,607*	*4,414,400*	*/sqft*	*11,490,008*
			HVAC SYSTEMS		*7,075,607*	*4,414,400*	*/sqft*	*11,490,008*
			D3040 DISTRIBUTION SYSTEMS	***450,811.00 sqft***	***7,075,607***	***4,414,400***	***25.49 /sqft***	***11,490,008***
	D3050		**TERMINAL PACKAGE UNITS**					
		15500.00	**HVAC SYSTEMS**					
			Air Handling					
			Terminal Package Units (Sqft)	447,540.00 sqft	255,098	154,383	0.92 /sqft	409,481
			Air Handling		*255,098*	*154,383*	*/each*	*409,481*
			HVAC SYSTEMS		*255,098*	*154,383*	*/sqft*	*409,481*
			D3050 TERMINAL PACKAGE UNITS	***450,811.00 sqft***	***255,098***	***154,383***	***0.91 /sqft***	***409,481***
	D3060		**CONTROL & INSTRUMENTATION**					
		15500.00	**HVAC SYSTEMS**					
			Controls					
			Control & Instrumentation (Sqft)	447,540.00 sqft	1,687,226	1,056,561	6.13 /sqft	2,743,787
			Controls		*1,687,226*	*1,056,561*	*/sqft*	*2,743,787*
			HVAC SYSTEMS		*1,687,226*	*1,056,561*	*/sqft*	*2,743,787*
			D3060 CONTROL & INSTRUMENTATION	***450,811.00 sqft***	***1,687,226***	***1,056,561***	***6.09 /sqft***	***2,743,787***
	D3070		**SYSTEM TESTING & BALANCING**					
		15500.00	**HVAC SYSTEMS**					
			Test & Balancing Misc					
			System Test & Balancing (Sqft)	447,540.00 sqft	147,688	96,490	0.55 /sqft	244,178
			Test & Balancing Misc		*147,688*	*96,490*	*/sqft*	*244,178*
			HVAC SYSTEMS		*147,688*	*96,490*	*/sqft*	*244,178*
			D3070 SYSTEM TESTING & BALANCING	***450,811.00 sqft***	***147,688***	***96,490***	***0.54 /sqft***	***244,178***
	D3090		**OTHER HVAC SYSTEMS**					
		15500.00	**HVAC SYSTEMS**					
			HVAC					
			HVAC (Sqft) Other	447,540.00 sqft	519,146	448,677	2.16 /sqft	967,823
			HVAC		*519,146*	*448,677*	*/sqft*	*967,823*
			HVAC SYSTEMS		*519,146*	*448,677*	*/sqft*	*967,823*
			D3090 OTHER HVAC SYSTEMS	***450,811.00 sqft***	***519,146***	***448,677***	***2.15 /sqft***	***967,823***
			D30 HVAC	**######## sqft**	**########**	**7,762,590**	**44.10 /sqft**	**########**
D40			**FIRE PROTECTION**					
	D4010		**SPRINKLER SYSTEMS**					
		15000.00	**FIRE PROTECTION**					
			Sprinkler					
			Fire Protection (Sqft)	312,828.00 sqft	1,173,105	924,006	6.70 /sqft	2,097,111
			Fire Protection (Sqft)	134,712.00 sqft	505,170	397,902	6.70 /sqft	903,072
			Sprinkler		*1,678,275*	*1,321,908*	*/sqft*	*3,000,183*
			FIRE PROTECTION		*1,678,275*	*1,321,908*	*/sqft*	*3,000,183*
			D4010 SPRINKLER SYSTEMS	***450,811.00 sqft***	***1,678,275***	***1,321,908***	***6.66 /sqft***	***3,000,183***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			D40 FIRE PROTECTION	######## sqft	1,678,275	1,321,908	6.66 /sqft	3,000,183
D50			**ELECTRICAL**					
	D5010		**SERVICE & DISTRIBUTION**					
		16000.00	**ELECTRICAL**					
			Service Distribution					
			Service & Distribution (Sqft)	447,540.00 sqft	1,584,292	1,640,324	7.21 /sqft	3,224,615
			Service Distribution		*1,584,292*	*1,640,324*	*/sqft*	*3,224,615*
			ELECTRICAL		*1,584,292*	*1,640,324*	*/sqft*	*3,224,615*
			D5010 SERVICE & DISTRIBUTION	***450,811.00 sqft***	***1,584,292***	***1,640,324***	***7.15 /sqft***	***3,224,615***
	D5020		**LIGHTING & BRANCH WIRING**					
		16000.00	**ELECTRICAL**					
			Lighting					
			Lighting & Branch Wiring (Sqft)	447,540.00 sqft	3,871,221	4,013,968	17.62 /sqft	7,885,189
			Lighting		*3,871,221*	*4,013,968*	*/each*	*7,885,189*
			ELECTRICAL		*3,871,221*	*4,013,968*	*/sqft*	*7,885,189*
			D5020 LIGHTING & BRANCH WIRING	***450,811.00 sqft***	***3,871,221***	***4,013,968***	***17.49 /sqft***	***7,885,189***
	D5030		**COMMUNICATION & SECURITY**					
		16000.00	**ELECTRICAL**					
			Communications					
			Communication & Security (Sqft)	447,540.00 sqft	3,338,648	3,512,222	15.31 /sqft	6,850,871
			Communications		*3,338,648*	*3,512,222*	*/sqft*	*6,850,871*
			ELECTRICAL		*3,338,648*	*3,512,222*	*/sqft*	*6,850,871*
			D5030 COMMUNICATION & SECURITY	***450,811.00 sqft***	***3,338,648***	***3,512,222***	***15.20 /sqft***	***6,850,871***
	D5040		**SPECIAL ELECTRICAL SYSTEMS**					
		16000.00	**ELECTRICAL**					
			Special Systems					
			Special Electrical Systems(Sqft)	447,540.00 sqft	953,260	984,194	4.33 /sqft	1,937,454
			Special Systems		*953,260*	*984,194*	*/each*	*1,937,454*
			ELECTRICAL		*953,260*	*984,194*	*/sqft*	*1,937,454*
			D5040 SPECIAL ELECTRICAL SYSTEMS	***450,811.00 sqft***	***953,260***	***984,194***	***4.30 /sqft***	***1,937,454***
			D50 ELECTRICAL	######## sqft	9,747,421	########	44.14 /sqft	########
E10			**EQUIPMENT**					
	E1020		**INSTITUTIONAL EQUIPMENT**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	5	5.39 /lsum	5
			Fastners & Misc	1.00 lsum	-	6	6.47 /lsum	6
			Fasteners: Frame Anchors			*12*	*/each*	*12*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	1,082.00 lnft	4,218	360	4.23 /lnft	4,578
			Blocking 2 x 6 R.L.	774.00 lnft	3,728	395	5.33 /lnft	4,122
			Blocking: Misc.		*7,946*	*755*	*/mbf*	*8,701*
			WOOD & PLASTICS		*7,946*	*767*	*/sqft*	*8,713*
		11000.00	**EQUIPMENT**					
			Division 11 Subcontractrs					
			Kitchen Equipment Crabtree	1.00 lsum	-	-	980,000.00 /lsum	980,000
			Division 11 Subcontractrs				*/sub*	*980,000*
			Equip: Stage					
			Curtain Track Lt Duty	48.00 lnft	4,209	1,286	114.48 /lnft	5,495
			Curtain Track Med Duty	48.00 lnft	4,680	2,251	144.39 /lnft	6,931
			Curtain Velour Med Wt	576.00 sqft	1,728	4,595	10.98 /sqft	6,323
			Curtain Fireproof	576.00 sqft	20,204	9,128	50.92 /sqft	29,331
			Equip: Stage		*30,820*	*17,259*	*/each*	*48,080*
			Equip: Residental Food					

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Equip: Residental Food					
			Microwave	1.00 each	316	535	851.01 /each	851
			Refrigerator Small	6.00 each	1,240	2,581	636.77 /each	3,821
			Refrigerator 21-29 cf	1.00 each	323	1,303	1,626.45 /each	1,626
			Dishwasher Built-In	6.00 each	3,924	3,525	1,241.55 /each	7,449
			Garbage Disposer	1.00 each	174	139	313.47 /each	313
			Equip: Residental Food		*5,978*	*8,083*	*/each*	*14,061*
			Equip: Shop					
			Shop Eq Kiln	1.00 each	462	2,411	2,873.01 /each	2,873
			Equip: Shop		*462*	*2,411*	*/each*	*2,873*
			Equip: Laboratory/Science					
			Science Casework Avg	312,828.00 sqft	184,441	428,280	1.96 /sqft	612,721
			Science Casework Avg	137,983.00 sqft	222,887	529,535	5.45 /sqft	752,421
			Equip: Laboratory/Science		*407,328*	*957,815*	*/lnft*	*1,365,142*
			EQUIPMENT		*444,587*	*985,568*	*/sqft*	*2,410,156*
			E1020 INSTITUTIONAL EQUIPMENT	***450,811.00 sqft***	***452,533***	***986,335***	***5.37 /sqft***	***2,418,868***
			E10 EQUIPMENT	**######## sqft**	**452,533**	**986,335**	**5.37 /sqft**	**2,418,868**
E20			**FURNISHINGS**					
	E2010		**FIXED FURNISHINGS**					
		6000.00	**WOOD & PLASTICS**					
			Fasteners: Frame Anchors					
			Fastners & Misc	1.00 lsum	-	1	1.08 /lsum	1
			Fasteners: Frame Anchors			*1*	*/each*	*1*
			Blocking: Misc.					
			Blocking 2 x 4 R.L.	292.00 lnft	1,138	94	4.22 /lnft	1,233
			Blocking 2 x 6 R.L.	65.00 lnft	313	33	5.33 /lnft	346
			Blocking: Misc.		*1,451*	*128*	*/mbf*	*1,579*
			WOOD & PLASTICS		*1,451*	*129*	*/sqft*	*1,580*
		12000.00	**FURNISHINGS**					
			Casework					
			School Casework Base & Top	246.00 lnft	30,824	70,142	410.43 /lnft	100,967
			School Casework	447,540.00 sqft	411,548	1,447,344	4.15 /sqft	1,858,893
			Casework		*442,373*	*1,517,487*	*/lnft*	*1,959,859*
			Display Casework					
			Display Case	146.00 lnft	11,236	81,527	635.36 /lnft	92,763
			Display case 7' h	65.00 lnft	8,752	92,352	1,555.45 /lnft	101,104
			Display Casework		*19,988*	*173,879*	*/lnft*	*193,867*
			Shades					
			Vinyl Heavy Wt	30,835.00 sqft	38,893	143,930	5.93 /sqft	182,823
			Shades		*38,893*	*143,930*	*/sqft*	*182,823*
			Floor Mats					
			Entrance Mat Rec 3/8" w Frame	1,216.00 sqft	15,617	36,245	42.65 /sqft	51,862
			Floor Mats		*15,617*	*36,245*	*/sqft*	*51,862*
			Misc Seating					
			Aud Seat Veneer Back/Pad Seat	1,412.00 each	96,447	392,711	346.43 /each	489,158
			Misc Seating		*96,447*	*392,711*	*/each*	*489,158*
			FURNISHINGS		*613,317*	*2,264,252*	*/sqft*	*2,877,569*
			E2010 FIXED FURNISHINGS	***450,811.00 sqft***	***614,768***	***2,264,380***	***6.39 /sqft***	***2,879,149***
			E20 FURNISHINGS	**######## sqft**	**614,768**	**2,264,380**	**6.39 /sqft**	**2,879,149**
F10			**SPECIAL CONSTRUCTION**					
	F1030		**SPECIAL CONSTRUCTION**					
		13000.00	**SPECIAL CONSTRUCTION**					
			Greenhouses					
			Institutional < 500sf Avg	275.00 sqft	26,907	10,079	134.49 /sqft	36,986
			Greenhouses		*26,907*	*10,079*	*/sqft*	*36,986*
			SPECIAL CONSTRUCTION		*26,907*	*10,079*	*/sqft*	*36,986*
			F1030 SPECIAL CONSTRUCTION	***275.00 sqft***	***26,907***	***10,079***	***134.49 /sqft***	***36,986***

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			F10 SPECIAL CONSTRUCTION	**275.00 sqft**	**26,907**	**10,079**	**134.49 /sqft**	**36,986**
F20			**SELECTIVE DEMOLITION**					
	F2010		**SELECTIVE DEMOLITION**					
		2050.00	**DEMOLITION**					
			Demo: Subcontractors					
			Sub: Asbestos Abatement	1.00 lsum	-	-	1,125,000.00 /lsum	1,125,000
			Sub: Asbestos Abatement	1.00 lsum	-	-	2,032,150.00 /lsum	2,032,150
			Demo: Subcontractors				*/sub*	*3,157,150*
			Demo: General					
			General Disposal	13,054.60 cuyd	298,062	-	31.41 /cuyd	409,982
			Shore - Screw Jack 2	3.00 each	3,436	213	1,284.13 /each	3,852
			Shore - Screw Jack	4.00 each	4,581	284	1,284.13 /each	5,137
			Demo: General		*306,080*	*496*	*/cuyd*	*418,971*
			Demo: Concrete					
			Saw Concrete Slab to 6"	256.00 lnft	1,581	-	8.33 /lnft	2,133
			Saw Floor	1,380.00 lnft	8,520	-	8.33 /lnft	11,501
			Saw Concrete Slab to 6"	960.00 lnft	5,927	-	8.33 /lnft	8,001
			Remove Slab on Grade	1,588.00 sqft	11,613	-	7.98 /sqft	12,668
			Cutout Floor Opening Allowed 110	256.00 sqft	2,819	-	12.01 /sqft	3,075
			Remove Slab on Grade	2,364.00 sqft	17,287	-	7.98 /sqft	18,858
			Remove Ext Platform	165.00 sqft	2,002	-	13.23 /sqft	2,183
			Remove Ext Platform	40.00 sqft	485	-	13.21 /sqft	528
			Remove Stair 5'	27.00 risr	1,533	-	61.94 /risr	1,672
			Remove Stair 6'	12.00 risr	795	-	72.12 /risr	865
			Remove Conc Slab and Beams Med Reinf	5,256.00 cuft	301,610	-	62.48 /cuft	328,367
			Demo: Concrete		*354,172*		*/cuyd*	*389,852*
			Demo: Masonry					
			Cut Out Opng 8" CMU	196.00 sqft	6,239	-	34.62 /sqft	6,786
			Sawcut 8" CMU	140.00 lnft	5,980	-	74.57 /lnft	10,439
			Tooth Jambs 4 Wythes	28.00 lnft	224	-	12.42 /lnft	348
			Remove Brick & Block Wall	1,287.00 sqft	13,287	-	11.21 /sqft	14,426
			Remove CMU 4"	46,692.00 sqft	160,682	-	3.74 /sqft	174,675
			Remove CMU 8"	45,448.00 sqft	191,591	-	4.58 /sqft	208,276
			Remove CMU 8"	10,164.00 sqft	42,848	-	4.58 /sqft	46,520
			Remove Glass Block	176.00 sqft	818	-	5.05 /sqft	889
			Demo: Masonry		*421,669*		*/cuft*	*462,358*
			Demo: Steel					
			Remove Metal Stair 4'	22.00 risr	2,516	-	134.36 /risr	2,956
			Remove Metal Stair 5'	305.00 risr	38,899	-	149.59 /risr	45,626
			Remove Metal Stair 6'	210.00 risr	29,554	-	165.37 /risr	34,728
			Remove Metal Stair 6'	60.00 risr	8,444	-	164.91 /risr	9,895
			Remove Steel Rail	2,381.00 lnft	25,310	-	10.63 /lnft	25,310
			Demo: Steel		*104,723*		*/each*	*118,514*
			Demo: Wood					
			Remove Wood Floor Frame	6,332.00 sqft	18,847	-	2.98 /sqft	18,847
			Remove Sub Floor	86,573.00 sqft	129,051	-	1.49 /sqft	129,051
			Remove Ext Sheathing	516.00 sqft	351	-	0.68 /sqft	351
			Remove Wood Risers	1,076.00 lnft	7,813	-	7.26 /lnft	7,813
			Demo: Wood		*156,062*		*/sqft*	*156,062*
			Demo: Misc Walls					
			Remove Wire Mesh Partition	2,520.00 sqft	2,357	-	0.94 /sqft	2,357
			Demo: Misc Walls		*2,357*		*/sqft*	*2,357*
			Demo: Exterior Finishes					
			Remove Exterior Metal Panels	36.00 sqft	61	-	1.70 /sqft	61
			Remove Exterior Concrete Panels	2,412.00 sqft	3,692	-	1.53 /sqft	3,692
			Remove Exterior Cornice	12.00 lnft	24	-	2.22 /lnft	27
			Remove Soffit & Trim	220.00 sqft	1,048	-	4.76 /sqft	1,048
			Remove Bridge Soffit & Trim	1,777.00 sqft	8,463	-	4.76 /sqft	8,463
			Demo: Exterior Finishes		*13,288*		*/sqft*	*13,290*
			Demo: Millwork					
			Remove Shelves	65.00 lnft	83	-	1.28 /lnft	83

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Millwork					
			Remove Wall Cabinets	56.00 lnft	952	-	17.01 /lnft	952
			Remove Tall Cabinet	182.00 lnft	3,715	-	20.41 /lnft	3,715
			Remove Casework	4,166.00 lnft	23,028	-	5.53 /lnft	23,028
			Remove Counter Tops	22.00 lnft	272	-	12.35 /lnft	272
			Demo: Millwork		*28,049*		*/sqft*	*28,049*
			Demo: Roofing					
			Cut Out Opening over 5 sf	2,208.00 sqft	35,333	-	16.00 /sqft	35,333
			Demo: Roofing		*35,333*		*/sqs*	*35,333*
			Demo: Doors & Windows					
			Remove Door	198.00 each	6,735	-	34.02 /each	6,735
			Remove Door & Frame Int Single	200.00 each	23,811	-	135.13 /each	27,026
			Remove Door Frame Int Double	78.00 each	10,613	-	154.43 /each	12,046
			Remove Door & Frame Ext Single	2.00 each	272	-	154.44 /each	309
			Remove Door & Frame Ext Double	25.00 each	3,969	-	180.20 /each	4,505
			Remove Transom or Borrowed Lite	561.00 sqft	4,725	-	8.42 /sqft	4,725
			Remove Bridge Glazing	3,612.00 sqft	30,423	-	8.42 /sqft	30,423
			Remove Transom or Borrowed Lite Int	773.00 sqft	6,511	-	8.42 /sqft	6,511
			Remove Hatch	1.00 each	107	-	107.30 /each	107
			Remove Metal Windows	24,969.00 sqft	82,811	-	3.32 /sqft	82,811
			Remove Security Screens	2,200.00 sqft	935	-	0.43 /sqft	935
			Remove Metal Windows	9,580.00 sqft	31,773	-	3.32 /sqft	31,773
			Demo: Doors & Windows		*202,686*		*/each*	*207,906*
			Demo: Misc Items					
			Remove Toilet Partitions	137.00 each	11,650	-	85.04 /each	11,650
			Remove Urinal Screen	37.00 each	2,203	-	59.53 /each	2,203
			Remove Toilet Accessories	646.00 each	6,867	-	10.63 /each	6,867
			Remove Lockers ?	198.00 each	4,816	-	24.32 /each	4,816
			Remove & Relocate Lockers	4.00 each	243	-	60.80 /each	243
			Remove Lockers	962.00 each	23,397	-	24.32 /each	23,397
			Remove Signage	624.00 each	12,736	-	20.41 /each	12,736
			Remove Fire Ext Cabinet Allow	66.00 each	5,613	-	85.04 /each	5,613
			Remove Hospital Curtains	18.00 lnft	15	-	0.85 /lnft	15
			Remove Refrigerator	1.00 each	226	-	226.21 /each	226
			Remove Seats	1,484.00 each	30,162	-	20.33 /each	30,162
			Remove Seats for Reuse	***0.00 each***	***0***	***-***	***0.00 /each***	***0***
			Remove Tectum Wall Panels	7,528.00 sqft	8,963	-	1.19 /sqft	8,963
			Remove Elevator	4.00 stop	31,849	-	8,133.29 /stop	32,533
			Demo: Misc Items		*138,739*		*/sqft*	*139,423*
			Demo: Finishes, Floors					
			Remove Carpet & Pad	94,345.00 sqft	64,185	-	0.68 /sqft	64,185
			Remove Carpet & Pad Allow	100,084.00 sqft	68,089	-	0.68 /sqft	68,089
			Remove Vinyl Tile	31,444.00 sqft	42,784	-	1.36 /sqft	42,784
			Remove Vinyl Tile & Stair Risers/Treads	4,288.00 sqft	5,834	-	1.36 /sqft	5,834
			Remove Vinyl Tile Allow	67,073.00 sqft	91,262	-	1.36 /sqft	91,262
			Remove Resilient Sheet Flooring	19,595.00 sqft	18,330	-	0.94 /sqft	18,330
			Remove Wood Floor	32,054.00 sqft	91,888	-	2.87 /sqft	91,888
			Remove Ceramic Tile Floor	5,714.00 sqft	11,176	-	1.96 /sqft	11,176
			Flash Patch @ Wall Removal	11,780.00 sqft	32,281	27,176	5.05 /sqft	59,456
			Demo: Finishes, Floors		*425,829*	*27,176*	*/sqft*	*453,004*
			Demo: Finishes, Walls					
			Remove VWC	1,350.00 sqft	2,338	-	1.73 /sqft	2,338
			Remove Wood Panel But No Studs	8,670.00 sqft	16,958	-	1.96 /sqft	16,958
			Rem Ceramic Tile But No Studs	20.00 sqft	46	-	2.30 /sqft	46
			Remove Lath/Plaster Partition	55,440.00 sqft	442,186	-	7.98 /sqft	442,186
			Demo: Finishes, Walls		*461,528*		*/sqft*	*461,528*
			Demo: Finishes, Ceilings					
			Remove Plaster Ceiling Metal Lath	217,480.00 sqft	517,846	-	2.38 /sqft	517,846
			Demo: Finishes, Ceilings		*517,846*		*/sqft*	*517,846*
			Demo: Plumbing					
			General Demolition	450,811.00 sqft	271,042	-	0.60 /sqft	271,042
			General Demolition Fire Protection	450,811.00 sqft	283,448	-	0.63 /sqft	283,448
			Demo: Plumbing		*554,491*		*/sqft*	*554,491*
			Demo: Mechanical					
			General Demolition	450,811.00 sqft	271,042	-	0.60 /sqft	271,042
			Remove Louvers	212.00 sqft	2,578	-	12.16 /sqft	2,578

UNI 1	UNI 2	Group	Description	Takeoff Quantity	Labor Amount	Material Amount	Total Cost/Unit	Total Amount
			Demo: Mechanical		*273,620*		*/sqft*	*273,620*
			Demo: Electrical					
			General Demolition	450,811.00 sqft	340,340	-	0.76 /sqft	340,340
			Demo: Electrical		*340,340*		*/sqft*	*340,340*
			DEMOLITION		*4,336,812*	*27,672*	*/sqft*	*7,730,096*
			F2010 SELECTIVE DEMOLITION	***450,811.00 sqft***	***4,336,812***	***27,672***	***17.15 /sqft***	***7,730,096***
			F20 SELECTIVE DEMOLITION	**######## sqft**	**4,336,812**	**27,672**	**12.30 /sqft**	**7,730,096**

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost per Unit	cent of Total
Labor	48,289,101		196,781.095 hrs		107.899 /sf	49.52%
Material	41,814,851				93.433 /sf	42.88%
Subcontract	6,692,979				14.955 /sf	6.86%
Equipment	710,717		28,270.632 hrs		1.588 /sf	0.73%
Other						
	97,507,648	**97,507,648**			**217.875 /sf**	**100.00 100.00%**
Total		***97,507,648***			***217.875 /sf***	

FF&E/T - CONCEPTUAL DESIGN ESTIMATE
LOWELL HIGH SCHOOL

ROOM TYPE	# OF RMS	F-EACH	FURNITURE TOTAL	E-EACH	EQUIPMENT TOTAL	TECH-EACH (inc. IWB/LCD; Teacher/Staff Computer)	TECH EQ TOTAL	TECH-LAB (24-28 Student desktop or laptops)	TOTAL	Comments
CORE ACADEMIC SPACES										
Classroom - Freshman (incl Health)	24	$12,000	$288,000	$1,000	$24,000	$7,500	$180,000		$492,000	
Classroom - Gr. 10-12 (incl. Health & ELL)	88	$12,000	$1,056,000	$1,000	$88,000	$7,500	$660,000		$1,804,000	
Teacher Planning - Freshman	4	$3,500	$14,000		$0		$0		$14,000	
Tchr Plng (Tch-Out, Lng, Ktch, Comp, Copy)	12	$3,500	$42,000		$0		$0		$42,000	
Dept Off.(Inst/Curr, Arts, Eng, Mth, Sci, SS)	8	$2,500	$20,000		$0	$1,500	$12,000		$32,000	
Teacher Develop/Training (Little Thtr + Cntrl)	1	$1,500	$1,500		$0	$7,500	$7,500		$9,000	
Small Group Seminar (20-30 seats)	6	$6,000	$36,000	$750	$4,500	$7,500	$45,000		$85,500	
Science Classroom / Lab - Freshman	7	$7,500	$52,500	$5,000	$35,000	$7,500	$52,500		$140,000	Lab Tables - Casework
Science Classroom / Lab - Gr.10-12	21	$7,500	$157,500	$5,000	$105,000	$7,500	$157,500		$420,000	Lab Tables - Casework
Prep Room	22		$0		$0		$0		$0	Casework
Central Chemical Storage Rm	1		$0		$0		$0		$0	Casework
Unassigned Green House/Growing Room	1		$0		$5,000		$0		$5,000	
Clean Room (w/ Micro/Bio Tech Lab)	1		$0		$0		$0		$0	Casework
SPECIAL EDUCATION										
LIFE SKILLS (69 stu's =78 prorated)										
Life Skills Labs (CRs + Kitch/Laundry/Mail)	4	$7,500	$30,000	$5,000	$20,000	$7,500	$30,000		$80,000	
Life Skills Hygene (Wash/Changing Room)	1	$3,750	$3,750	$2,500	$2,500		$0		$6,250	
Life Skills Intensive CR +Tlt	1	$7,500	$7,500	$5,000	$5,000	$7,500	$7,500		$20,000	
Life Skills Sensory CR	1	$3,750	$3,750	$2,500	$2,500	$7,500	$7,500		$13,750	
Life Skills (CSA) Autism CR + Tlt	2	$7,500	$15,000	$5,000	$10,000	$7,500	$15,000		$40,000	
Life Skills PE / SPED PE	2	$7,500	$15,000	$5,000	$10,000	$7,500	$15,000		$40,000	
ADJUSTMENTS (40 stu's =46 prorated)										
Adjustments CR	8	$7,500	$60,000	$5,000	$40,000	$7,500	$60,000		$160,000	
Adjust Social Worker	1	$2,500	$2,500		$0	$1,500	$1,500		$4,000	
Counseling Room	1	$2,500	$2,500		$0	$1,500	$1,500		$4,000	
Storage	1	$2,000	$2,000		$0		$0		$2,000	
FUNDAMNTL (190 stu's =214 prorated)										
Fundamentals - Freshman	2	$12,000	$24,000	$1,000	$2,000	$7,500	$15,000		$41,000	
Fundamentals - Gr.10-12	7	$6,000	$42,000	$1,000	$7,000	$7,500	$52,500		$101,500	
Fundamentals Instructional Support CR	1	$1,200	$1,200	$1,000	$1,000	$7,500	$7,500		$9,700	
OTHER SPECIAL NEEDS										
Score Mediation (Office, Entry, Stor)	2	$3,000	$6,000		$0	$1,500	$3,000		$9,000	
Deaf/Hearing Impared Suite	1	$5,000	$5,000	$5,000	$5,000	$1,500	$1,500		$11,500	
Speech/PT (Office for 3 + mtgs)	1	$3,000	$3,000		$0	$1,500	$1,500		$4,500	

ROOM TYPE	**# OF RMS**	**F-EACH**	**FURNITURE TOTAL**	**E-EACH**	**EQUIPMENT TOTAL**	**TECH-EACH** (inc. IWB/LCD; Teacher/Staff Computer)	**TECH EQ TOTAL**	**TECH-LAB** (24-28 Student desktop or laptops)	**TOTAL**	**Comments**
Psych + Evaluator/Testing	3	$2,500	$7,500		$0	$1,500	$4,500		$12,000	
Social Worker	2	$3,000	$6,000		$0	$1,500	$3,000		$9,000	
SPED Dept Chair	1	$3,000	$3,000		$0	$1,500	$1,500		$4,500	
SPED Team Chair	1	$2,500	$2,500		$0	$1,500	$1,500		$4,000	
SPED Office/Waiting	1	$3,000	$3,000		$0	$1,500	$1,500		$4,500	
Conference (1 for 12, 1 for 20)	2	$7,500	$15,000		$0	$7,500	$15,000		$30,000	
ART & MUSIC										
Art CR (incl. Photo/Anim, Graph, TV Prod)	6	$15,000	$90,000	$5,000	$30,000	$7,500	$45,000	$135,000	$300,000	TECH-LAB for 3 of 6 Clr
Art Workroom w/ Storage & kiln	6	$2,000	$12,000	$2,000	$12,000		$0		$24,000	
Band - 50 - 100 seats	1	$7,500	$7,500	$15,000	$15,000	$7,500	$7,500		$30,000	
Chorus - 50 - 100 seats (incl. Drama)	1	$10,000	$10,000		$0	$7,500	$7,500		$17,500	
Music Practice (incl. Guitar)	5	$1,000	$5,000		$0		$0		$5,000	
Music Storage	2		$0	$25,000	$50,000		$0		$50,000	Casework - Instrument Storage
Piano/Digital Lab	1	$20,000	$20,000		$0	$7,500	$7,500	$30,000	$57,500	TECH-LAB for 20
Music Admin - Conf/ Off	1	$3,000	$3,000		$0		$0		$3,000	
Dance (also uses stage)	2		$0	$2,500	$5,000		$0		$5,000	
VOCATIONS & TECHNOLOGY										
ROTC Classroom (385 stu = 434 prorated)	5	$12,000	$60,000	$1,000	$5,000	$7,500	$37,500		$102,500	
Culinary Arts Classroom	2	$12,000	$24,000	$1,000	$2,000	$7,500	$15,000		$41,000	
Business (Accounting/Pers-Finance/Law)	2	$15,000	$30,000	$1,000	$2,000	$7,500	$15,000	$90,000	$137,000	
Business (Mktg/Sports Mktg) **CH.74**	incl. below									
Business (Retail Mktg - CR) **CH.74**	3	$15,000	$45,000	$1,000	$3,000	$7,500	$22,500	$135,000	$205,500	
Business (Retail Mktg - Store) **CH.74**	incl. above									
Tech Clrm. - (E.G. Drafting, Business)	12	$15,000	$180,000	$1,000	$12,000	$7,500	$90,000	$270,000	$552,000	TECH-LAB for 6 of 12 Clr
ROTC MP/Gym w/ Stor (Drills/Band)	1	$5,000	$5,000	$5,000	$5,000	$7,500	$7,500		$17,500	
Culinary Arts Kitch + Restaurant (for 25-30)	1	$15,000	$15,000	$15,000	$15,000	$7,500	$7,500		$37,500	
Costume Shop w/ Sewing, Storage	1	$7,500	$7,500	$5,000	$5,000		$0		$12,500	
Scene Shop	1	$7,500	$7,500	$15,000	$15,000		$0		$22,500	
TV Studio (w/ cntrl, edit/scrn, off/wait, equip)	1	$10,000	$10,000	$50,000	$50,000		$0		$60,000	
Robotics/CADD (w/ Engnr)	2	$15,000	$30,000	$5,000	$10,000	$7,500	$15,000		$55,000	
Clean Enegry Lab (w/ Engnr)	1	$15,000	$15,000	$5,000	$5,000	$7,500	$7,500		$27,500	
Maker Space (w/ Freshman Integr. Sci)	1	$15,000	$15,000	$30,000	$30,000	$7,500	$7,500		$52,500	
Business (Bank/Credit Union)	1		$0		$0		$0		$0	
									$0	
ROTC Off/ Conf.	2	$5,000	$10,000		$0	$7,500	$15,000		$25,000	
ROTC Storage (4sf/cadet, 400sf min)	3	$10,000	$30,000		$0		$0		$30,000	
Culinary Arts Storage	2		$0		$0		$0		$0	
Scene Shop and Costume Storage	1	$4,000	$4,000		$0		$0		$4,000	
Retail/Store Storage	1	$2,000	$2,000		$0		$0		$2,000	
HEALTH & PHYSICAL EDUCATION										
Gymnasium (w/ 150-200m track, LJ, TJ)	6		$0	$20,000	$120,000		$0		$120,000	
PE Alternatives (Wrestling 42x84)	1		$0	$20,000	$20,000		$0		$20,000	
Weights & Funct Strngth	1		$0	$50,000	$50,000		$0		$50,000	
MP (Gymnastics/Yoga/Cheering)	1		$0	$10,000	$10,000		$0		$10,000	

ROOM TYPE	**# OF RMS**	**F-EACH**	**FURNITURE TOTAL**	**E-EACH**	**EQUIPMENT TOTAL**	**TECH-EACH** (inc. IWB/LCD; Teacher/Staff Computer)	**TECH EQ TOTAL**	**TECH-LAB** (24-28 Student desktop or laptops)	**TOTAL**	**Comments**
Pool - 25 yd/8 lane (60'w x75'l, 10'clr +5'end)	1		$0	$20,000	$20,000		$0		$20,000	
Gym Storeroom (incl. Gymnastics w/ MP)	1	$5,000	$5,000		$0		$0		$5,000	
Pool + Towel Storage = Laundry	2		$0		$0		$0		$0	
Locker Rooms - Boys / Girls w/ Toilets	2		$0		$0		$0		$0	
Varsity Lockers - Boys/ Girls w/ Toilets	2		$0		$0		$0		$0	
Phys. Ed. Storage (incl. Equipment)	6		$0		$0		$0		$0	
Athletic Director's Office (Lord 1st fl -South)	1	$2,500	$2,500		$0	$1,500	$1,500		$4,000	
AD Secr, Bursor, Conf (Lord 1st fl - South)	3	$2,500	$7,500		$0	$1,500	$4,500		$12,000	
Health Instructor's Office w/ Shower & Toilet	4	$2,500	$10,000		$0	$1,500	$6,000		$16,000	
Trainers Room	1	$2,500	$2,500	$5,000	$5,000	$1,500	$1,500		$9,000	
MEDIA CENTER										
Media Center / Reading Room	1	$125,000	$125,000	$10,000	$10,000	$15,000	$15,000	$90,000	$240,000	TECH-LAB - 50 to 60 Laptops
Computer Lab	1	$15,000	$15,000		$0	$7,500	$7,500	$45,000	$67,500	
Technology Center, Stor + Training Lab	1	$15,000	$15,000		$0	$7,500	$7,500	$45,000	$67,500	
Data Processing + Scheduler	1	$5,000	$5,000		$0	$3,000	$3,000		$8,000	
AUDITORIUM / DRAMA										
Auditorium	1		$0		$0		$0		$0	
Stage	1		$0	$5,000	$5,000		$0		$5,000	
Auditorium Storage (incl Prop Storage)	1	$3,000	$3,000		$0		$0		$3,000	
Make-up / Dressing Rooms	2		$0		$0		$0		$0	Casework
Controls / Lighting / Projection	1	$1,000	$1,000		$0		$0		$1,000	
DINING & FOOD SERVICE										
Cafeteria - Freshman	1	$40,000	$40,000		$0	$15,000	$15,000		$55,000	
Cafeteria / Student Lounge / Break-out	1	$75,000	$75,000		$0	$30,000	$30,000		$105,000	
Chair / Table Storage	1		$0		$0		$0		$0	
Scramble Serving Area	1		$0		$0		$0		$0	
Kitchen - Freshman	1		$0		$0		$0		$0	
Kitchen	1		$0		$0		$0		$0	
Staff Lunch Room	1	$10,000	$10,000		$0	$75,000	$75,000		$85,000	
MEDICAL										
Medical Suite Toilet	4		$0		$0		$0		$0	
Nurses' Office / Waiting Room	1	$3,000	$3,000	$5,000	$5,000	$1,500	$1,500		$9,500	
Interview Room	8	$2,500	$20,000		$0	$1,500	$12,000		$32,000	
Examination Room / Resting	10		$0	$5,000	$50,000		$0		$50,000	
Lactation Room	2	$1,000	$2,000		$0		$0		$2,000	
ADMINISTRATION & GUIDANCE										
General Office / Waiting Room / Toilet	7	$10,000	$70,000		$0	$3,000	$21,000		$91,000	
Conference Room (Administration)			(in above)				$7,500		$7,500	
Conference Room - Freshman			(in above)				$7,500		$7,500	
Conference Room - B House			(in above)				$7,500		$7,500	
Career Center	1	$25,000	$25,000		$0	$15,000	$15,000		$40,000	

ROOM TYPE	**# OF RMS**	**F-EACH**	**FURNITURE TOTAL**	**E-EACH**	**EQUIPMENT TOTAL**	**TECH-EACH** (inc. IWB/LCD; Teacher/Staff Computer)	**TECH EQ TOTAL**	**TECH-LAB** (24-28 Student desktop or laptops)	**TOTAL**	**Comments**
Records Room	1	$10,000	$10,000		$0		$0		$10,000	
Records Room - Freshman	1	$35,000	$35,000		$0		$0		$35,000	
Teachers' Work Room	5	$5,000	$25,000	$1,000	$5,000		$0		$30,000	
CUSTODIAL & MAINTENANCE										
Custodian's Office + Lockers	3	$2,500	$7,500		$0		$0		$7,500	
Custodian's Workshop	1	$7,500	$7,500	$10,000	$10,000		$0		$17,500	
Custodian's Storage	10		$0		$0		$0		$0	
Recycling Room / Trash	1		$0	$5,000	$5,000		$0		$5,000	
Receiving and General Supply	1	$10,000	$10,000	$150,000	$150,000		$0		$160,000	
Storeroom + Books	1	$12,000	$12,000		$0		$0		$12,000	
Network / Telecom Room	6		$0		$0		$0		$0	
									$0	
OTHER										
Lowell Comm Hlth Center	1		$0		$0		$0		$0	FFE/T - by others
Lowell Comm Hlth Center - Exam									$0	
Lowell Comm Hlth Center - Office									$0	
Lowell Comm Hlth Center - File and Storage									$0	
Lowell Comm Hlth Center - Toilet									$0	
									$0	
Catie's Closet - Freshman	2		$0		$0		$0		$0	FFE/T - by others
Catie's Closet - Gr.10-12									$0	
									$0	
Trio - Gear Up/Talent/Upward - Freshman	3		$0		$0		$0		$0	FFE/T - by others
Trio - Upward									$0	
Trio - Suite (recept, wait, 2 offices, conf)									$0	
									$0	
In School Suspension - Freshman	2	$12,000	$24,000		$0	$7,500	$15,000		$39,000	
In House Detention Gr.10-12									$0	
									$0	
Interactive Learning Center + Storage									$0	
Latino Connection	1	$2,500	$2,500		$0		$0		$2,500	
Student Activities (Lord 1st fl - North)	1	$3,000	$3,000		$0		$0		$3,000	
Substitute Teacher's Office	1	$2,500	$2,500		$0		$0		$2,500	
									$0	
DARE Office & Security	2		$0		$0		$0		$0	FFE/T - by others
SRO Office & Entry (Lord 1st fl - North)	2		$0		$0		$0		$0	FFE/T - by others
									$0	
TECH INFRASTRUCTURE HARDWARE										
Telephone (VOIP)							$200,000		$200,000	Does not include wiring/termination
WAP							$175,000		$175,000	Does not include wiring/termination
Data Switches (Core/IDF/UPS)							$350,000		$350,000	Does not include wiring/termination
Servers							$150,000		$150,000	
									$0	
Student Tablet/Chromebook @ $300 each @ 2:1	3520							$528,000	$528,000	If 1:1, then add $528,000

ROOM TYPE	# OF RMS	F-EACH	FURNITURE TOTAL	E-EACH	EQUIPMENT TOTAL	TECH-EACH (inc. IWB/LCD; Teacher/Staff Computer)	TECH EQ TOTAL	TECH-LAB (24-28 Student desktop or laptops)	TOTAL	Comments
SUBTOTALS			**$3,140,700**		**$1,102,500**		**$2,796,500**	**$1,368,000**	**$8,407,700**	
Contingency @ 10%			$314,070		$110,250		$279,650	$136,800		
SUBTOTALS W/CONTINGENCY			**$3,454,770**		**$1,212,750**		**$3,076,150**	**$1,504,800**		
				FF&E TOTAL	**$4,667,520**		**TECH TOTAL**	**$4,580,950**		
FF&E/T PROJECT TOTAL									**$9,248,470**	
MSBA Allowance	**3520**	**X**	**$2,400**						**$8,448,000**	

BRYANT ASSOCIATES
Improving lives through infrastructure

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February 10, 2017
BAI #216092

Ms. Alicia Caritano
Senior Associate
Perkins Eastman
20 Ashburton Place, Floor 8
Boston, MA 02108

REFERENCE: Lowell High School
Lowell, Massachusetts
Traffic Impact Analysis

Dear Ms. Caritano:

Bryant Associates, Inc. (Bryant) has been retained by Perkins Eastman to provide traffic analysis services for the Lowell High School. Currently, the design team is evaluating options to achieve the City's goals for the high school. The evaluation includes the assessment of the following options for the proposed high school design:

- A full renovation of the existing school,
- an addition and renovation design of the existing school [Options 1A, 2, 3, 4, and 5],
- a new building on the existing site,
- a new building on an expanded site,
- a new building at the Wang site, and
- a new building at the Cawley site.

Bryant has been part of the review of the existing site, as well as the alternative locations at the Wang site and the Cawley site. Bryant will conduct a more detailed traffic impact analysis study once the final site is selected.

Should you have any questions or comments, please do not hesitate to call Elizabeth R. Lavoie (401.834.1071) or me (401.834.1063).

Very truly yours,

BRYANT ASSOCIATES, INC.

Todd E. Brayton, P.E.
Director of Operations – Rhode Island
Transportation Director

TEB:erl
cc: File

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BCA
10 Langley Road
Suite 202
Newton Centre, MA
02459

617.916.5661 TEL
617.477.2350 FAX

bcausa.com

MEMORANDUM

To:	Alicia Caritano Perkins Eastman Architects
From:	Alicia Svenson
Date:	February 16, 2017
Project:	Lowell High School, Lowell MA Design Options - Historic Preservation Regulatory Summary

HISTORIC REVIEW OVERVIEW

The following document summarizes the historic review process for Lowell High School as the project moves through the Massachusetts School Building Authority (MSBA) grant program modules. This document includes information from a conversation on February 15, 2017 with Ryan Maciej, Architectural Historian/Preservation Planner at the Massachusetts Historical Commission (MHC).

MHC Submission Timeline

The design options included in the Preliminary Design Program (PDP) submission to the MSBA, regardless of whether they involve an historic property, will need to be submitted to the MHC for review. The purpose of submitting multiple options for review is to allow the MHC to evaluate the options and provide recommendations on preferred options that minimize impact to historic resources.

Once the PDP has been submitted to the MSBA at the end of February, a Project Notification Form (PNF) should be prepared and submitted to the MHC with supporting documentation for each design option. Mr. Maciej clarified that one PNF could be submitted that included all options (previous conversations with the staff at the MHC had indicated that one form might be needed for each address).

The MHC will respond in writing within 30 days, evaluating the options listed on the PNF. They will outline which historic resources, if any, are affected by each option and will note which, if any, of the options would constitute an "adverse effect" per Commonwealth of Massachusetts Regulation (CMR) 71.05(a) through the destruction or alteration of all or part of a State Register property. They will provide their recommendations on which option to select, that should be considered during the preparation of the Preferred Schematic Report (PSR) for the MSBA. The PNF form and supporting documentation should be submitted to the MHC as soon as possible after the PDP submission to allow ample time for review before the PSR submission date in May 2017.

The design option selected in the PSR will need to be re-submitted to the MHC for review. A new PNF will be prepared for this submission. The MHC will review the selected design option and determine whether the project constitutes an "adverse effect" per CMR 71.05(a). They may also request additional information on the project beyond what is submitted if needed for their determination. If no "adverse effect" is found the MHC review process is complete. If it is determined that the project does constitute an adverse effect on an historic resource then the MSBA and City of Lowell would be required to participate in the MHC's consultation process to seek ways to avoid, minimize, or mitigate the adverse effect. At the end of the consultation process a Memorandum of Agreement (MOA) would be drafted between the MHC and the project proponents that would summarize the agreed upon avoidance or mitigation measures. This would likely include additional MHC review of project documents during the design phase.

It should be noted that all of the options that involve the existing high school complex will be subject to design review by the Lowell Historic Board regardless of whether or not there is a determination of adverse effect by the MHC by virtue of the buildings' location within the Downtown Lowell Historic District.

BCA
10 Langley Road
Suite 202
Newton Centre, MA
02459

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bcausa.com

MEMORANDUM

To:	Alicia Caritano Perkins Eastman Architects
From:	Alicia Svenson
Date:	February 16, 2017
Project:	Lowell High School, Lowell MA Design Options – Historic Preservation

The following is a summary of known historic issues for the four conceptual design options for Lowell High School included in the Preliminary Design Program (PDP) submission to the Massachusetts School Building Authority (MSBA). This summary builds on information in BCA's Existing Conditions Report dated October 19, 2016 and Conceptual Design Options Report dated January 20, 2017 and is revised per information provided by Perkins Eastman Architects on February 8, 2017. The following options are were reviewed:

- Full Renovation
- Addition/Renovation Option 2
- Addition/Renovation (Expanded Site) Option 3
- New School at Cawley Site

SITE-SPECIFIC HISTORIC PRESERVATION ISSUES AND DESIGN GUIDELINES

Full Renovation and Addition/Renovation Options 2 and 3

As noted in the "Existing Conditions Evaluation" memorandum prepared by Building Conservation Associates on October 19, 2016, all of the properties associated with the Renovation and Addition/Renovation options are located within the Lowell National Historical Park and Preservation District. This includes the original high school building with its sections from 1892, 1922 and 1995 (hereafter referred to as the 1922 Building) and the 1980s additions to the high school (the Lord and Fieldhouse buildings) located across the canal, despite the 1980s buildings being less than fifty years old. Their presence within the Park places these buildings on the National Register of Historic Places and the State Register of Historic Places. In addition, all of the buildings are located within the Downtown Lowell Historic District and the City Hall National Register District. Air rights over the canals are owned by the State Department of Conservation and Recreation (DCR)

All work on these properties will be subject to review by the Lowell Historic Board by virtue of their presence in the Downtown Lowell Historic District. Depending on the extent of the work at the complex, additional review from the Massachusetts Historical Commission (MHC) and the National Park Service may be required. Once a Project Notification Form is submitted to the MHC for review the MHC will reach out to the Lowell Historic Board and National Park

Service for assistance with the design review process. It is likely that all options will require preparation of a Memorandum of Agreement (MOA) between the MSBA and City of Lowell with the MHC, although there is also a possibility that the MHC may defer review responsibilities to the Lowell Historic Board. The MOA will outline design review requirements throughout the project as it moves forward. Whether a MOA is required or not, it is anticipated that the Lowell Historic Board will perform the majority of the design review and it is recommended that the Board be involved early in the design process to allow for discussion and incorporation of comments into design.

While all of the buildings are subject to design review, there will be different levels of review for the different structures based on age and level of architectural and historic significance. Work at the 1922 Building, especially the 1892 portion of the building, will be the most scrutinized, whereas alterations to the 1980 Lord and Fieldhouse buildings and contemporary buildings on the expanded site will be more permissible, including alterations that require demolition. Work, including interior work, will need to follow the guidelines outlined in the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and the Lowell Historic Board's *Downtown Historic District Design Review Standards.* It is likely that the DCR will also be involved with the review process due to the new two-tier bridges crossing the canals between the buildings of the high school complex.

Levels of Review – 1922 Building

Alterations to the 1922 building that change its exterior appearance or character are not likely to be approved. Alterations that improve accessibility or have other tangible benefits to the school that are designed to be compatible with the historic structure are more likely to be approved. Alterations that help bring the structure closer to its original appearance, for instance, replacing the existing aluminum windows with new aluminum windows with profiles and glazing patterns that match original window profiles are encouraged. The general principles for existing structures in the Lowell Historic Board's *Downtown Historic District Design Review Standards* are as follows*:*

2.30 General Principles

2.301 Historic Architectural Character

2.3011 The historic architectural character of each building shall be maintained or restored. Buildings shall be rehabilitated to reveal their historic materials and details. Missing architectural elements shall be recreated wherever feasible. Significant existing materials shall be retained wherever possible, by stabilizing, repairing or matching them with compatible new materials as required.

Levels of Review - Lord and Fieldhouse Buildings

Character-changing alterations, including the partial demolition called for in Addition/Renovation Option 2 and Addition/Renovation (Expanded Site) Option 3 are likely to be more acceptable for these buildings than for the 1922 building. New construction will be subject to review, per the Lowell Historic Board's *Downtown Historic District Design Review Standards. Applicable general principles for new construction in the Standards are as follows:*

3.1 General Principles

3.10 Character: New construction on currently vacant sites shall be encouraged to create a tightly-knit urban environment reflecting Lowell's traditional character, embodied in the compactness and richness of its building types.

3.11 Continuity: New buildings should not be designed as free-standing objects, but instead shall generally conform with the tradition of continuous structures holding the lines of streets, canals and riverfronts. The creation of interior courtyard spaces is encouraged.

3.14 Contemporary Approaches: New buildings shall generally utilize contemporary design ideas, but shall also respect and reflect the traditional scale, proportions, rhythms, and mood of historic structures. These traditional architectural values should be interpreted into contemporary building design, but the use of imitation historic building details and ornaments is discouraged. Building design must also be internally consistent, and amalgamations of historically unrelated stylistic elements shall generally be prohibited.

New School at Cawley Site

The Cawley site is not located in any national, state or local historic districts. The conceptual design option does not disturb either of the existing buildings on the site. It appears unlikely that there would be substantial objections from the MHC to the proposed changes to the site.

SKANSKA

Mary Ann Williams
Project Executive
Skanska USA Building Inc.
253 Summer Street
Boston, MA 02210

February 24, 2017

Ms. Sarah Blache, Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Lowell High School – FSA – Preliminary Design Program Submission

Dear Ms. Blache,

Pursuant to the Module 3 - Feasibility Study requirements and in accordance with Section 8.1.1.2 of the OPM Contract, we have reviewed and coordinated the materials associated with the enclosed Preliminary Design Program Submittal. We certify, to the best of our knowledge, that the information is accurate, complete and in full compliance with the MSBA's Feasibility Study requirements.

The School Building Committee met February 7, 2017 to approve the Preliminary Design Program and made the recommendation to the City Council to authorize Skanska USA, the Owner's Project Manager, to submit the Preliminary Design Program to the Massachusetts School Building Authority on behalf of the School District no later than February 24, 2017.

Following that meeting, the City Council met on February 7, 2017 and after much deliberation, referred the matter to the Finance Subcommittee for further review. The subcommittee met February 16, 2017: Eight members present, also voted to narrow the 10 options presented down to four finalists: the Cawley site and three renovations of the current downtown location and then referred the matter back to the full committee who are scheduled to meet February 28, 2017.

The 3.1.7 Local Actions and Approvals Certificate, certified meeting minutes and financial narrative for the Preliminary Design Program will be available after the February 28, 2017 City Council Meeting and subsequent meeting to approve minutes of that meeting.

The submittal has been attached electronically as requested by the MSBA. We look forward to our next meeting with the MSBA team, in order to review our progress with the program to date.

Please contact us should you have any questions or concerns regarding this submission.

Sincerely,



Skanska USA Building, Inc.
Mary Ann Williams
Project Executive

Perkins Eastman

Transmittal

20 Ashburton Place, Floor 8, Boston, MA 02108

PROJECT:	Lowell High School: FS & SD 67150.00.0	DATE:	2/27/2017
SUBJECT:	LHS - MSBA Module 3 Feasibility Study - Preliminary Design Program dated 2/24/17	TRANSMITTAL ID:	00046
PURPOSE:	For your use	VIA:	Info Exchange

FROM

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TO

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Transmittal

DATE: 2/27/2017
TRANSMITTAL ID: 00046

NAME	COMPANY	EMAIL	PHONE
United States of America			
Dale Caldwell United States	Skanska USA Building	Dale.Caldwell@skanska.com	

REMARKS:

All,

As requested, Perkins Eastman is transmitting the electronic files of the MSBA Module 3 Feasibility Study Preliminary Design Program for Lowell High School.

If you have any questions or comments, please don't hesitate to contact us.

Thank you.

Patrick Jones AIA, LEED AP, MCPPO
Associate

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Transmittal

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TRANSMITTAL ID: 00046

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1	10/27/2016	App_O_HazMat_102716_ExBase_v1_FINAL.pdf	
1	1/18/2017	App_P_Property_Survey_v1_FINAL.pdf	
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