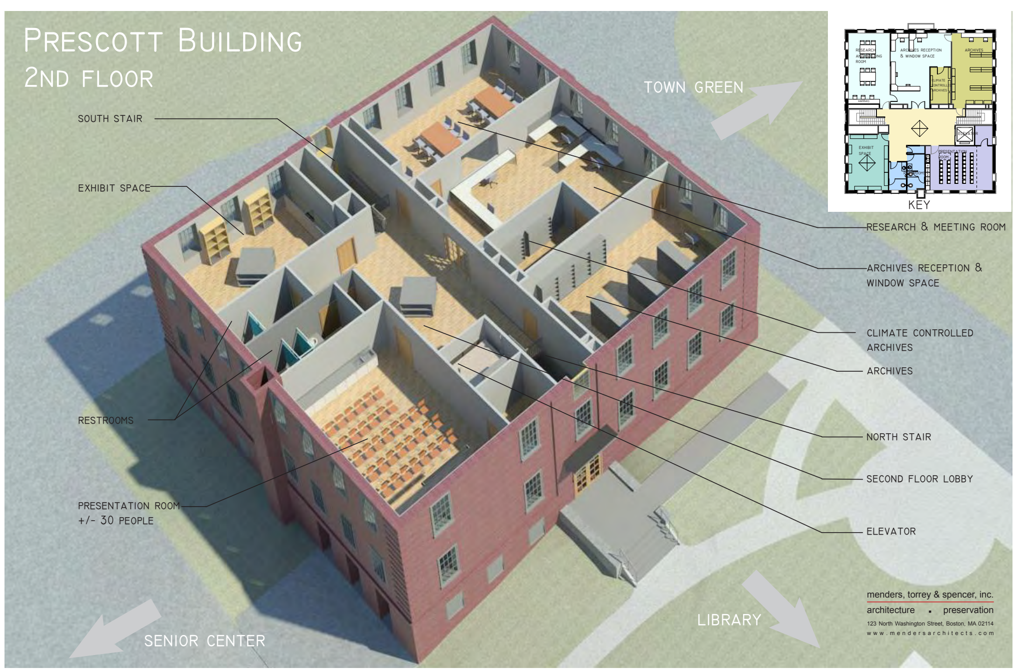
ADAPTIVE REUSE & REHABILITATION PLAN

The Prescott Building
Lancaster, Massachusetts



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Menders, Torrey & Spencer

TABLE OF CONTENTS

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EXECUTIVE SUMMARY

It was a privilege to be selected to investigate and develop reuse scenarios and rehabilitation plans for the Prescott Building. This handsome Colonial Revival building, a treasured presence on the town green for more than a century, will be preserved and returned to service for the Lancaster community. This study provides the stewards of the Prescott Building with an in-depth look at the building's architectural significance, an understanding of its structure and fabric, and most importantly, a road map for its rehabilitation.

This undertaking is yet another demonstration of the Town's continued commitment to the revitalization of the building. In the last two years, with help from the Massachusetts Preservation Projects Fund, the building stewards have invested $50,000 in a comprehensive conditions assessment and almost $130,000 in envelope preservation and site improvements. The work included restoration of windows and trim at the facade, roof and skylight repairs, improved interior and exterior lighting, removal of an underground oil tank and installation of a new sewer line.

Lancaster has been a respectful steward of this archetypal Classical Revival structure. Today, as this fine building evolves from more than a century of school use to its future housing town records, a history center and lease space, its success will depend on several factors. Its owners must preserve and celebrate the building's striking architecture and Classical detail while creating an accessible, functional, code compliant venue that welcomes the community and creates an active and viable resource. The reuse plans envisioned by the Town offer the prospect of a revitalized building ready for the next century.

The program established for the Prescott Building is well suited for the building:
- Ground floor (basement) -- Town records storage and leased tenant space.
- First floor – Leased tenant space.
- Second Floor – Historical Commission

Lancaster's Historical Commission has an exemplary record in the collection and stewardship of important historical documents, and to a lesser extent three-dimensional artifacts. The opportunity to preserve, display and share those resources with the public for purposes of research and education would be beautifully realized in the spaces provided by the second floor. The proximity to the Thayer Public Library, which also shared in the stewardship of Lancaster's historical records and artifacts, is a great prospect for partnership. Similarly the community center located in the Memorial Building behind the Prescott Building offers cooperative programming opportunities.

Storage of town records on the ground floor means easy access for town employees working next door in Town Hall. The first floor as well as some ground floor space offers excellent opportunities for leased space for compatible uses such as professional and general office use. It is also easy to see how additional office for town employees might be located in quick proximity to Town Hall. The large former classrooms on the first floor are easily subdivided with landscape office partitions to multiple offices.

Part One of this study, Building History and Significance, provides a brief historical synopsis, a physical description of the building, a list of character defining features, and recommendations for building preservation that are guided by *The Secretary of the Interior's Standards for the Treatment of Historic Properties* and comply with the requirements of the restriction placed on the Prescott Building by the Massachusetts Historical Commission. This portion of the study includes the principles that directed the design process and guidance for the rehabilitation of historic resources. We believe that a building's "story" and its defining physical characteristics are valuable assets that should be respected as well as celebrated during the rehabilitation process.

Part Two, Existing Conditions & Rehabilitation Plan, includes an examination of the physical conditions at the Prescott Building and treatment recommendations for preservation and restoration. These recommendations hearken back to the Preservation Guidelines and the standards provided in Part One of this report. Overall, the exterior of the building is in good condition. The recent work completed with the assistance of a grant from the Massachusetts Preservation Projects Fund provided needed upgrades to the exterior envelope that ensures the buildings stability. However, there are still elements of the exterior in need of preservation. The most pressing of these issues involves the exterior windows and doors on the three elevations not worked on during the last preservation effort. The construction cost to repair these features is estimated at approximately $325,000. This work would also include masonry repointing and painting of wood trim.

The Schematic Drawings and Specifications are provided for rehabilitating the building, and were generated from the established program of needs, a comprehensive regulatory analysis, multiple conceptual design iterations, and recommendations from the existing conditions survey. These were utilized to create a construction cost estimate for rehabilitating the structure, which is estimated at $2,875,000. Also provided in the report is a cyclical maintenance plan that will help the building stewards anticipate and budget for routine maintenance activities.

The **Appendices** include the full reports prepared by consultants hired by MTS and consultants hired independently of this study, historic documentation supplied by the cemetery board, and historic resources discovered by MTS.

Moving Forward

With an understanding of the current physical state of the building fabric, the Town now has a framework upon which to plan preservation and rehabilitation. It is our understanding that the current building committee will be applying for a second Massachusetts Preservation Projects Fund grant to continue work on the exterior preservation of the building. Also, the town is looking into a Community Development Block Grant to assist in the rehabilitation and introduction of an elevator.

Repurposing existing buildings is the most sustainable type of construction project. Design development, construction detailing, reuse of materials, and construction oversight services are all informed by this commitment to sustainable design and its integration into the rehabilitation and renewal of the Prescott Building. Careful consideration to site development, storm water design, water use reduction through efficient fixtures, increased energy performance with high-efficiency mechanical systems, and quality lighting controls are just a few of the sustainable design ideas that are easily applicable to the rehabilitation of the Prescott Building.

The Prescott Building has a distinct architectural character that contributes to the richness of the Lancaster town center. Sensitivity to its architectural context and fulfilling the expectations of the community related to its reuse offers both challenge and opportunity. The durable construction of the Prescott Building and its inherent positive attributes in weather resistance, energy efficiency and ongoing maintenance requirements makes its reuse and preservation of pragmatic and historical value. By accommodating needed town functions and offering the potential of rental revenues, the Prescott Building deserves serious consideration for investment necessary to upgrade it for adaptive reuse.

METHODOLOGY

The Adaptive Reuse and Rehabilitation Study represents a collaborative effort between Menders, Torrey & Spencer, Inc. (MTS) and the Town of Lancaster. The Town was represented by Orlando Pacheco, Town Administrator, who served as point of contact with MTS and facilitated access to local resources. The project team was assembled and coordinated by Lynne Spencer, principal preservationist at Menders, Torrey & Spencer, and Patrick Guthrie, RA, who together directed on-site investigations and prepared the feasibility study. They were assisted by Thomas Burgess, architectural designer/preservation specialist, Nick Curtis, architectural designer, and Lynn Smiledge, preservation planner, who coordinated final assembly of the report.

The building investigation and documentation, and adaptive reuse and rehabilitation study took place from the summer of 2011 through the spring of 2012. The project team performed the activities described below.

Existing conditions drawings of the plans and elevations were developed using building information modeling (BIM) software, which means that all drawings are a two dimensional representation of a three dimensional computer generated model. The "information" part of the model means that within each object of the model, information is stored that can be utilized to generate schedules of work for doors, windows, and room finishes. The model becomes a critical tool for coordinating building systems integration into the project during design development and construction documents. The information in the model is based upon previously completed architectural drawing sets as well as site verified dimensions and observations.

Utilizing these drawings the existing conditions of the buildings were documented, analyzed, and treatment recommendations provided. Concurrently conceptual designs were created and presented to the building committee over the course of four meetings, which generated a final conceptual plan. Outline plans and specifications for rehabilitation were produced by MTS with regard for the recommendations made by Structures North Consulting Engineers, CSI Engineering, and Fuss & O'Neill EnviroScience, and based upon the approved conceptual design.

Structures North performed a structural assessment of the building, commented on existing conditions and described the actions required to bring the structure into compliance with building code mandates. Murray Brothers Construction, Inc. was contracted to create the openings required for the structural investigations.

CSI Engineering surveyed the mechanical, electrical, plumbing and fire protection systems and prepared a series of recommendations to bring the buildings up to code.

AM Fogarty developed cost estimates for rehabilitation of the building based on the outline drawings and specifications provided in the conditions assessment.

All photographs were taken by Menders, Torrey & Spencer, Inc. unless otherwise indicated. The final report is issued both as a printed document and in electronic format as a portable document format (.pdf). Hard copies were delivered along with a digital file (pdf) on compact disc.

Envisioning a Complete Cultural Campus on the Lancaster Town Green

by the Lancaster Historical Commission (LHC) February 22, 2012

The Background

The town of Lancaster, one of the oldest inland settlements in Massachusetts, also boasts one of the most beautifully arranged and attractive Town Greens in the Commonwealth. It is the location of the First Church of Christ, Unitarian, architect Charles Bulfinch's greatest "ecclesiastical masterpiece", a handsome Victorian gem in the form of the Thayer Memorial Library and an elegant Georgian Revival Town Hall erected in 1908.

But the third of the four buildings on the Town Green, the Prescott Building, originally built as a High School in 1903, has been standing vacant for more than ten years.

The Lancaster Historical Commission (LHC), established in 1964, has never had an adequate home. In the early days, space in the southeast corner of the basement of the Town Hall was designated for its use and in more recent decades it was moved down the hall to a small space in the southwest corner. That office was eventually needed for other purposes.

On May 17, 2010, the LHC was moved to approximately 950 square feet of rented space at 94 Main Street in the Philbin Office Building. Since that time, nearly all the materials accumulated by the Commission, since its inception, have been housed there in "warehouse" fashion with little to no room for display or for researchers' to work delving into valuable materials. The office is manned solely by volunteers and is open to the public just four hours per week.

The Proposal

It has been thought by many that this is, indeed, a sad state of affairs. One of Lancaster's most valuable resources remains largely untapped and buried in virtual obscurity. But the LHC is optimistic that this will soon no longer be the case. The time has come for this valuable collection to find a suitable and permanent home on the Lancaster Town Green on the second floor in the Prescott Building.

A feasibility study, at a cost of $50,000.00, is currently underway for the re-use of this building. Plans include space on the building's second floor for a working office for the LHC, a research room, a storage room, a museum/display room and a meeting/conference room.

The four spacious rooms on the first floor would be made available as rental office suites. The income generated from these would provide the necessary operating budget to maintain the building in the years to come.

THE ADVANTAGES

While not without considerable expense, this long-ranging plan is not only wise; but, wise for many reasons:

First, the Lancaster Historical Commission, charged with preserving the town's rich history, needs a permanent, adequately-sized and well-located facility to house its collection(s). An area for display of three-dimensional artifacts in a museum setting is especially needed to make the items available to the public for educational purposes.

Second, recently approximately $130,000.00 has been spent to improve the Prescott Building. Logically, the next step would be to continue by rehabilitating the interior to serve a useful purpose for the town. Further, it is costing the town of Lancaster $8,400.00 per year to house the Lancaster Historical Commission in commercial office space in South Lancaster. It makes much more sense to house the LHC centrally and on town property.

Third, once finished, the Prescott Building would serve the town well for years to come as a vital and vibrant part of the "Cultural Campus" on the Town Green. With high visibility and aggressive marketing, the properly outfitted facility would, no doubt, attract a wide ranging array of visitors from local school children, to genealogists from across the country seeking information regarding their ancestors to authors researching pertinent data for upcoming books – all in an attractive and organized setting. The rehabilitated building would also provide much needed additional meeting space for various committees and/or groups.

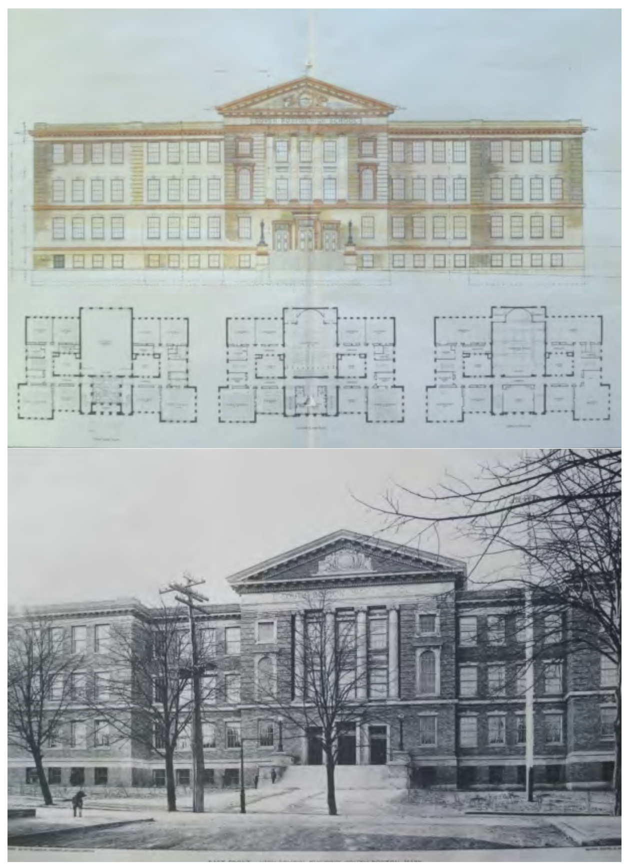
Fourth, the facility would provide an appropriate place for those wishing to donate items of historical interest to the area. It would also create opportunities for those wishing to donate their time and talents to the community. Feelings of pride in the in the town would result. Lancaster's plan would become a model for surrounding locales in the state of Massachusetts.

This plan represents is an idea whose time has come. We urge your whole-hearted support for this project. Now is the time to move forward!

BUILDING HISTORY & DESCRIPTION

The Town of Lancaster is fortunate indeed to enjoy a stunning collection of historic buildings surrounding its town green. The Prescott Building, along with the Town Hall, the Library and the Bulfinch Church, helps define the civic and cultural heart of the town. Designed in 1904 by architect Herbert D. Hale, the former Center School has a Classical façade that speaks to the Colonial Revival sweeping the country at the turn of the century and pays homage to the true Classical expression of the Bulfinch Church built a hundred years earlier.

Architect Herbert Dudley Hale (1866-1908) was the son of author, social reformer and Chaplain of the Senate Edward Everett Hale and nephew of the famous "fire and brimstone" orator Edward Everett. He was born in Dorchester and educated at Harvard University and the Ecole des Beaux Arts in Paris, where his obituary states he was one of the "medal men" and among the first in his class. His practice was based in New York and Boston, where his notable commissions included South Boston High School (see figure at right), the Belmont Fire Station, the Fly Club in Cambridge, and the Head House in Brookline. Hale won design competitions for the United Engineering Building in New York, the Post Office Building in New Orleans, and the Camden (New Jersey) Free Library with partner Henry Morse.



South Boston High School by architect Herbert D. Hale. Like the Prescott School, it was designed in the Classical Revival style. Seen in *The American Architect* in 1903. Images at www.stcroixarchitecture.com.

The Prescott Building, named after Lancaster founder John Prescott, served the community as a school until the 1990s.

BUILDING DESCRIPTION

Exterior

The Prescott School is a rectangular, hip-roofed, two-story masonry building executed in the Colonial Revival style. Seven bays wide at the facade and eight bays deep, it is constructed of locally made brick with granite and wood trim. The entrance is enframed by paired building-height painted brick pilasters that terminate at the cornice frieze under a pediment. Alternating triglyphs and metopes ornament the freize

Facade (west elevation) of the Prescott Building.

at the facade. The tympanum contains an elaborate plaster ornament incorporating the town seal, scroll and shell motifs, and cornucopia. The double main entry has a deep transom and a flat door hood supported by scroll brackets. The entrance is approached by granite steps.

The building has brick corner quoins, a brick water table, and a projecting brick band course between floor levels at the facade. Fenestration at the facade and side elevations consists of double-hung eight-over-eight rectangular sash with jack arch lintels and granite sills. The basement windows, several of which have been filled in with plywood, are three-over-three and six-over-six double-hung sash.

The side elevations have identical double entries located at the fifth bay from the front. These are framed by unpainted brick pilasters and topped by flat hoods with scroll brackets. The frieze at the side elevations is unadorned and carries simple cornice brackets. At the north elevation two second floor windows and one first floor window were converted to egress doors when the fire escape was installed. Windows at the seventh bay at each level were bricked in.

North elevation with plaza adjoining the library.

South elevation.

At the south elevation, a single second floor window was converted to a door for fire escape egress. A single window at the seventh bay on the second level was bricked in.


East elevation (rear).

The rear elevation is eight bays wide with a chimney centered on the wall. The eight-over-eight double-hung sash at the first and second floors have segmentally arched brick lintels and granite sills. The basement level has four-over-four and eight-over-eight sash with jack arch lintels and brick sills. A vertical plank delivery door flanks the chimney at its north side. There is no frieze at the rear elevation; the cornice is supported by simple brackets.

The building's modified hip roof transitions to a flat plane at the top. The flat portion is membrane-covered and the angled planes are clad in asphalt shingle. The original roof covering was probably slate.

Interior

The interior of the building was originally organized for four functions: classrooms, circulation, mechanical space, and rest rooms. The mechanical space and the building's only rest rooms were originally located in the basement. Over time, rest rooms were added at the first and second floors and the basement rest rooms were abandoned.

The basement today contains a large boiler room and small office at the east side and two classrooms at the west side. Mirrored staircases service all floors at the north and south walls.

Basement classroom.

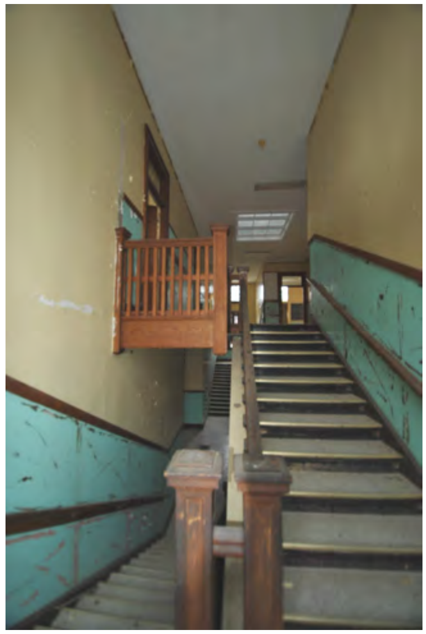
Basement mechanicals.

The first floor contains four classrooms surrounding a central hallway, north and south staircases, and two rest rooms.

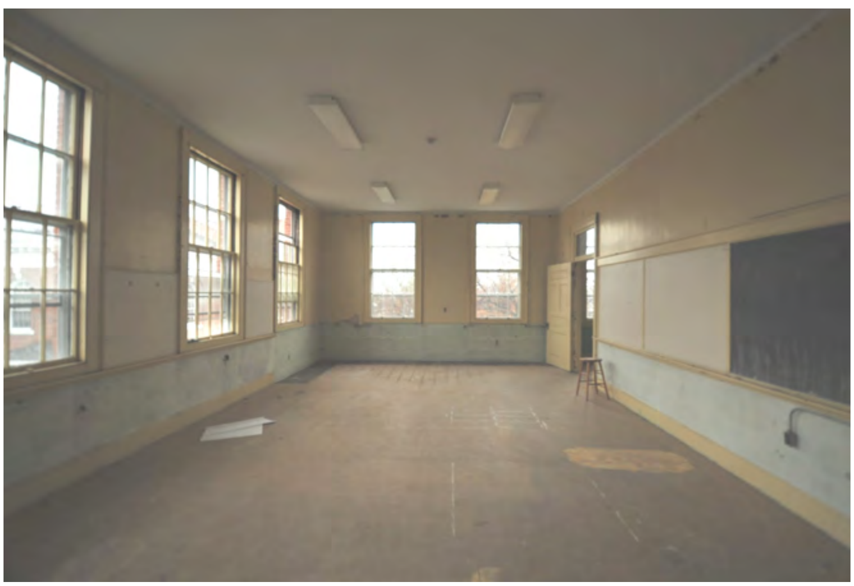
The second floor contains five classrooms, a central lobby between the two staircases, and three rest rooms (including a handcap accessible stall).

Typical first floor classroom.

First floor hallway.



South stairway at landing between first and second floors.



Second floor classroom.

CHARACTER DEFINING FEATURES

Character defining features refer to the significant observable and experiential aspects of a building that define its architectural power and personality. They are critically important considerations whenever repairs or alterations are contemplated. Inappropriate changes to historic features can undermine the historical and architectural significance of the building, sometimes irreparably. Retaining a structure's integrity is essential to eligibility for National Register of Historic Places status and for preservation grants such as Save America's Treasures, the Massachusetts Preservation Projects Fund, and Community Preservation Act funds.

This survey considers the overall shape of the Prescott Building and its materials, craftsmanship, decorative details, and various aspects of its site and environment – all elements that contribute to the building's unique character. **All features in the bulleted lists that follow should be retained to preserve the historic integrity and significance of the Prescott Building.** Because the building retains original detail and is virtually unaltered on its exterior, nearly all of the original elements are character-defining.

SITE AND ENVIRONMENT

- On the Green at the historic town center adjacent to the library and facing Town Hall diagonally to the south and First Church diagonally to the north

SHAPE AND MASSING

- Rectangular plan with modified hip roof and pedimented entrance

Prescott Building at left and Town Hall at right.

Library at left and Prescott Building at right.

STYLISTIC FEATURES

Materials

- Brick
- Granite
- Wood
- Plaster
- Glass

Decorative & Stylistic Details: Exterior

- Brick detailing, including quoins, string course, water table, jack arches with keystones, segmental arches and pilasters
- Stone sills and entry stairs
- Wood details including frieze with alternating triglyphs and metopes, dentillated cornice, console brackets at door hoods

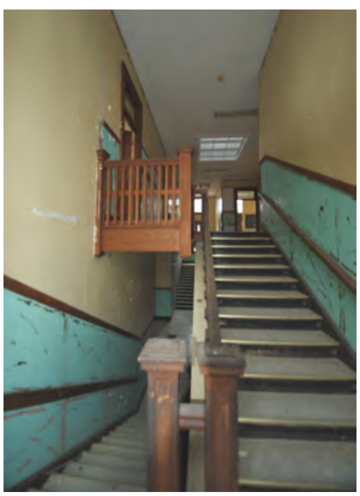
Top right: Main entry flanked by painted brick pilasters and surmounted by a transom window; door hood supported by scroll brackets. Left: Alternating triglyphs and metopes at the frieze. Right: Brick jack arches at windows, corner quoins and horizontal string course over windows.

- Wood windows with multi-light (8 over 8) configurations, transoms at main entries
- Paneled wood doors
- Painted plaster ornament with town seal at pediment tympanum

Decorative & Stylistic Details: Interior

- Floorplan and stairways
- Wood wainscot (beadboard and raised), chair rails, baseboards, paneled doors and staircases
- Door transoms, vestibule transoms and sidelights, second floor skylights and laylights
- Built-in closets and cabinetry
- Slate blackboards

Town seal with scroll and shell ornaments flanked by cornucopia at the facade pediment.



Left and top left: Multi-light door transoms, paneled doors, wainscot and wood staircase. Right and top right: Original slate blackboards, chair rails and multi-light window sash.

PRESERVATION GUIDELINES

This section of the report describes how work performed on historic buildings should be approached in order to respect and preserve those elements that define their historic and architectural character. The character defining features of the Prescott Building identified in this report should be retained and preserved when possible.

Repairs, maintenance, and renovations at the Prescott Building should be guided by the significance of the building and site as framed by the National Register of Historic Places and their character defining features. *The Secretary of the Interior's Standards for the Treatment of Historic Properties* should be used as a guide. The Standards provide advice on the preservation and protection of cultural resources and recognize four building treatments: Preservation, Rehabilitation, Restoration and Reconstruction. The first three are relevant to this project and are defined below.

PRESERVATION is defined "as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a Preservation project."

REHABILITATION is defined "as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural or architectural values."

RESTORATION is defined "as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project."

APPLICATION OF THE STANDARDS

Structural Systems: Minimal Intervention, Compatibility and Reversibility

Working with historic construction involves the careful balance of modern engineering principles and traditional construction methods to meet established preservation objectives. The principle of minimal intervention seeks to "do no harm" to the structure by over zealous efforts to upgrade structural systems to meet modern building code requirements. Stabilization and strengthening schemes should address life safety imperatives without compromising the original historic fabric by minimizing changes to the structure's materials and appearance and retaining as much of the existing materials as possible.

Stabilization efforts must be physically and aesthetically compatible with the original building materials and design concept. New materials must be chosen for compatibility with existing materials to match physical and mechanical properties such as strength, stiffness, porosity, density, vapor transmission, thermal conductivity, etc. Materials compatibility will assure consistent performance and response to applied loads and environmental conditions.

When structural interventions are required to meet minimum life safety code requirements, they should be designed to be reversible. This means that they may be removed in the future without major compromise to the historic building fabric and do not interfere with or prevent future efforts to maintain the building.

Additions

Additions to a historic structure should be respectful and subordinate to the original building. Although the addition should possess similar mass, proportions and materials, and can feature complementary stylistic details, it should not replicate the original building.

Materials

When repairs are required, original building materials should be replaced in kind – granite for granite, brick for brick, wood for wood, slate for slate. When traditional replacement materials are not available or are economically unfeasible, substitute materials that mimic the look, feel, and workability of original materials may be considered. Care should be taken when deciding to use a synthetic material, however, since modern products may interface poorly with traditional building materials, offer limited longevity versus traditional materials, and often exhibit color shifts and other deteriorative changes.

Masonry

Stone and brick elements should be replaced with matching material. Cast stone, which differs from natural stone in appearance, texture and workability, is not an appropriate substitute for natural material.

An appropriate mortar formula should be established and adopted for all repointing campaigns. Clear records of the mortar mix, proportions of tinting pigments, and the application technique, including the final strike, should be documented in the building owner's maintenance records. Actual mortar samples should be retained with the records along with a sample panel on the building.

Wood Windows, Doors & Trim

Wood windows and doors are character defining features and essential contributing elements to a historic building's distinctive appearance. Repairing and weatherizing existing wood doors and windows is always the preferred approach for historic buildings and provides energy efficiency comparable to replacement elements. When windows have exceeded their useful lives and retention is not practical or economically feasible, an approach that combines repairing old windows where possible and introducing new windows where necessary is recommended. Where original windows cannot be salvaged, historically appropriate, high quality wood windows with pane configurations matching the originals and true divided lights are acceptable.

Wood trim, both exterior and interior, should be similarly retained and preserved.

Paint Finishes

Original paint formulations and colors are character-defining elements that are often lost over time because the paint materials themselves are relatively short-lived. When repainting is necessary to preserve the integrity of the envelope, the colors chosen should be appropriate to the style and setting of the building. If the intent is to reproduce the original colors or those from a significant period in the building's history, they should be based on the results of a scientific paint analysis.

Traditional lead-based paints, which offer excellent longevity, durability and color stability, are no longer available in the United States. The highest quality latex-based paints available should be employed instead, after thorough surface preparation and priming. Permanent vinyl or ceramic liquid coating systems are damaging to wood siding and historically inappropriate.

Preservation Restriction

A preservation restriction held by the Massachusetts Historical Commission (MHC) was placed on the Prescott Building in 2010 as a requirement of grant funding. This means that all changes to the building exterior must be reviewed and approved by MHC. The process for project notification, review and approval is described on the MHC website at http://www.sec.state.ma.us./mhc/mhcrevcom/revcomidx.htm.

APPLICATION OF THE STANDARDS AT THE PRESCOTT BUILDING

Preservation of the character defining features and architectural integrity of the Prescott Building should be of paramount concern for the building's stewards.

Preservation of the Setting and Landscape

The Prescott Building's relationships with adjacent buildings and the town green communicate its traditional role in the life of the town and should be retained.

Preservation of Exterior Character-Defining Features

Roofing
The original roof of the Prescott Building was probably slate. If evidence of the original roofing material is found during a building investigation, the building stewards may consider installing historic roofing material when next faced with roof replacement. Asphalt shingle roofing is an acceptable substitute for historic roofing material when an economical solution is desired.

Wood Windows, Doors and Trim
All wood materials should be retained and maintained. Original windows should be restored and protected with historically appropriate storms. The Colonial Revival details at the facade and side entries, as described in the section on character defining features, are of particular importance to the architectural integrity of the building and should be carefully preserved.

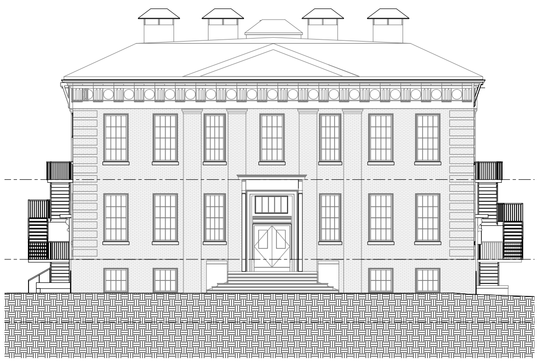
Masonry
The brick walls and granite elements (sills, lintels and steps) should be retained and repaired as needed. An appropriate mortar formula should be developed and documented for use in future repointing campaigns.

Preservation of the Interior Plan & Character-Defining Features

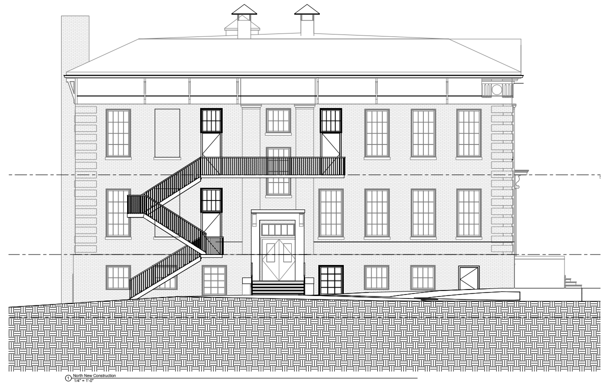
The original circulation plan and classroom configurations on the first and second levels should be retained to the extent possible. The historic placement of classrooms at the corners of the building, which provided abundant light and cross ventilation, is a character-defining feature. Existing wood elements, including staircases, transoms, paneling, wainscot and chair rails, should be retained and restored. The building interior and its constituent materials should be carefully documented, both photographically and with a written narrative, prior to any interventions.

EXISTING CONDITIONS & RECOMMENDATIONS

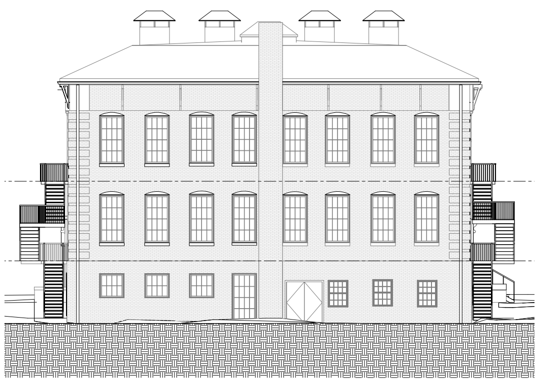
BUILDING EXTERIOR



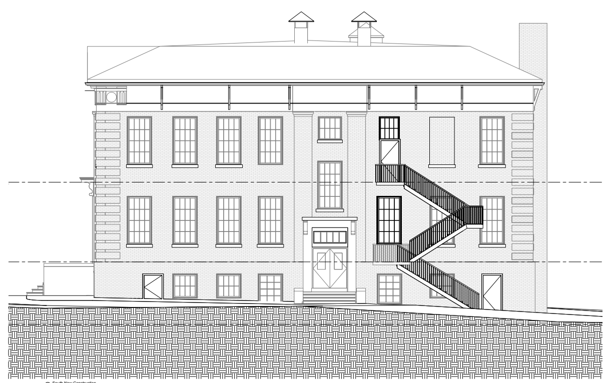
West elevation



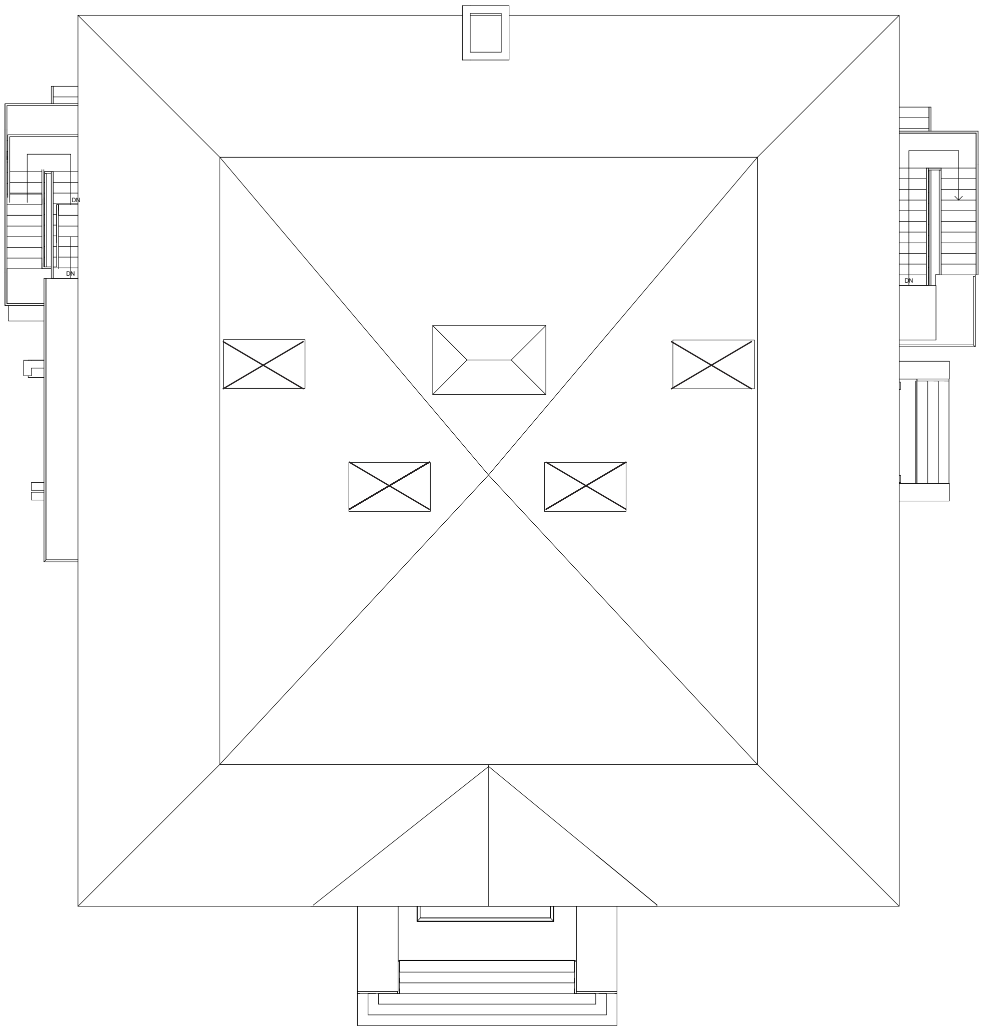
North elevation



East elevation



South elevation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ROOF

Conditions

The roof was recently replaced during a project completed with the Massachusetts Preservation Projects Fund and is in excellent condition. The majority of the roof is a flat black membrane (epdm) installed in 2009 which is penetrated by four ventilators, a skylight, roof hatch, and two vents. The flashing at all of these features is in good condition. This roof can be anticipated to last another fifteen to twenty years.

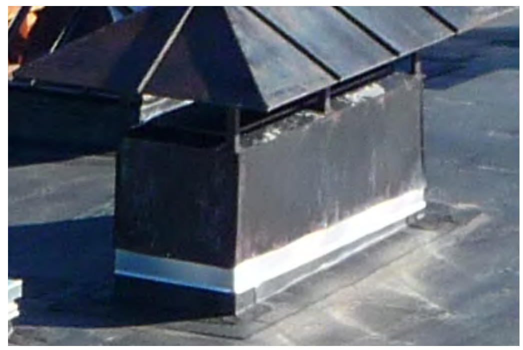
The steeper sloped remainder of the roof is asphalt shingle, which likely was originally slate. The asphalt shingle roof is trimmed with aluminum flashings at the eaves, junction with the epdm roof, and in open valleys. These are all in good condition, with a life expectancy of fifteen to twenty more years.

The gutters and downspouts are made of aluminum, which is not in keeping with the historic integrity of the building. These features likely would have been copper originally. There are only four downspouts on the buildings and these are undersized for the volume of water taken on by the roof.

Recommendations

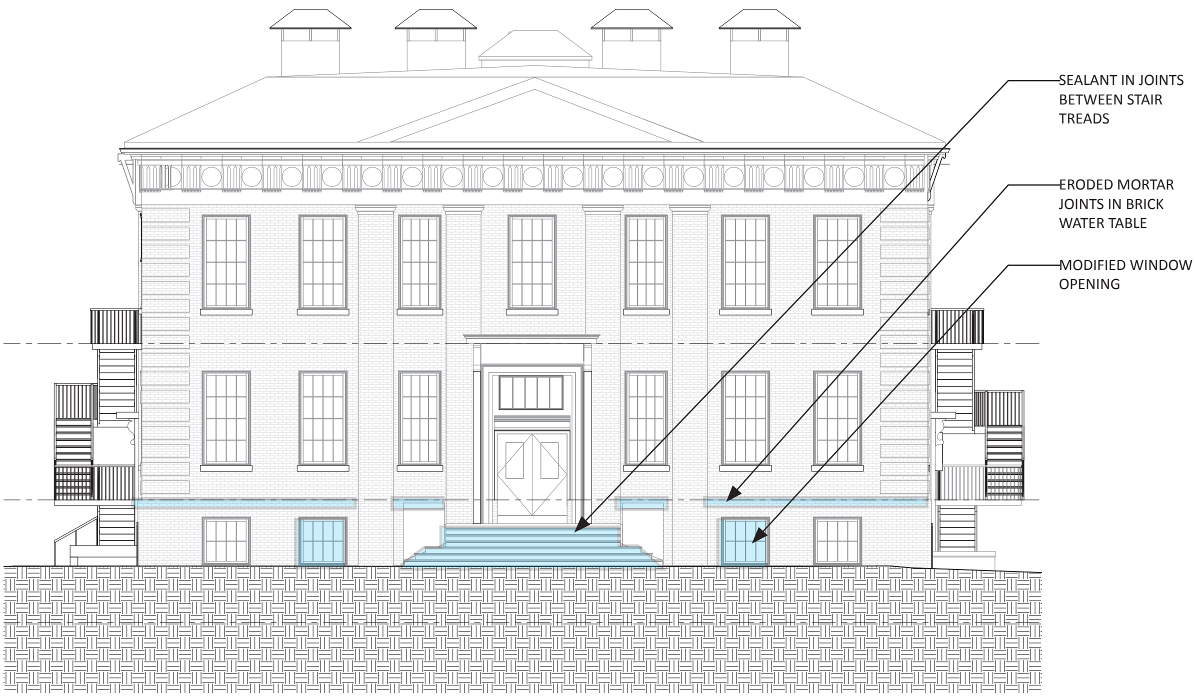
- Maintain the existing roof in its present condition. Have the gutters cleaned at least once a year; plan on replacement with copper or galvanized steel.
- Plan to replace the corrugated metal downspouts with larger, round downspouts in a metal such as galvanized steel that will interact well with the existing aluminum gutters.

Birds-eye view of roof.



Flashing detail at ventilator.

Two corrugated aluminum downspouts joining at northeast corner.



CRITICAL:
REQUIRES IMMEDIATE ATTENTION

SEVERE:
SHOULD BE ATTENDED TO IMMEDIATELY

DETERIORATED:
SHOULD BE ATTENDED TO WITHIN 5 YEARS

WEATHERED:
SHOULD BE ATTENDED TO WITHIN 10 YEARS

WEST ELEVATION

Conditions

The West Elevation was previously preserved during a project completed with the Massachusetts Preservation Projects Fund and the results of this effort are apparent. Of the four elevations, the West is in the best condition. All of the windows were restored and all exterior woodwork was repainted as part of this project.

However, there are two windows at the basement level which were modified for the installation of air grills for the building's ventilation system. Though well constructed, these grills are an eyesore on the otherwise rhythmic pattern of the facade and are no longer required for ventilation.

There are small regions in the brick work, mostly along the brick water table, where the mortar joints have eroded. At the front entrance there are long horizontal joints between stair treads that were previously filled with sealant which has deteriorated and pulled away from the stones.

Recommendations

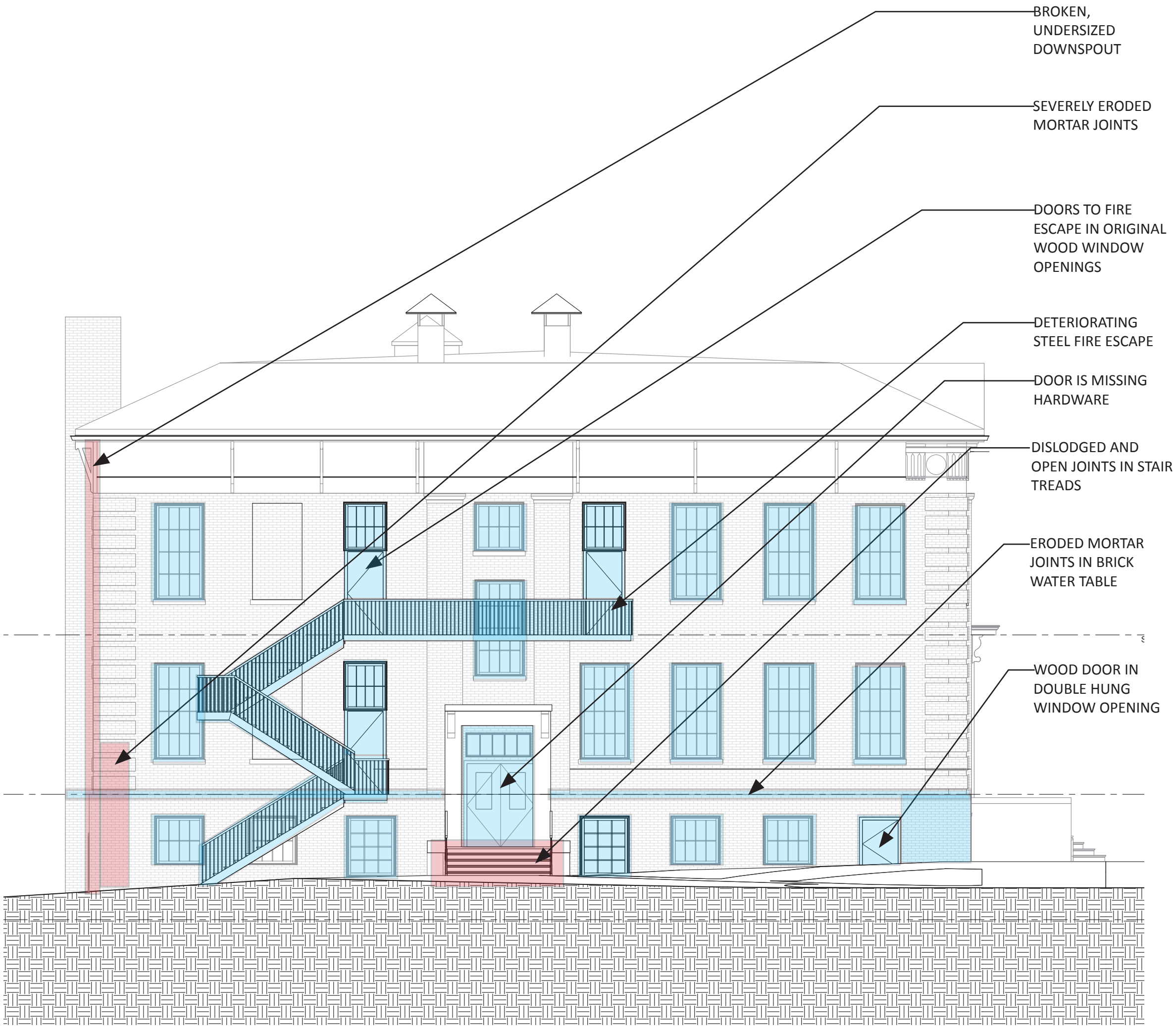
- Restore basement window openings to double hung, four-over-four sash to match the historic windows.
- Spot repoint areas of failed mortar joints.
- Repoint all joints in brick water table.
- Remove failed sealant from joints between stair treads. Repoint joints with an appropriately colored and textured mortar to match adjacent pointed joints.


West elevation from Thayer Memorial Drive.

Basement window on south side of entrance.


Basement window on north side of entrance.


Basement window on north side of entrance.



CRITICAL:
REQUIRES IMMEDIATE ATTENTION

SEVERE:
SHOULD BE ATTENDED TO IMMEDIATELY

DETERIORATED:
SHOULD BE ATTENDED TO WITHIN 5 YEARS

WEATHERED:
SHOULD BE ATTENDED TO WITHIN 10 YEARS

NORTH ELEVATION

Conditions

Of the four elevations, the north elevation requires the most preservation work. Although in good condition from the entablature up, the windows on this facade are all in need of preservation. The aluminum storm windows are in poor condition. This elevation has a large steel fire escape that is beginning to rust extensively. The fire escape is an eye-sore on this facade, along with the three window openings which were converted to doors and the two window openings bricked in to accommodate the change. These features have marred the consistency of the openings on the facade and greatly altered its classical appearance.

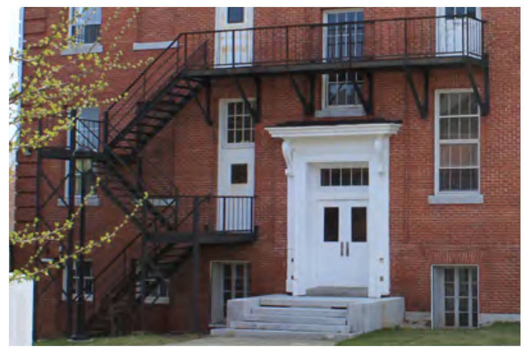
The brick masonry and mortar joints are largely in good condition. However, mortar erosion is an issue at the water table and on the east end where a broken downspout has caused water to run over the brick quoins and walls, rapidly eroding the mortar joints. This downspout is still disconnected and in need of replacement. It should also be noted that the corrugated aluminum used for the downspouts and gutters is inconsistent with the building's history.

The granite stairway to the north entrance is in poor condition, with serious erosion at the mortar joints, dislodged stair treads, and a crumbling foundation beneath.

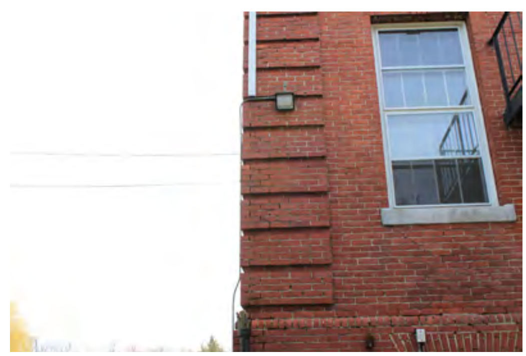
Recommendations

- Preserve all windows. Reglaze, repaint, weather strip, and replace storm windows.
- Restore basement window openings to double hung, four-over-four sash to match the historic windows.
- Remove steel fire escape and patch holes. Restore window openings and remove doors.
- Spot repoint areas of failed mortar joints.
- Repoint all joints in brick water table and area beneath the broken downspout.
- Reconstruct north staircase with a new foundation. This is an opportunity to address adding handicap access to this entrance.

North elevation



Steel fire escape and brackets are deteriorating. Three original window openings were converted to doors for access.



Broken downspout has caused severe deterioration to the mortar joints below

Shifted, separated granite steps at the north elevation.

CRITICAL:
REQUIRES IMMEDIATE ATTENTION

SEVERE:
SHOULD BE ATTENDED TO IMMEDIATELY

DETERIORATED:
SHOULD BE ATTENDED TO WITHIN 5 YEARS

WEATHERED:
SHOULD BE ATTENDED TO WITHIN 10 YEARS

EAST ELEVATION

Conditions

As was mentioned on the North Elevation, mortar failure is most severe at the northeast corner, where there is serious mortar loss and dislodged bricks have fallen to the ground. The deterioration here has been exacerbated by an adjacent downspout which broken and now empties down the brick face.

Beneath the window sills at each window, efflorescence, which is evidence of water infiltration, is seen on the bricks. This is likely caused by water entering the envelope at the juncture of the wood window frames and brick walls. The mortar joints of the water table on this elevation are also severely worn.

The double door enters onto a wood platform with steps down to the mechanical room. The door is wider than all of the other openings on the facade, which breaks up the simple symmetry of the original design. The door has been repaired with poor materials and is only held shut with a small padlock, leading to security concerns.

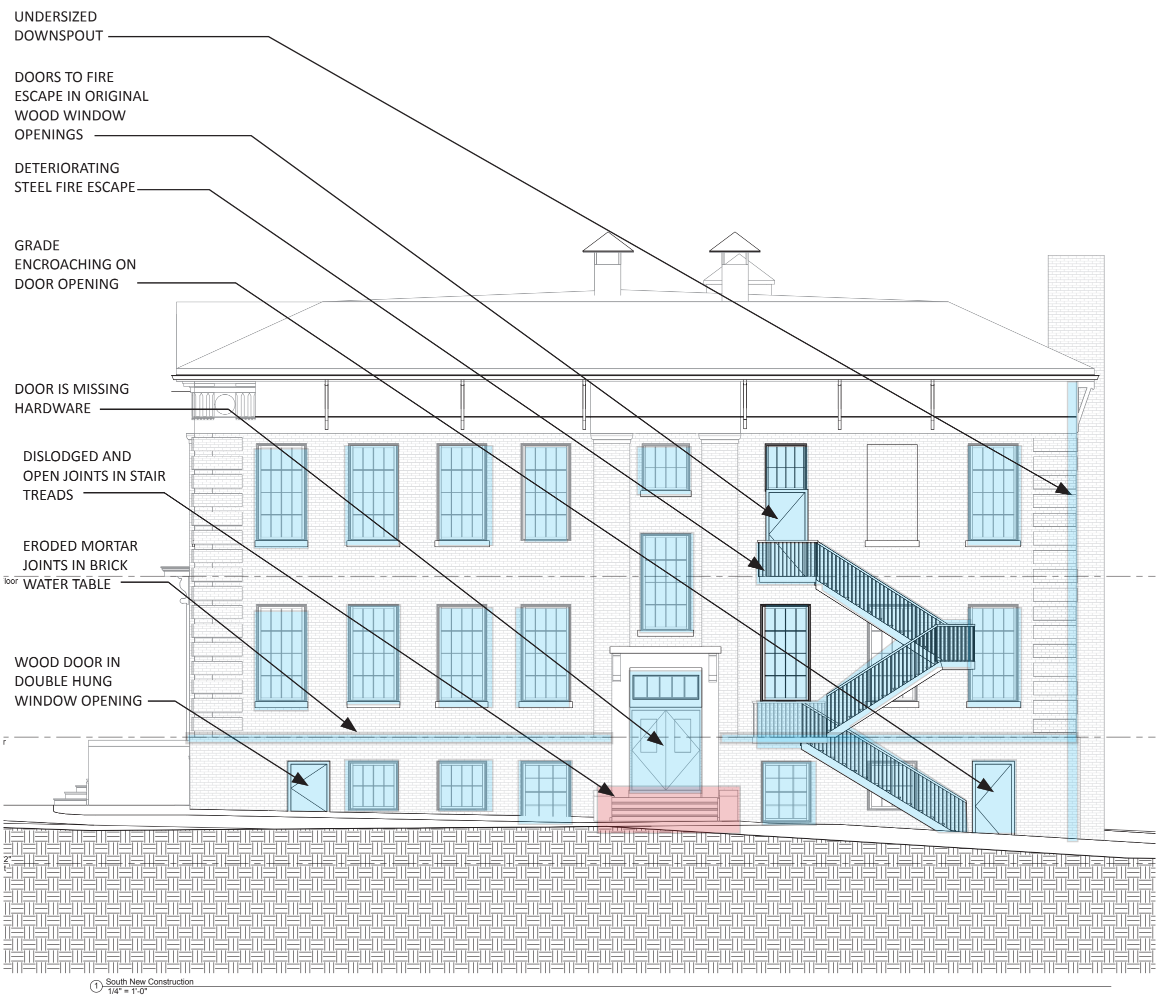
Recommendations

- Preserve all windows. Reglaze, repaint, weather strip, and replace storm windows.
- Restore basement window openings to double hung, four-over-four sash to match the historic windows.
- Replace double wood door.
- Spot repoint areas of failed mortar joints.
- Repoint all joints in brick water table and area beneath the broken downspout.


East elevation - note staining beneath windows


Rear elevation. Brick efflorescence, evidence of water infiltration, under the window lintels and poorly executed repointing at the basement level.


This facade is the only one which uses an arched lintel as opposed to a jack arch lintel.



CRITICAL:
REQUIRES IMMEDIATE ATTENTION

SEVERE:
SHOULD BE ATTENDED TO IMMEDIATELY

DETERIORATED:
SHOULD BE ATTENDED TO WITHIN 5 YEARS

WEATHERED:
SHOULD BE ATTENDED TO WITHIN 10 YEARS

SOUTH ELEVATION

Conditions

The conditions of the south elevation are very similar to those at the north elevation. Although in good shape from the entablature up, the windows on this facade are also all in need of restoration, including the aluminum storm windows. This elevation has a slightly smaller fire escape that was likely installed at the same time as the one on the north side, and it too is beginning to rust. Only two window openings were converted to doors and one window opening was bricked in.

The brick masonry and mortar joints are largely in good condition, although mortar erosion is an issue at the water table. The downspouts on this elevation are the same corrugated aluminum used on the north and are inconsistent with the buildings history.

The stairway to the south entrance is deteriorated, with erosion at the mortar joints and dislodged stair treads.

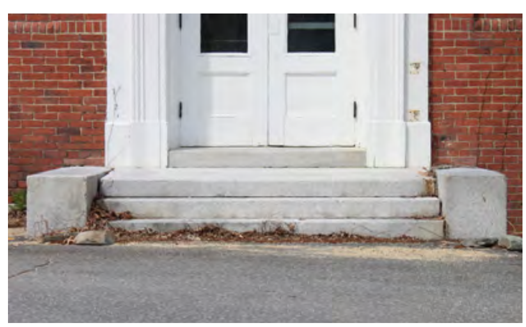
Recommendations

- Preserve all windows. Reglaze, repaint, weather strip, and replace storm windows.
- Restore basement window openings to double hung, four-over-four sash to match the historic windows.
- Remove steel fire escape and patch holes. Restore window openings and remove doors.
- Spot repoint areas of failed mortar joints.
- Repoint all joints in brick water table.
- Repoint granite staircase.
- Replace downspouts.

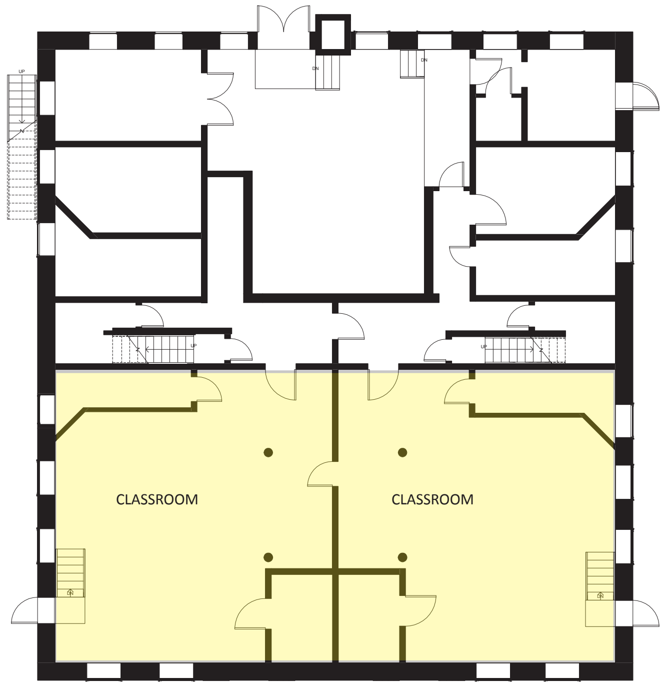
Failed mortar and open joints at the wall and watertable.

Rear elevation. Brick efflorescence, evidence of water infiltration, under the window lintels and poorly executed repointing at the basement level.

Dislodged bricks at the northeast corner.



Shifted, separated granite steps at the north elevation.


CLASSROOM
CLASSROOM

BUILDING INTERIOR

BASEMENT CLASSROOMS

Conditions

There are two basement classrooms located on the west half of the Prescott Building. These rooms have low, dropped ceiling grids which have had most of the tiles removed. The walls have a beaded board wainscot to 36 inches off the floor, followed by painted brick up to the ceiling. The paint on both of these features is flaking and peeling extensively and mold is growing on the surface. Both rooms contain asbestos floor tile, though one has carpet over top of the tile.

Each room has a small closet located beneath the lowered vestibule at the west entry.

Recommendations

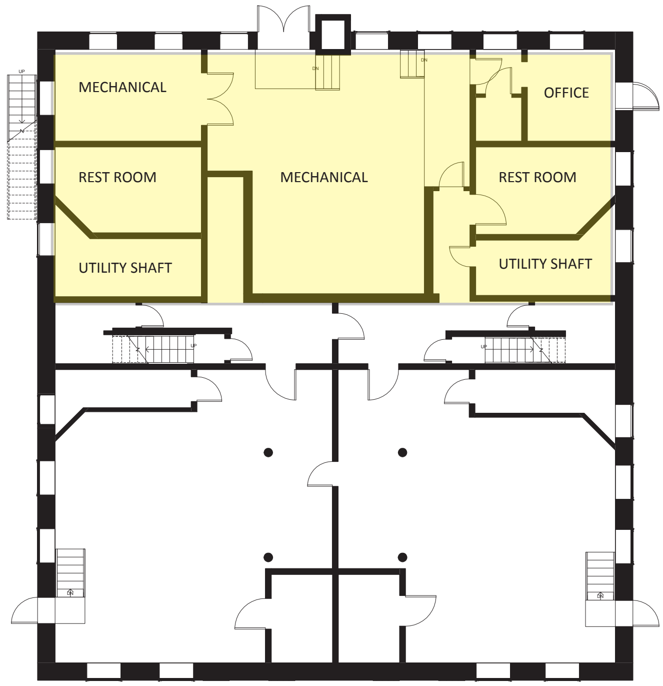
- Remove remaining dropped ceiling grids and lights. Install new ceiling.
- Scrape, prepare, and paint brick walls and wood wainscot.
- Abate asbestos tile and remove flooring to concrete slab.
- Install new mechanical, electrical, and fire protection systems.
- At minimum, install a dehumidification system for mold remediation.


Former classroom in the basement level. Note dropped ceiling frame.


Former classroom in the basement level.


View inside closet beneath west vestibule.


Mold on painted wainscot


MECHANICAL
REST ROOM
UTILITY SHAFT
MECHANICAL
OFFICE
REST ROOM
UTILITY SHAFT

BASEMENT REST ROOMS & MECHANICAL ROOMS

Conditions

The remainder of the basement is comprised of mechanical rooms, chases, unused rest rooms, and a small office. All of these spaces contain plaster ceilings, painted brick walls, and concrete floors except for the office, which has wood paneling on the walls and asbestos tile flooring.

The plaster ceiling throughout the basement has minor cracks and needs to be painted. The walls all have peeling and failed paint. There are few usable mechanical, electrical, and plumbing systems remaining in the basement. The main mechanical room is filled with two large boilers and associated piping. In the two rest rooms, extant plumbing waste lines in the floor slab are uncapped.

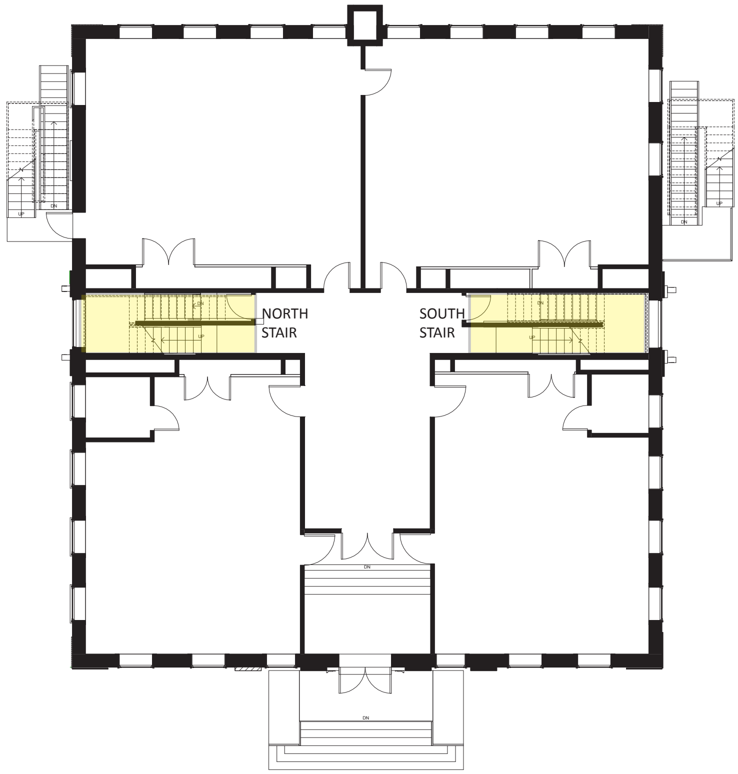
Recommendations

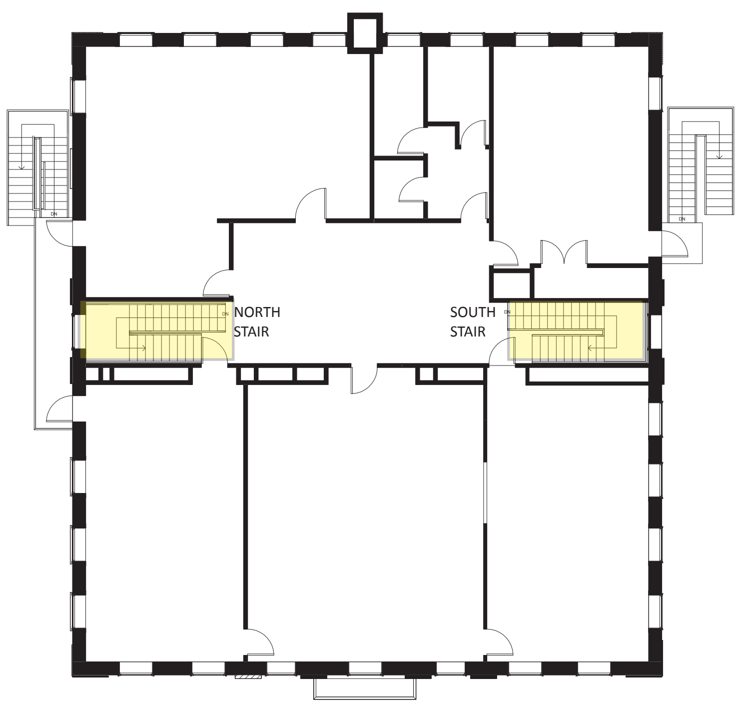
- Repair and replace plaster ceiling as needed.
- Scrape, prepare, and paint brick walls.
- Abate asbestos tile in office.
- Install new mechanical, electrical, and fire protection systems.
- Remove and cap plumbing in rest rooms.
- Fill cracks and level existing concrete slab.

Mechanical room with asbestos laden piping and boilers.

Men's rest room in basement.

Wood paneled office in south east corner of basement


NORTH
STAIR
SOUTH
STAIR


NORTH
STAIR
SOUTH
STAIR

NORTH & SOUTH STAIRCASES

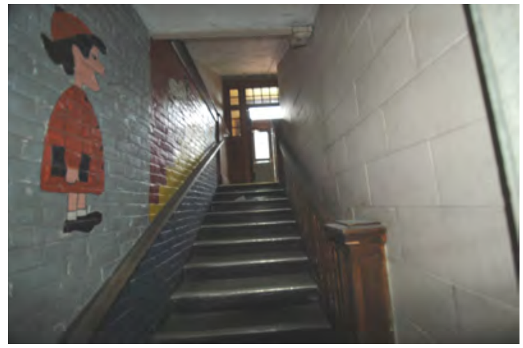
Conditions

The two staircases in the building are mirror images of one another, beginning at the basement level and running to the second floor. Each staircase has an intermediate level between the basement and first floor which appends to a small vestibule that leads to the outside. These may have been designed as separate boys and girls entrances, which was a common practice in the late nineteenth and early twentieth centuries.

The staircases begin with brick and block wall at the basement level which turns into a beaded board wainscot at the landings. Above this, painted plaster walls extend to the second floor. The stairs have generously sized treads and a low rise, likely to accommodate the varied age groups that used the building. The treads were wood but have since been covered over with asbestos tile and then again with laminate flooring. The handrails are nicely detailed wood with Colonial Revival molding profiles and square balusters. Both staircases sag towards the center owing to a structural problem with the stair stringers.

Recommendations

- Repair and replace plaster ceiling and walls as needed.
- Scrape, prepare, and paint the brick walls at the basement level.
- Abate asbestos tile from the stair treads and landings.
- Install new mechanical, electrical, and fire protection systems.
- If required by the building code official, install an intermediate handrail. The current handrail is not code compliant.
- Modify the hardware at the existing doorways to provide code compliant egress doors.
- Reinforce existing stair framing. Return to plumb and level.

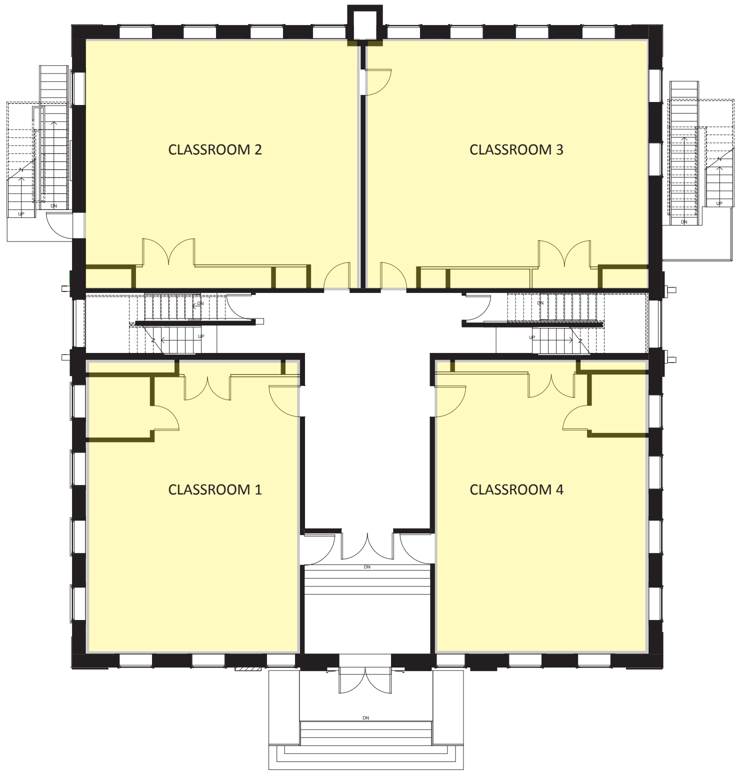


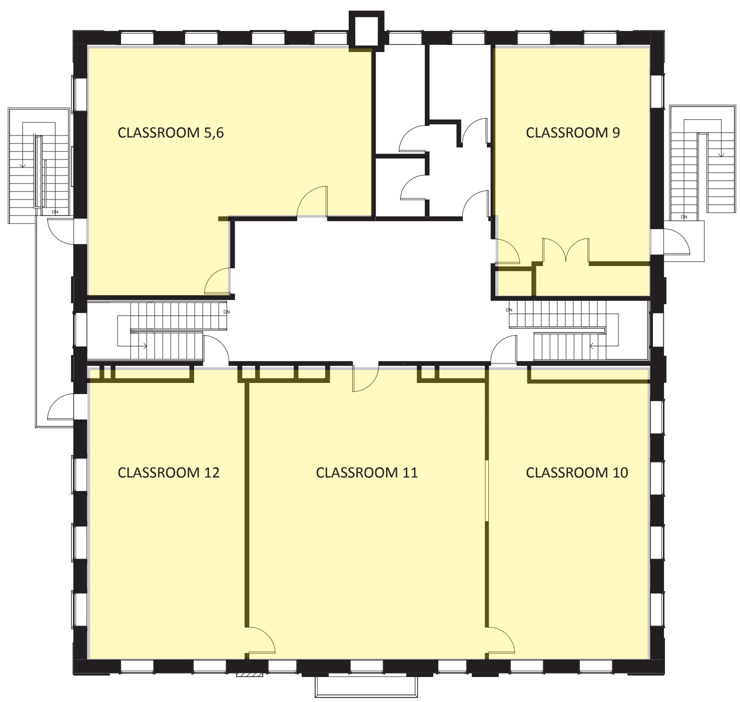
North staircase. The block wall on the left side of the image

South staircase - exit landing between basement and first floors.

South staircase from first floor to second floor. Note the glue on the teal painted wall.

South staircase from landing to second floor.


CLASSROOM 2
CLASSROOM 3
CLASSROOM 1
CLASSROOM 4


CLASSROOM 5,6
CLASSROOM 9
CLASSROOM 12
CLASSROOM 11
CLASSROOM 10

FIRST & SECOND FLOOR CLASSROOMS

Conditions

There are nine classrooms split between the first and second floors, all with essentially the same types of interior finishes. The ceilings are mostly plaster, except in Classroom 3 which has combination of tin and acoustic panels. The walls are plaster and typically have the same baseboard, chair rail, and picture rail moldings. The windows and doors are framed with simple square trim boards. There are remaining blackboards and tack boards in each room and at the inner wall of each room is an approximately two foot build out which contains built in cabinets and ventilation shafts which run from the basement to the roof ventilators. This provides a natural air flow in the rooms when the dampers are open.

The plaster on the walls and ceiling is largely in good condition, though some areas require crack repair and patching. The floors were originally wood strip but have since been covered over with mastic and asbestos tile. The trim in each room was likely originally varnished to match the trim in the halls, but all has since been painted.

Recommendations

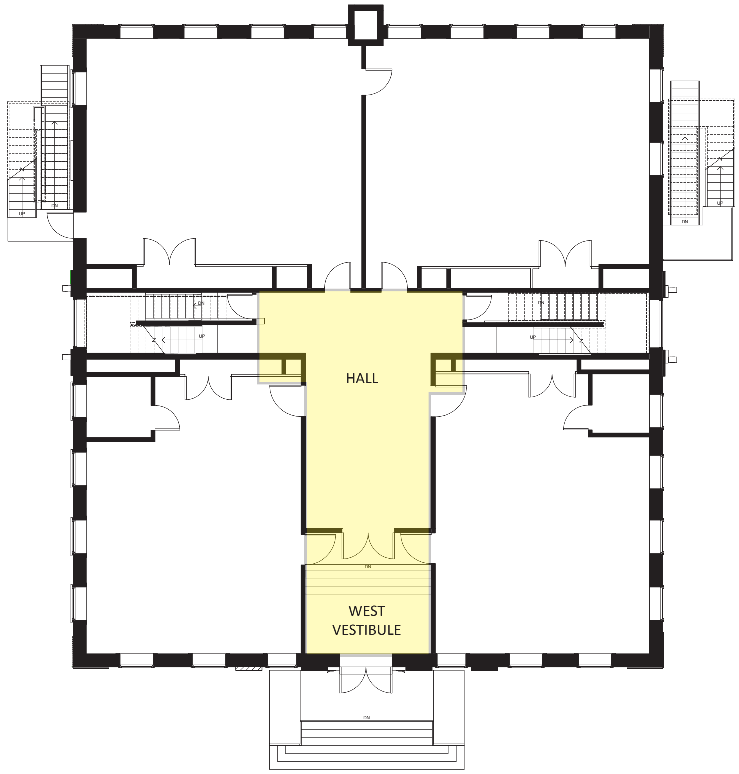
- Restore plaster on walls and ceiling. Where necessary, remove plaster and replace with three coat plaster system.
- Remove tin and acoustic ceiling from Classroom 3 and install a new gypsum ceiling.
- Abate asbestos tile from the floors. If possible, restore the wood strip floor. Otherwise install new flooring suitable to the use of the room, e.g. carpet for the offices.
- Install new mechanical, electrical, and fire protection systems.
- Refurbish the existing built in cabinets for re-purposing in the buildings new use.

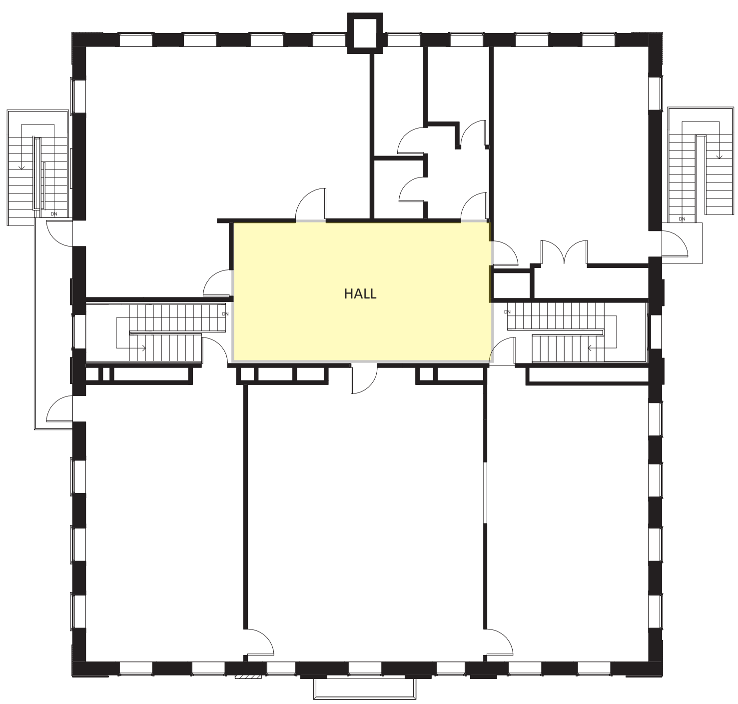
Classroom 2 on first floor, north east corner of building.

Classroom 3 on first floor, south east corner of building. This room has remnants of a tin ceiling, with acoustic panels glued to it.

Classroom 10 on second floor, south west corner of building.

Example of typical built in cabinet in classroom.


HALL
WEST
VESTIBULE


HALL

FIRST & SECOND FLOOR CIRCULATION

Conditions

The circulation spaces in the Prescott Building are finished in a similar manner to the classrooms with plaster ceilings and walls and wood strip flooring covered over by asbestos floor tile. The walls are trimmed with a molded baseboard and a chair rail. The exception to these finishes is in the West Vestibule, which has a raised panel wainscot to approximately 36 inches above the floor. In the second floor hall, a nine-lite laylight admits daylight from a roof skylight above the attic.

The plaster walls and ceilings are largely in good condition. A type of paneling glued to the plaster between the chair rail and baseboard has been removed, but the remnants of glue have damaged the plaster. The trim in these spaces is mostly intact. The floor has several layers of additional flooring added to the original wood floor, some of which contains asbestos.

Recommendations

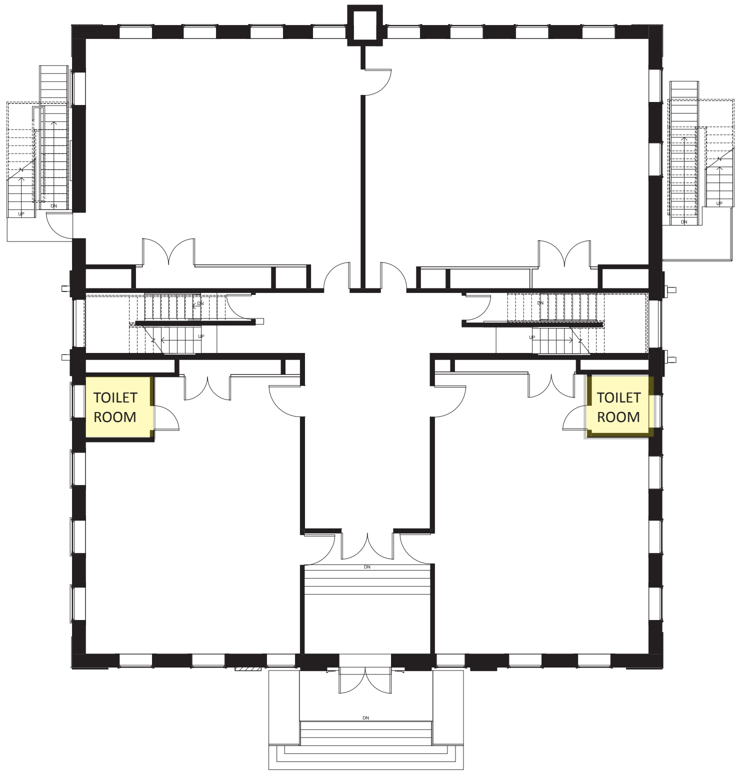
- Repair plaster ceiling and walls as needed. Replace plaster beneath chair rail.
- Clean and refinish all clear-finished trim.
- Abate asbestos tile from the floor.
- Install new mechanical, electrical, and fire protection systems.

First floor hall looking east from the west vestibule.

Second floor hall with damaged wainscot paneling.

Second floor hall looking north towards the library.

Laylight in second floor hallway with daylight coming through the roof skylight.


TOILET
ROOM
TOILET
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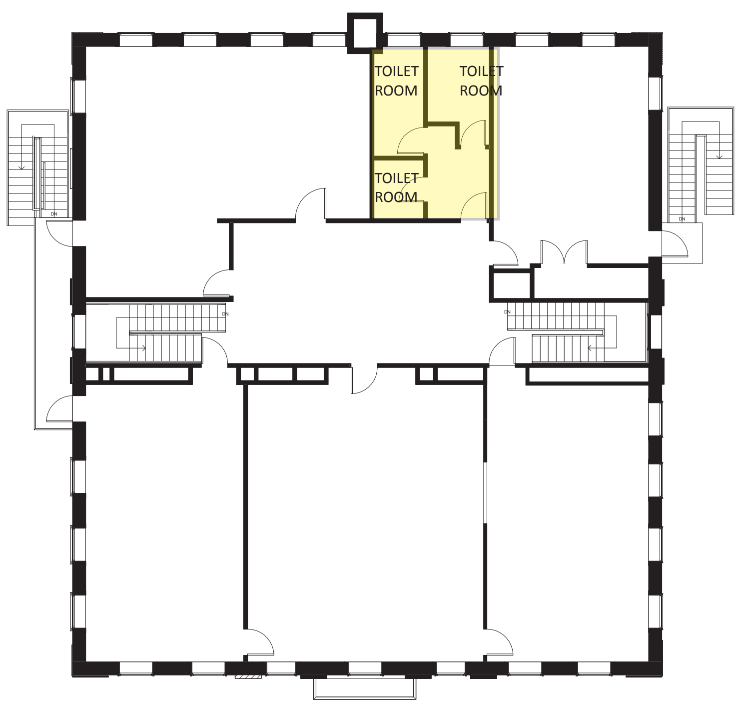
TOILET
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FIRST & SECOND FLOOR REST ROOMS

Condition

There are two first floor rest rooms which were inserted into Classroom 1 and Classroom 4. These rooms are sized appropriately to be used as fully accessible toilet rooms, but their locations within classrooms is off putting. They are constructed of two-by-four wood studs with gypsum wall board and provided with a ceiling. All interstitial spaces were filled with insulation as a sound absorber for privacy.

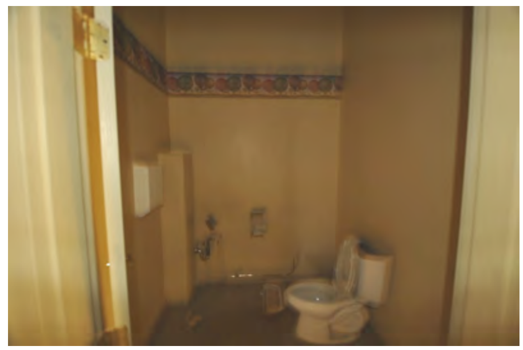
Though in relatively good condition, the fixtures were removed and the sanitary plumbing left open. The sinks in both rooms appear to have been torn off the wall, leaving damage to the plaster.

On the second floor, space for three rest rooms was carved out of a former classroom. There is a men's, women's, and unisex rest room. All of the partitions from these rooms have been removed as well as most of the fixtures. Those fixtures that remain have been drained and no longer function.

Recommendations

- Remove first floor rest rooms and relocate to a more public location.
- Remove all plumbing from first floor rest rooms to basement.
- Remodel second floor rest rooms to provide two separate, fully accessible rest rooms, one for women and one for men.


Toilet room inserted into classroom


Unisex, fully accessible toilet room.


Vestibule leading to three toilet rooms.

PROGRAM OF NEEDS

The Program of needs was determined from a preliminary plan provided by the building committee which showed the Historical Commission utilizing one floor of the Prescott Building, and a discussion regarding the use of the remaining floors for leasable office space and Town record Storage. The "general" category of the program was included by MTS to accommodate code mandated rest room counts, mechanical room needs, and a kitchenette for the leasable offices.

Historical Commission

(square footages based on provided layout plan)
Archive Storage – 600 SF

Re-use existing storage units:

Regular Four Drawer:	7 units at 2'-0" x 5'-0"
Fireproof Four Drawer:	10 units at 2'-0" x 5'-0"
Wire Rack:	8 units at 3'-0" x 4'-0"
Map Cabinet:	3 units at 3'-0" x 3'-6"

Climate Controlled Storage – 130 SF (MTS recommendation, subtracted from storage shown on plan)

Research Room – 520 SF
Tables and chairs
Computer stations
WIFI and electrical plug availability
Access to Commission staff
Occupancy: Up to 8

Collections Processing – 100 SF
Occupancy: 2-4

Orientation, Presentation, Meeting Room – 730 SF
Occupancy: 25-30
Used to project videos, give lectures and presentations
Audio visual system?

Exhibit Space – 820 SF
Casework to display special collections, possible rotating displays

Office – 120 SF
Occupancy: 1

Leasable Office Space

One Floor – 3,500 to 4,500 SF
Secure doors

Ability to have multiple lease holders

Town Storage

Storage Rooms – 3,000 to 4,000 SF (All remaining lower level space)

Secure doors

Well lit

Layout tables and storage units

General

Restrooms – 250 – 300 SF

Four accessible toilet rooms

2 male, 2 female.

1 of each per floor

Kitchenette – 200 SF

One per floor at 100 SF ea

Utility Closet – 50 SF

One per floor at 25 SF ea

Mechanical Room - 600 SF

Sprinkler room

Mechanical room

Elevator machine room

REGULATORY ANALYSIS

This section of the report describes in brief the applicability of the current building code (2009 International Existing Building Code – with Massachusetts Amendments), architectural access regulations, and the Town of Lancaster zoning regulations.

The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. Some issues affecting the life safety of occupants are left up to interpretation by the local building official. It is generally a good idea for owners of historic buildings to know the local official and discuss renovation ideas with them prior to filing for a building permit. Menders, Torrey & Spencer participated in preliminary discussions about the Prescott Building with Peter Munro, the Building Official, Mike Hanson, Deputy Chief of the Lancaster Fire Department and Orlando Pacheco, Town Administrator.

This summary of the code notes that the Prescott Building has been maintained and used for other functions by the Town of Lancaster since regular school classes ended and that the new use will be office and non-hazardous storage.

For purposes of the building code, the Prescott Building is categorized as a partially preserved building because it is listed on the State Inventory of Historic Places as a contributing building to the Lancaster Center Historic District. There are generally few building code-mandated requirements for partially preserved buildings. They are exempted from energy code requirements for new buildings, including the stretch energy code, although the design for renovations seeks to improve the energy efficiency of the historic building envelope and systems. Because of the scope of planned renovations at the Prescott Building, the proposed work will comply in most instances with the requirements for new construction, particularly in the area of life safety.

MASSACHUSETTS BUILDING CODE APPLICABLE REQUIREMENTS

A. Building Information

1. Gross Square Feet: 15,170 SF
2. Floors: Three
3. Total Assessed Value: $5,980,800 (combined with other Town buildings including Town Hall, the Library, the Community Center, and land)
4. Building Value: $5,529,100 (combined with other Town buildings)

B. Use Group Classification

1. Building will be reduced hazard index from school use to uses listed below
2. Offices and storage
3. First and Second Floors: Group B – Business (IBC 2009 304.1)

4. Ground level: Group S-1 Moderate-hazard storage (IBC 2009 311.2)

C. Construction Classification

1. Existing Construction Type 3B, Unprotected
2. Fire protection: Building to be equipped throughout with automatic fire suppression system

D. Occupant Load

1. Occupancy Calculations (based on maximum code allowed sf. per occupant – 780 CMR Table 1008.1.2 for each use area [if different in differing areas])
    a. Ground Floor: 17 (300 gross at 5,000 SF)
    b. First Floor: 50 (100 gross at 5,000 SF)
    c. Second Floor: 50 (100 gross at 5,000 SF)
    d. Overall Total: 117

E. Egress Requirements

1. Egress Stairway width per Occupant = 0.2" (MA Amendments to IBC 2009, 1005.1)
Required with Calculation for Actual Occupancy: 23.4"
    a. Total per level: Two stairs provided at 42" ea.
2. Egress Door Width per Occupant = .2" (IBC 2009 1005.1)
Required with Calculation for Actual Occupancy: 23.4
    a. Total per level: required, provided
3. Minimum Number of Exits Required (per floor) – 1 (Table 1015.1) 2 provided.
4. Maximum Length of Exit Access Travel – 300 ft (IBC 2009 Table 1016.1)
5. Minimum Egress Passage/Corridor Width – 44"
6. Minimum Stairway Width – 44" (IBC 2009 Section 1009.1)

2009 International Existing Building Code Notes: Historic Building

1103.9 Stairway railings – Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairs shall be permitted to remain, provided they are not structurally dangerous.

1105.4 1 HR Occupancy separation may be omitted when the building is provided with an approved sprinkler.

1105.7 Door Swing. When approved by the code official, existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided. (Applies to occupant loads over 50 in new construction)

Means of Egress

1007.3 The area of refuge is not required at open exit access or exit stairways as permitted by sections 1016.1 and 1022.1 in buildings that are equipped with an automatic sprinkler system installed in accordance with code.

521 CMR Architectural Access Board

In Massachusetts this regulation describes the minimum accessibility standards for public spaces. Since the house is open to the public, it is considered a public space. The scope of renovation envisioned will require full accessibility of all public spaces in the building. A variance will be sought for the south and west entries to allow entry and exiting without full accessibility. The north and east entries will be made fully accessible.

521 CMR Applicable Requirements

1. Parking: 1 accessible space required for total parking of 15-25 spaces. Shall be van accessible.
2. Entrances: All public entrances of a building shall be accessible. (Variance will be required for the south and west entrances)
3. Door widths: 32" minimum.
4. Elevators: All multi-story buildings shall be served by a passenger elevator.
5. Toilet Rooms: At least one toilet and one sink in each toilet room must be accessible.

Plumbing Code Applicable Requirements– Based on 117 Occupants, 59 Men, 59 Women

1. Restrooms Required
   For Men: 1 per 25 or 3 total.
   For Women: 1 per 20 or 3 total.
2. Lavatories: 1 per 50 or 3 total
3. Water fountains: 1 per floor or 3 total.

Town of Lancaster Zoning By-Law

The purpose of this bylaw is to promote public health, safety, convenience and welfare, by encouraging the most appropriate use of land; preventing overcrowding of land; conserving the value of land and buildings; minimizing traffic hazards and congestion; preventing undue concentration of population; providing for adequate light, air, and sanitation; reducing hazards from fire, flood, and other dangers; assisting in the economical provision, utilization and expansion of transportation, water, sewerage systems, schools, parks, and other public facilities; enhancing the natural, man-made and historical amenities of the Town.

Reuse of the Prescott Building as a revitalized component of the community green and municipal complex in the historic town center is firmly linked to these by-law purposes.

The Prescott Building is one of several municipal buildings on a single 25 acre parcel in Lancaster center in a residentially zoned area. There is no proposed increase in the building footprint so the existing conditions are accepted as pre-existing to the zoning ordinance.

Parking for the proposed use of the Prescott Building would require 40 spaces based on ten thousand gross square feet of office use – the storage functions and mechanical spaces are not counted in this total. The current paved parking areas are shared with the Town Hall and adjacent buildings and do not provide the required parking. Wetlands to the east and south and the library and town green to the north and east preclude enlarging the parking area, so zoning relief would be required.

Preservation Restriction

A preservation restriction held by the Massachusetts Historical Commission (MHC) was placed on the Prescott Building in 2010 as a requirement of grant funding. This means that all changes to the building exterior must be reviewed and approved by MHC. The process for project notification, review and approval is described on the MHC website at http://www.sec.state.ma.us./mhc/mhcrevcom/revcomidx.htm.

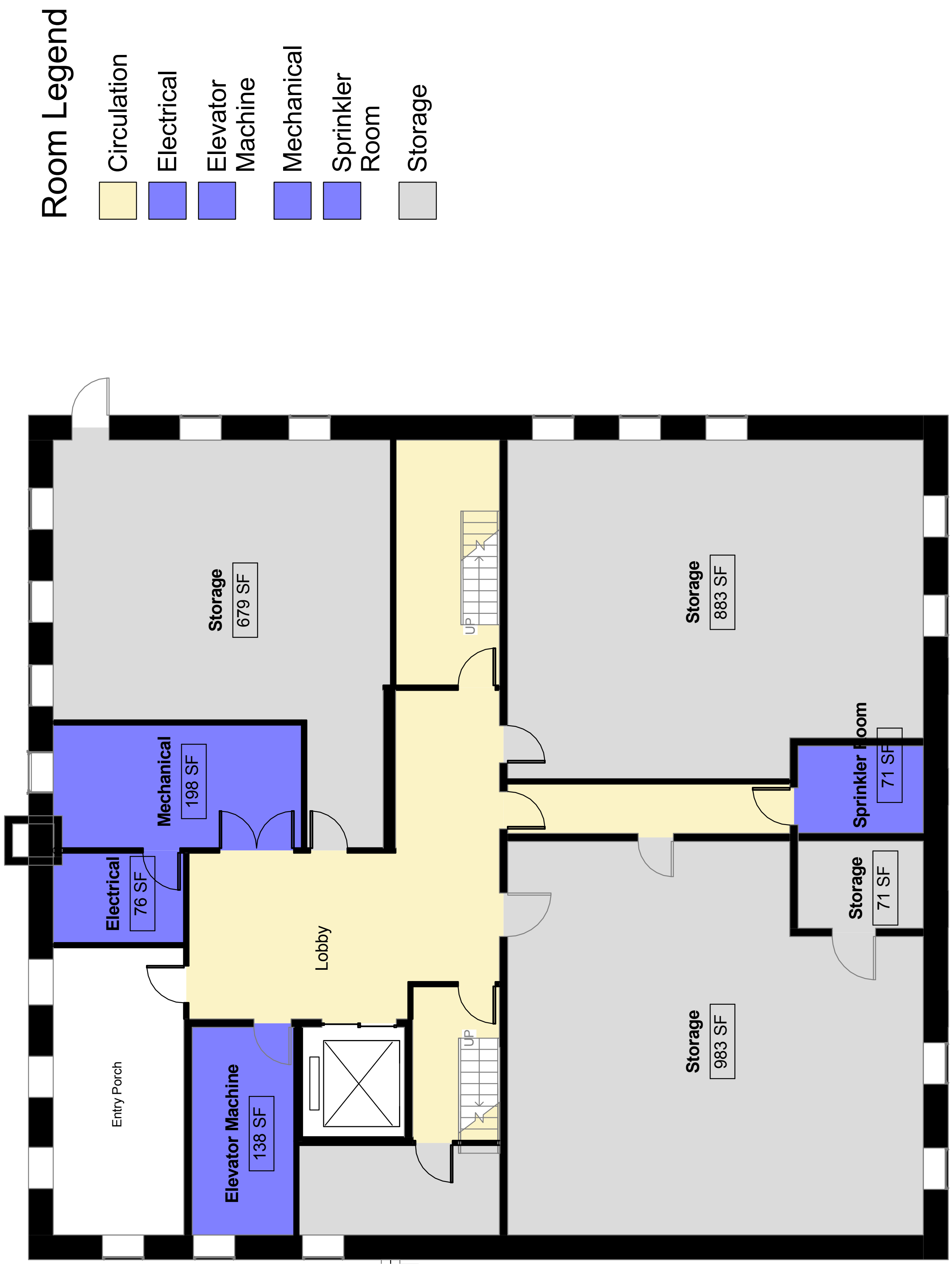
CONCEPTUAL DESIGN

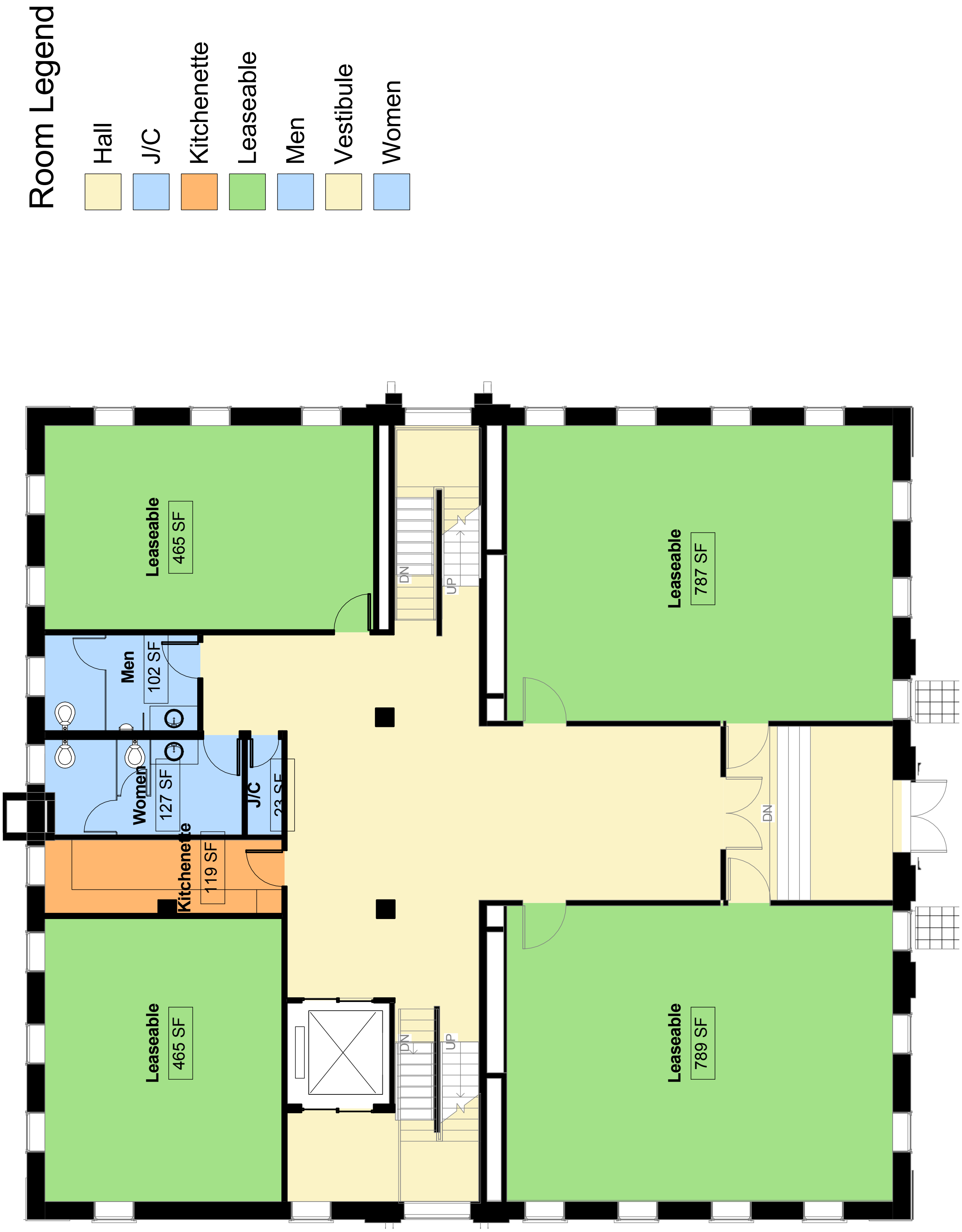
These conceptual plans that follow are the result of discussions with the Town of Lancaster and multiple iterations of the plans leading to the preferred plan. The governing principles that led to the preferred design were the following:

- Provide a fully accessible, code compliant structure that meets all life-safety requirements of the Massachusetts Building Code, which included:
  - Introduction of a fully automatic sprinkler system
  - Introduction of an elevator to traverse the three existing floors
  - Creation of a fully accessible entrance
- Provide energy efficient building systems and building envelope
  - Insulate the existing walls and attic
  - Introduce a new heating and cooling system
  - Provide storm windows and weatherstripping for preserved original wood windows
- Follow *The Secretary of Interior's Standards* for building rehabilitation
- Integrate the Program of Needs, included earlier in this section of the report.

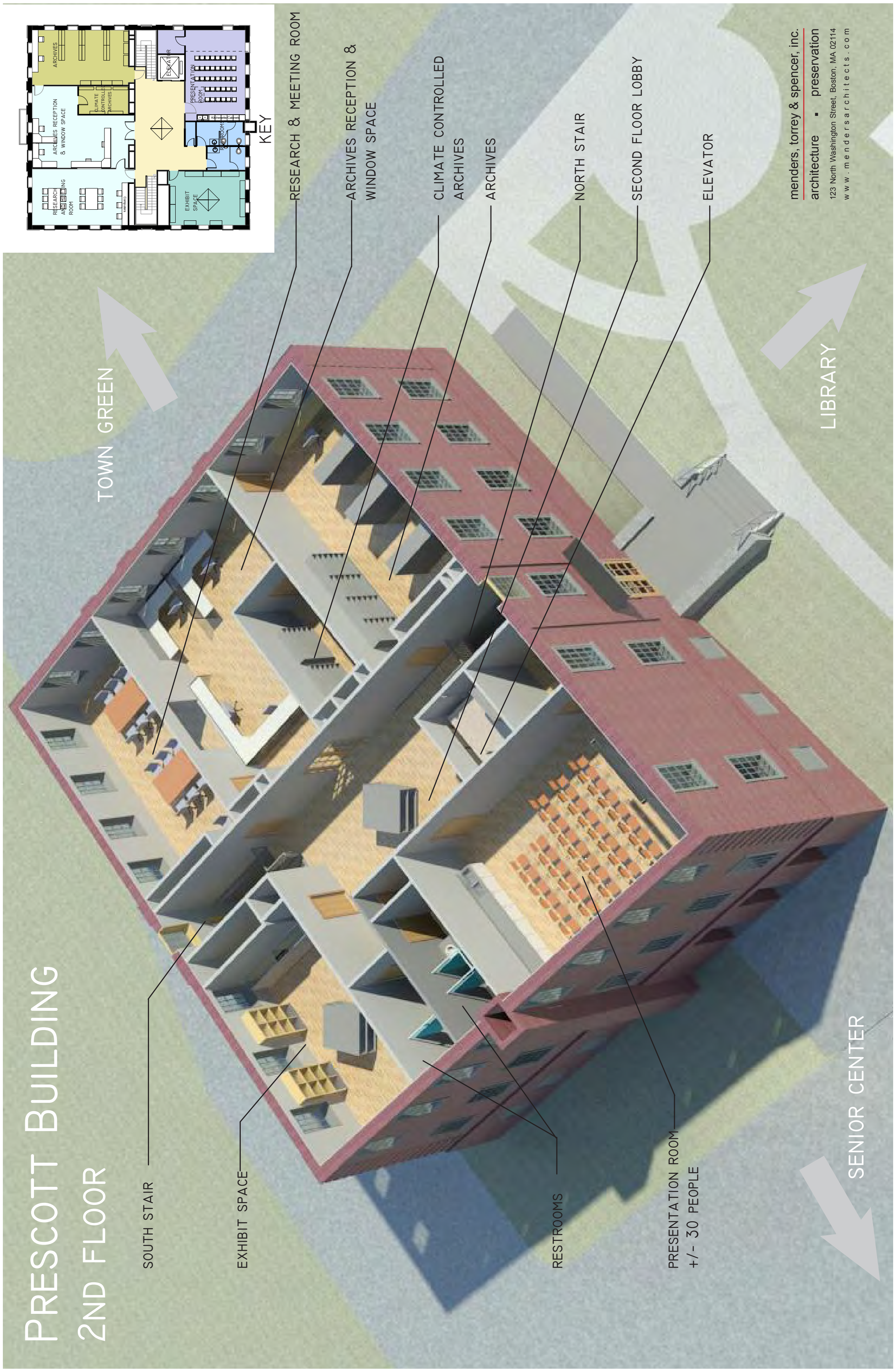
The design process began with discussing possible locations for the elevator and accessible entrances. From this, two schemes were developed, one which placed the Historical Commission on the first floor of the Prescott Building and a second that located its spaces on the second floor. The alternate floor was portioned into tenant spaces, and in both schemes the basement floor was used for mechanical rooms and Town record storage.

Between the two options, it was determined that the second floor solution was more desirable as the space adjacencies and security benefits of the second floor were greater than those on the first floor. Additionally, the first floor was deemed more desirable for tenant space and its associated increased leasing potential. Further iterations of the design made changes to partition and furnishing layouts, as well as changes to the basement mechanical and storage rooms. There is also the potential for occupiable space in the basement for tenant rental or Town offices. These earlier schemes have been provided in the appendix of this document to serve as a record of the decisions made and options explored in leading to the final design.


Room Legend
Circulation
Electrical
Elevator Machine
Mechanical
Sprinkler Room
Storage
Storage
679 SF
UP
Storage
883 SF
Mechanical
198 SF
Sprinkler Room
71 SF
Electrical
76 SF
Lobby
Storage
71 SF
Entry Porch
Elevator Machine
138 SF
UP
Storage
983 SF


Room Legend
Hall
J/C
Kitchenette
Leaseable
Men
Vestibule
Women
Leaseable
465 SF
Leaseable
787 SF
Men
102 SF
Women
127 SF
J/C
23 SF
Kitchenette
119 SF
Leaseable
465 SF
Leaseable
789 SF
DN
UP


Room Legend
Archive
Archives (Climate Controlled)
Closet
Exhibit Room
J/C
Lobby
Men
Presentation Space
Research Room
Women
Work Room
Presentation Space
203
445 SF
South Staircase
SS
128 SF
Research Room
202
597 SF
Men
204
89 SF
Women
205
122 SF
J/C
206
Lobby
200
631 SF
Work Room
201
717 SF
Archives (Climate Controlled)
209
151 SF
Exhibit Room
207
584 SF
North Staircase
NS
121 SF
Closet
207A
61 SF
Archive
208
584 SF
DN
203A
202A
202B
204A
205A
206A
201B
207A
209A
201D
208A
207B


PRESCOTT BUILDING
2ND FLOOR
KEY
RESEARCH & MEETING ROOM
ARCHIVES RECEPTION & WINDOW SPACE
CLIMATE CONTROLLED ARCHIVES
ARCHIVES
NORTH STAIR
SECOND FLOOR LOBBY
ELEVATOR
SOUTH STAIR
EXHIBIT SPACE
RESTROOMS
PRESENTATION ROOM +/- 30 PEOPLE
TOWN GREEN
LIBRARY
SENIOR CENTER
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SCHEMATIC DRAWINGS & SPECIFICATIONS

The schematic drawings and specifications were prepared to provide a detailed scope of work from which A.M. Fogarty could provide a preliminary cost estimate for the project. These documents are constructed from the conceptual design plans and the existing conditions recommendations completed by MTS and our consultants. The documents include assumptions for site work, material finishes, and details that need to be further developed with the Town of Lancaster during a design development phase.

The drawings provide a basis for identifying and locating work activities necessary for the rehabilitation of the Prescott Building. These work activities are further developed in the outline specification, which is broken down into categories based upon the Construction Specifications Institute, also known as CSI Format. This document embellishes the information shown on the drawings by providing more detailed materials and methodology for completing the work shown.

PRESCOTT BUILDING

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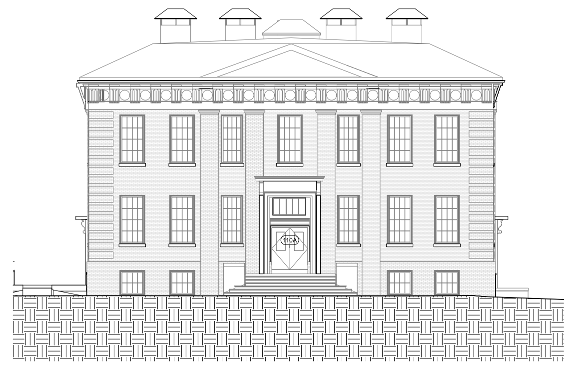


ABBREVIATIONS

A
A/C - AIR CONDITIONING
ACT - ACOUSTICAL CEILING TILE
AD - AREA DRAIN
ADD - ADDENDUM
ADJ - ADJACENT
AFF - ABOVE FINISH FLOOR
ALT - ALTERNATE
ALUM - ALUMINUM
< - ANGLE
ANOD - ANODIZED
ARCH - ARCHITECTURAL
AUTO - AUTOMATIC

B
BC - BOTTOM OF CURB
BE - BAKED ENAMEL
BIT - BITUMINOUS
BLDG - BUILDING
BM - BENCHMARK
BOT - BOTTOM
BRG - BEARING
BSMT - BASEMENT
BTWN -BETWEEN
BVL - BEVELED

C
CAB - CABINET
CB - CATCH BASIN
CCTV - CLOSED CIRCUIT TV
CHNL - CHANNEL
CKBO - CHALKBOARD
CLG - CEILING
CLOS - CLOSET
CLR - CLEARANCE, CLEAR
CLSR - CLOSURE
CMU - CONCRETE MASONRY UNIT
CTR - CENTER
CO - CLEAN OUT
COL -COLUMN
COMP - COMPRESS(IBLE)
COM - COMMUNICATIONS/DATA
CONC - CONCRETE
CONN - CONNECTION
CONT - CONTINOUS
CJT - CONTROL JOINT
CORR - CORRIDOR
CRSK - COUNTER SINK
CT - CERAMIC TILE
CULV - CULVERT

D
D - DEPTH
DA - DOUBLE ACTING
DET - DETAIL
DEMO - DEMOLITION
DF - DRINKING FOUNTAIN
DI - DROP INLET
DIAG - DIAGONAL
DIA - DIAMETER
DIM - DIMENSION
DIV - DIVISION
DMH - DRAIN MANHOLE
DN - DOWN
DR - DOOR
DS - DOWNSPOUT
DT - DRAIN TILE
DVT - DOVETAIL
DWG - DRAWING

E
E - EAST
EL - ELEVATION
EJ - EXPANSION JOINT
ELEC - ELECTRICAL
ELEV - ELEVATOR
EMH - ELECTRICAL MANHOLE
ENCL - ENCLOSURE
ENTR - ENTRANCE
EQ - EQUAL
EQUIP - EQUIPMENT
EST - ESTIMATED
EXIST - EXISTING
EXP - EXPANSION
EXT - EXTERIOR

F
FA - FIRE ALARM
FACT - FACTORY
FASTN - FASTEN, FASTENER
FD - FLOOR DRAIN
FNDN - FOUNDATION
FE - FIRE EXTINGUISHER CABINET
FF- FINISHED FLOOR
FIN - FINISHED
FIXT - FIXTURE
FLR - FLOOR
FLEX - FLEXIBLE
FLR - FLOORING
FLUOR - FLUORESCENT
FOC - FACE OF CONCRETE
FOF - FACE OF FINISH
FOM - FACE OF MASONRY
FTG - FOOTING

G
GA - GAUGE
GALV - GALVANIZED
GC - GENERAL CONTRACTOR
GL - GLASS
GWB - GYPSUM WALL BOARD
GYP - GYPSUM

H
HCP - HANDICAPPED
HDR - HEADER
HD - HEAVY DUTY
HDWD - HARDWOOD
HDWR - HARDWARE
HGT - HEIGHT
HM - HOLLOW METAL
HORIZ - HORIZONTAL
HTG - HEATING
HVAC - HEATING / VENTILATION / AIR CONDITIONING
HYD - HYDRANT

I,J,K
ID - INSIDE DIAMETER
INCL - INCLUDED
INSUL - INSULATION,INSULATE(D)
INT - INTERIOR
INV - INVERT
JAN - JANITORS CLOSET
JNT - JOINT
K/O - KNOCKOUT
K/D - KNOCKDOWN

L
LAM - LAMINATE
LAV - LAVATORY
LH - LEFT-HAND
LL - LIVE LOAD
LOC - LENGTH OF CURVE
LP - LOW POINT
LT - LIGHT
LT WT - LIGHT WEIGHT

M
MACH - MACHINE
MATL - MATERIAL
MECH - MECHANICAL
MED - MEDIUM
MFR - MANUFACTURER
MH - MANHOLE
MIN - MINIMUM
MO - MASONRY OPENING
MOD - MODULE, MODULAR
MTD - MOUNTED
MTL - METAL

N/O
N - NORTH
N/A - NOT APPLICABLE
NIC - NOT IN CONTRACT
NOM - NOMINAL
NRC - NOISE REDUCTION COEFFICIENT
NTS - NOT TO SCALE
OC - ON CENTER
OD - OUTSIDE DIAMETER
OPH - OPPOSITE HAND
OPNG - OPENING
OVHD - OVERHEAD

P
PERF - PERFORATED
PERP - PERPENDICULAR
PRIM - PERIMETER
PL - PLATE
P LAM - PLASTIC LAMINATE
PLYWD - PLYWOOD
PNL - PANEL
PR - PAIR
PT - POINT
PTD - PAINTED
PVC - POLYVINYL CHLORIDE
PVMT - PAVEMENT

Q,R
QTY - QUANTITY
RA - RETURN AIR
RD - ROOF DRAIN
REF - REFERENCE
REFL - REFLECT(ED)(IVE)
REINF - REINFORCE(D)(ING)
REQD - REQUIRED
RET - RETURN, OR RETAINING
REV - REVISION, REVISED
RH - RIGHT HAND
RM - ROOM
RO - ROUGH OPENING
RVS - REVERSE

S
S - SOUTH
SCHED - SCHEDULE
SD - STORM DRAIN
SECT - SECTION
SHT - SHEET
SIM - SIMILAR
SLV - SLEEVE
SMH - SEWER MANHOLE
SNDPRF - SOUNDPROOF
SQ - SQUARE
SS - STAINLESS STEEL
STD - STANDARD
STL - STEEL
STOR - STORAGE
STRUC - STRUCTURAL
SUSP - SUSPENDED
SYM - SYMMETRICAL

T
T - TREAD
TEL - TELEPHONE
T & G - TONGUE AND GROOVE
THK - THICK(NESS)
TMH -TELEPHONE MANHOLE
TOIL - TOILET
TOC - TOP OF CURB
TOS - TOP OF STEEL
TO- TOP OF
TOW - TOP OF WALL
TV - TELEVISION
TYP - TYPICAL

U,V
UE - UNDERGROUND ELECTRIC
UNFIN - UNFINISHED
UNO - UNLESS NOTED OTHERWISE
VAC - VACUUM
VB - VAPOR BARRIER
VCT - VINYL COMPOSITE TILE
VERT - VERTICAL
VEST - VESTIBULE
VIF - VERIFY IN FIELD
VWC - VINYL WALL COVERING

W
W - WEST
W/ - WITH
WC - WATER CLOSET
WD - WOOD
WDW - WINDOW
WH - WALL HUNG
WID - WIDTH
WM - WATER MAIN
WS - WET SPRINKLER RISER
W/O - WITH OUT
WWF - WELDED WIRE FABRIC

ARCHITECTURAL
A-000 TITLE SHEET
CIVIL
C-100 SITE PLAN

ARCHITECTURAL
D-100 BASEMENT DEMOLITION PLAN
D-101 FIRST FLOOR DEMOLITION PLAN
D-102 SECOND FLOOR DEMOLITION PLAN
D-600 ROOM DEMOLITION SCHEDULE

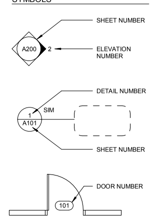
ARCHITECTURAL
A-100 BASEMENT PLAN
A-101 FIRST FLOOR PLAN
A-102 SECOND FLOOR PLAN
A-103 ATTIC PLAN

ARCHITECTURAL
A-200 NORTH ELEVATION
A-201 EAST ELEVATION
A-202 SOUTH ELEVATION
A-203 WEST ELEVATION

ARCHITECTURAL
A-300 BUILDING SECTIONS

ARCHITECTURAL
A-600 ROOM FINISH SCHEDULE
A-601 DOOR SCHEDULE
A-602 WINDOW SCHEDULE

SYMBOLS



LOCUS MAPS

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ISSUE:

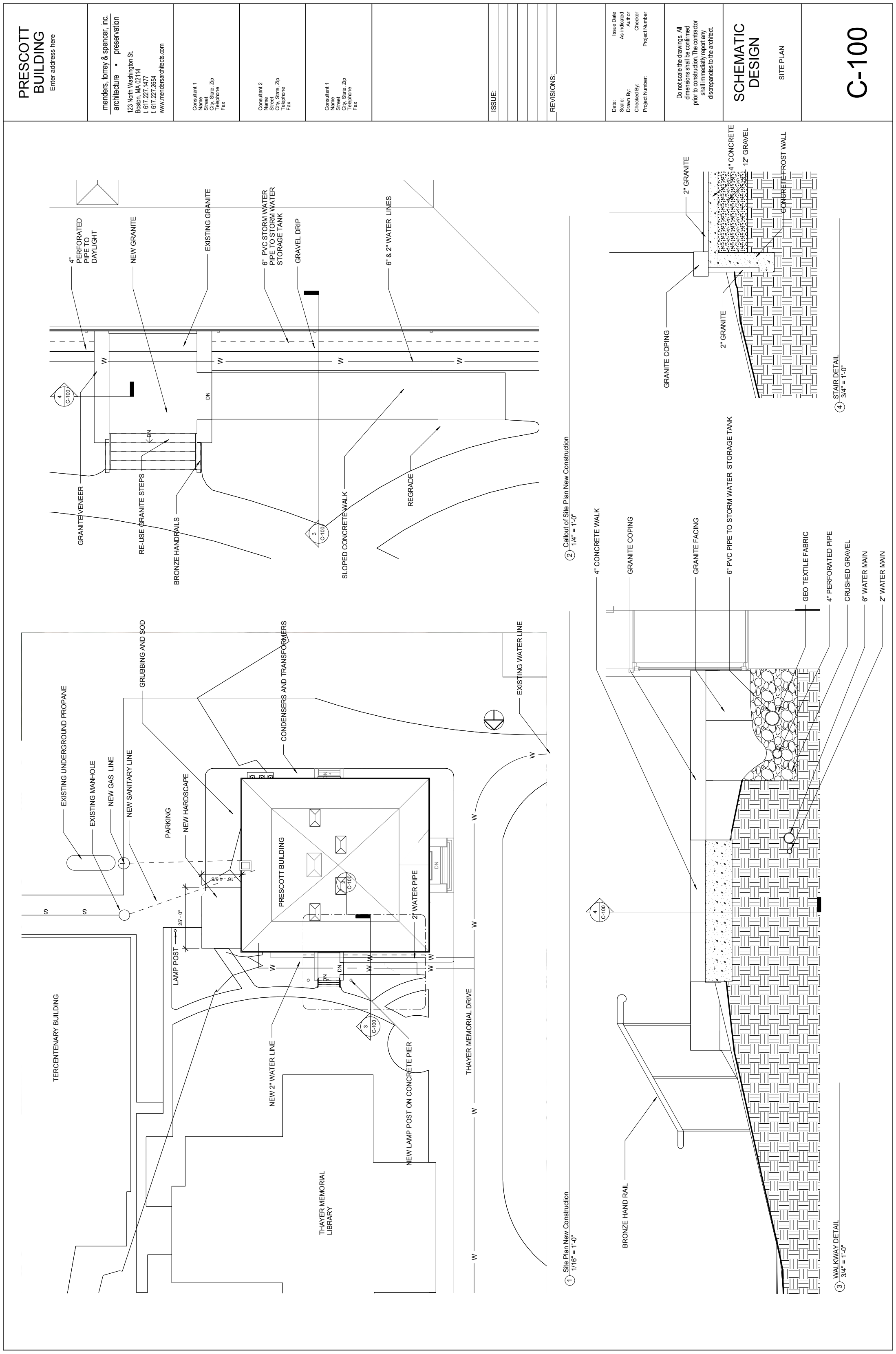
Date:	Issue Date
Scale:	As indicated
Drawn By:	Author
Checked By:	Checker
Project Number:	Project Number

Do not scale the drawings. All dimensions shall be confirmed prior to construction. The contractor shall immediatly report any discrepancies to the architect.

SCHEMATIC DESIGN

TITLE SHEET

A-000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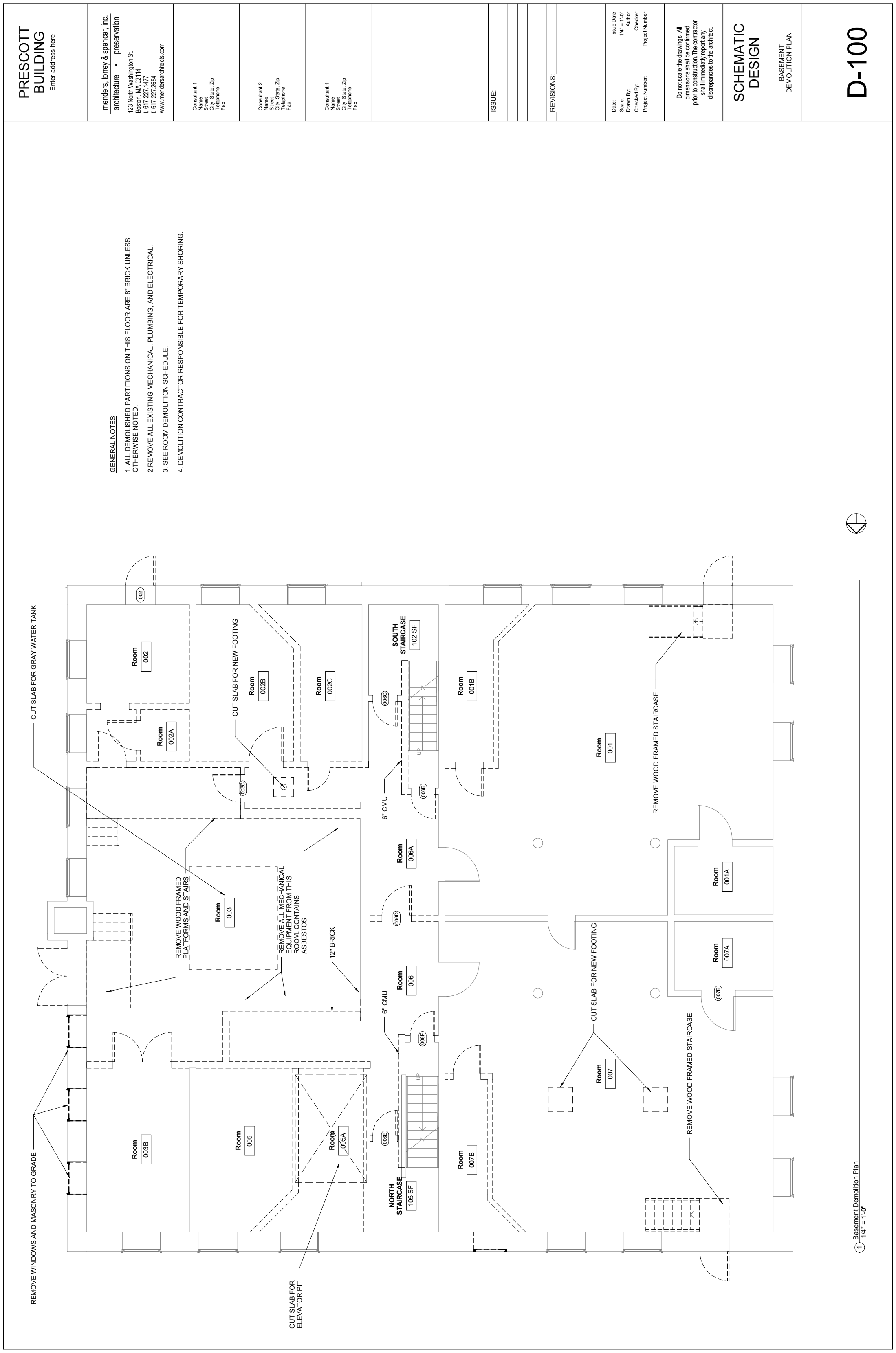
SCHEMATIC DESIGN
SITE PLAN
C-100
TERCENTENARY BUILDING
PRESCOTT BUILDING
THAYER MEMORIAL LIBRARY
THAYER MEMORIAL DRIVE
EXISTING UNDERGROUND PROPANE
EXISTING MANHOLE
NEW GAS LINE
NEW SANITARY LINE
PARKING
NEW HARDSCAPE
GRUBBING AND SOD
CONDENSERS AND TRANSFORMERS
EXISTING WATER LINE
LAMP POST
NEW 2" WATER LINE
NEW LAMP POST ON CONCRETE PIER
2" WATER PIPE
Site Plan New Construction
1/16" = 1'-0"
4" PERFORATED PIPE TO DAYLIGHT
NEW GRANITE
EXISTING GRANITE
6" PVC STORM WATER PIPE TO STORM WATER STORAGE TANK
GRAVEL DRIP
6" & 2" WATER LINES
GRANITE VENEER
RE-USE GRANITE STEPS
BRONZE HANDRAILS
SLOPED CONCRETE WALK
REGRADE
Callout of Site Plan New Construction
1/4" = 1'-0"
GRANITE COPING
2" GRANITE
4" CONCRETE
12" GRAVEL
CONCRETE FROST WALL
STAIR DETAIL
3/4" = 1'-0"
4" CONCRETE WALK
GRANITE FACING
6" PVC PIPE TO STORM WATER STORAGE TANK
GEO TEXTILE FABRIC
4" PERFORATED PIPE
CRUSHED GRAVEL
6" WATER MAIN
2" WATER MAIN
BRONZE HAND RAIL
WALKWAY DETAIL
3/4" = 1'-0"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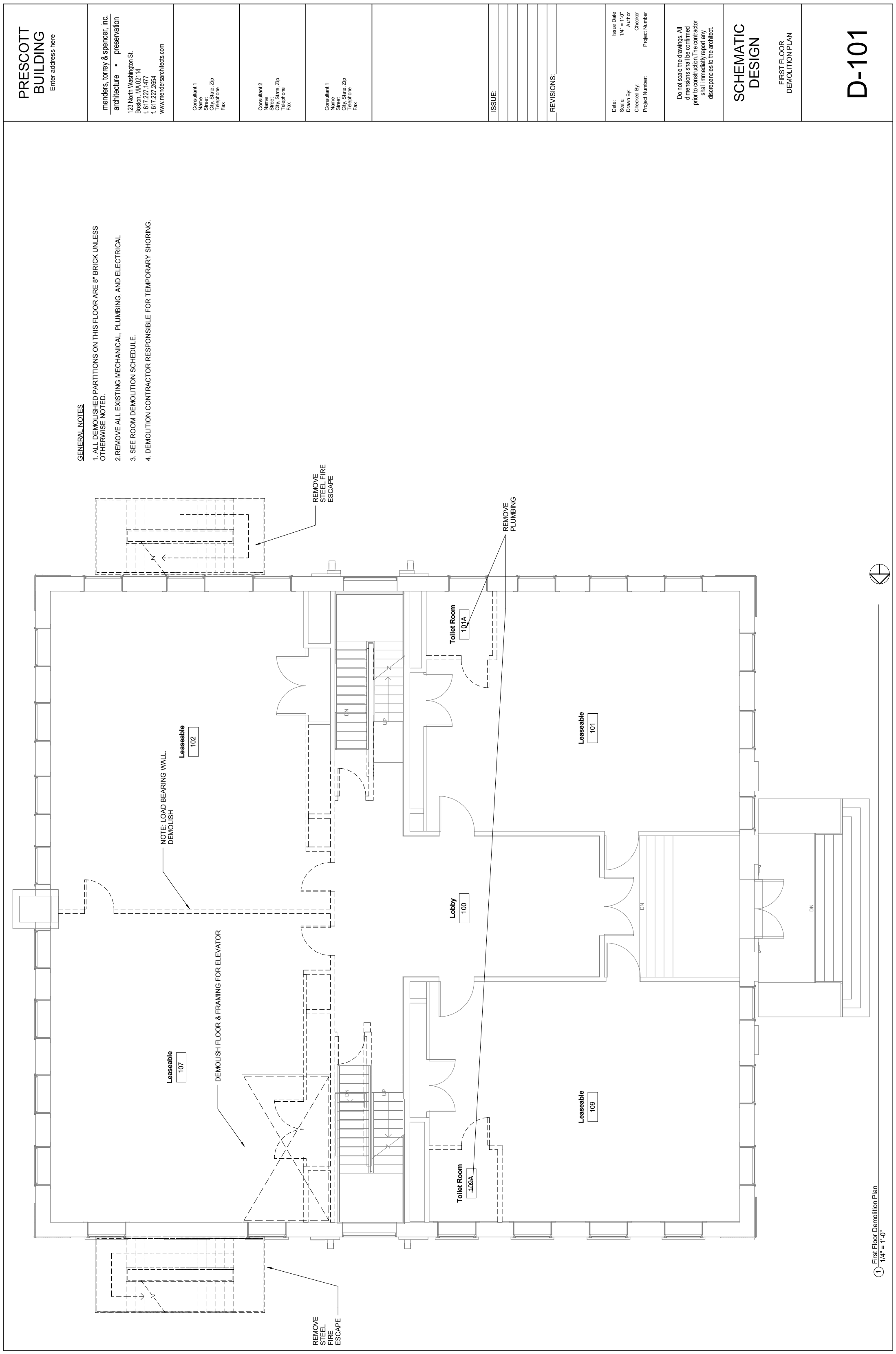
SCHEMATIC DESIGN
BASEMENT DEMOLITION PLAN
D-100
GENERAL NOTES
1. ALL DEMOLISHED PARTITIONS ON THIS FLOOR ARE 8" BRICK UNLESS OTHERWISE NOTED.
2. REMOVE ALL EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL.
3. SEE ROOM DEMOLITION SCHEDULE.
4. DEMOLITION CONTRACTOR RESPONSIBLE FOR TEMPORARY SHORING.
CUT SLAB FOR GRAY WATER TANK
CUT SLAB FOR NEW FOOTING
REMOVE WOOD FRAMED STAIRCASE
REMOVE WOOD FRAMED PLATFORMS AND STAIRS
REMOVE ALL MECHANICAL EQUIPMENT FROM THIS ROOM. CONTAINS ASBESTOS
12" BRICK
6" CMU
SOUTH STAIRCASE
102 SF
NORTH STAIRCASE
105 SF
REMOVE WINDOWS AND MASONRY TO GRADE
CUT SLAB FOR ELEVATOR PIT
1 Basement Demolition Plan
1/4" = 1'-0"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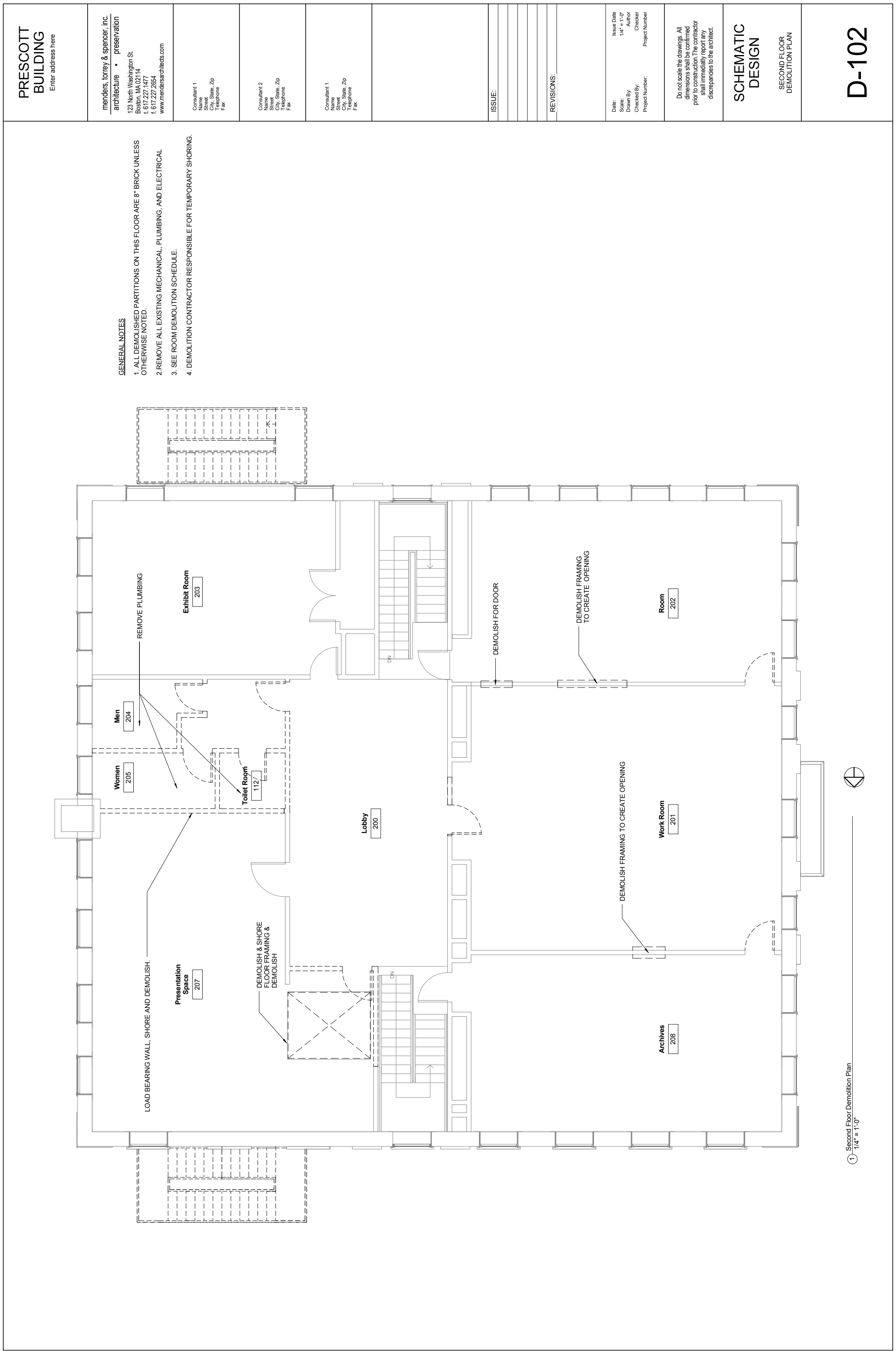
SCHEMATIC DESIGN
FIRST FLOOR DEMOLITION PLAN
D-101
GENERAL NOTES
1. ALL DEMOLISHED PARTITIONS ON THIS FLOOR ARE 8" BRICK UNLESS OTHERWISE NOTED.
2. REMOVE ALL EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL
3. SEE ROOM DEMOLITION SCHEDULE.
4. DEMOLITION CONTRACTOR RESPONSIBLE FOR TEMPORARY SHORING.
REMOVE STEEL FIRE ESCAPE
REMOVE PLUMBING
NOTE: LOAD BEARING WALL. DEMOLISH
DEMOLISH FLOOR & FRAMING FOR ELEVATOR
Leaseable 102
Leaseable 107
Toilet Room 101A
Leaseable 101
Lobby 100
Leaseable 109
Toilet Room 109A
1 First Floor Demolition Plan 1/4" = 1'-0"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Consultant 2
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SCHEMATIC DESIGN
SECOND FLOOR DEMOLITION PLAN
D-102
GENERAL NOTES
1. ALL DEMOLISHED PARTITIONS ON THIS FLOOR ARE 8" BRICK UNLESS OTHERWISE NOTED.
2. REMOVE ALL EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL.
3. SEE ROOM DEMOLITION SCHEDULE.
4. DEMOLITION CONTRACTOR RESPONSIBLE FOR TEMPORARY SHORING.
REMOVE PLUMBING
Exhibit Room 203
Men 204
Women 205
Toilet Room 112
Lobby 200
Presentation Space 207
LOAD BEARING WALL, SHORE AND DEMOLISH.
DEMOLISH & SHORE FLOOR FRAMING & DEMOLISH
DEMOLISH FOR DOOR
DEMOLISH FRAMING TO CREATE OPENING
Room 202
DEMOLISH FRAMING TO CREATE OPENING
Work Room 201
Archives 208
DN
1 Second Floor Demolition Plan
1/4" = 1'-0"

Room Demolition Schedule

Floor	Number	Name	Area	Ceiling Height	Perimeter	Floor Finish	Ceiling Finish	Walls	Comments
Basement		South Staircase	93 SF	10' - 0"	58' - 10 1/2"	Asbestos Treads			
Basement		North Staircase	96 SF	10' - 0"	60' - 2 3/4"	Asbestos Treads			
Basement	001	Storage	882 SF	10' - 0"	128' - 5"	12x12 Asbestos Tile	Drop ceiling grid & 12x12 ceiling tile		Remove staircase
Basement	001A	Closet	71 SF	10' - 0"	34' - 3 1/4"	9x9 Asbestos Tile	9x9 ceiling tile		
Basement	001B	Storage	87 SF	10' - 0"	47' - 2 3/4"	Unfinished Concrete		Demo N & W	
Basement	002	Leaseable	134 SF	10' - 0"	57' - 4"	9x9 Asbestos Tile	Plaster	Demo N & W	
Basement	002A	Leaseable	26 SF	10' - 0"	20' - 6"	9x9 Asbestos Tile	Plaster	Demo N,S,E,W	
Basement	002B	Toilet Room	150 SF	10' - 0"	49' - 4"	Unfinished Concrete	Plaster	Demo N,E,W	
Basement	002C	Leaseable	110 SF	10' - 0"	50' - 7 3/4"	Unfinished Concrete		Demo N,E	
Basement	003	Mechanical	702 SF	10' - 0"	116' - 1 1/4"	Unfinished Concrete	Plaster	Demo N,S, Partial W	Remove all equipment and piping - Contains asbestos
Basement	003B	Mechanical	176 SF	10' - 0"	55' - 6 1/4"	Unfinished Concrete	Plaster	Demo S	Remove 4 sinks, 3 urinals, 4 toilets, associated plumbing, cap at floor
Basement	005	Toilet Room	156 SF	10' - 0"	50' - 8"	Unfinished Concrete	Plaster	Demo S,W	Remove 5 sinks, 5 toilets, associated plumbing, cap at floor
Basement	005A	Elevator Machine	119 SF	10' - 0"	52' - 5 1/4"	Unfinished Concrete		Demo S,E,W	
Basement	006	Lobby	171 SF	10' - 0"	86' - 5"	Unfinished Concrete	Plaster	Demo N,S, Partial E	
Basement	006A	Lobby	171 SF	10' - 0"	85' - 0 1/4"	Unfinished Concrete	Plaster	Demo N,S	
Basement	007	Storage	897 SF	10' - 0"	128' - 7 1/2"	Carpet on Asbestos Mastic	Drop ceiling grid & 12x12 ceiling tile		Remove staircase
Basement	007A	Closet	71 SF	10' - 0"	34' - 3 1/4"	9x9 Asbestos Tile	9x9 ceiling tile		
Basement	007B	Storage	73 SF	10' - 0"	44' - 6"	Unfinished Concrete		Demo S,W	
First Floor		South Staircase	129 SF	10' - 0"	80' - 2 1/4"	12x12 Asbestos Tile			
First Floor		North Staircase	101 SF	10' - 0"	62' - 8 3/4"	12x12 Asbestos Tile		Demo E	
First Floor	100	Lobby	482 SF	10' - 0"	118' - 1"	9x9 Asbestos Tile		Demo E, Plaster to 4'	Tile beneath 12x12 Non ACM on plywood
First Floor	101	Leaseable	736 SF	10' - 0"	113' - 3 1/2"	9x9 Asbestos Tile			9x9 Acoustic tile on ceiling, remove? Blackboards, built-ins?
First Floor	101A	Toilet Room	45 SF	10' - 0"	26' - 8 1/4"	9x9 Asbestos Tile	Drywall	Demo N,W	Remove sink and toilet plumbing. Fixtures already removed.
First Floor	102	Leaseable	861 SF	10' - 0"	122' - 1 1/2"	9x9 Asbestos Tile	Tin ceiling & tiles	Demo N, Partial W	
First Floor	107	Leaseable	832 SF	10' - 0"	120' - 5 1/2"	9x9 Asbestos Tile			Remove built-in cabinet and shelves
First Floor	109	Leaseable	722 SF	10' - 0"	112' - 9 1/2"	9x9 Asbestos Tile	Plaster		
First Floor	109A	Toilet Room	52 SF	10' - 0"	28' - 10"	9x9 Asbestos Tile	Drywall	Demo S,W	Remove sink and toilet plumbing. Fixtures already removed.
First Floor	110	West Vestibule	200 SF	10' - 0"	56' - 7 1/2"	9x9 Asbestos Tile			Tile beneath 12x12 Non ACM on plywood
Second Floor		South Staircase	128 SF	10' - 0"	50' - 6 1/4"	12x12 Asbestos Tile		Demo Plaster to 4'	Tile beneath Non ACM on plywood
Second Floor		North Staircase	120 SF	10' - 0"	48' - 0"	12x12 Asbestos Tile		Demo Plaster to 4'	Tile beneath Non ACM on plywood
Second Floor	200	Lobby	473 SF	10' - 0"	91' - 4 3/4"	9x9 Asbestos Tile		Demo Plaster to 4'	Tile beneath Non ACM on plywood
Second Floor	201	Work Room	878 SF	10' - 0"	121' - 6"	9x9 Asbestos Tile			
Second Floor	202	Room	597 SF	10' - 0"	104' - 6 1/4"	9x9 Asbestos Tile		Demo Plaster to 4' S	
Second Floor	203	Exhibit Room	445 SF	10' - 0"	86' - 6 1/4"	9x9 Asbestos Tile		Demo Plaster on East	
Second Floor	204	Men	70 SF	10' - 0"	36' - 8 3/4"	9x9 Asbestos Tile		Demo N,W	Tile beneath Non ACM on plywood, Remove plumbing from 2 toilets, 1 sink
Second Floor	205	Women	71 SF	10' - 0"	36' - 6"	9x9 Asbestos Tile		Demo N,S,W	Tile beneath Non ACM on plywood, remove plumbing from 3 toilets, 1 sink
Second Floor	206	Toilet Room	38 SF	10' - 0"	24' - 9 1/2"	9x9 Asbestos Tile		Demo N,S,E	Tile beneath Non ACM on plywood, remove plumbing from 1 sink, 1 toilet
Second Floor	207	Presentation Space	788 SF	10' - 0"	125' - 6"	9x9 Asbestos Tile			
Second Floor	208	Archives	584 SF	10' - 0"	103' - 7 1/4"	9x9 Asbestos Tile			

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SCHEMATIC DESIGN

ROOM DEMOLITION SCHEDULE

D-600


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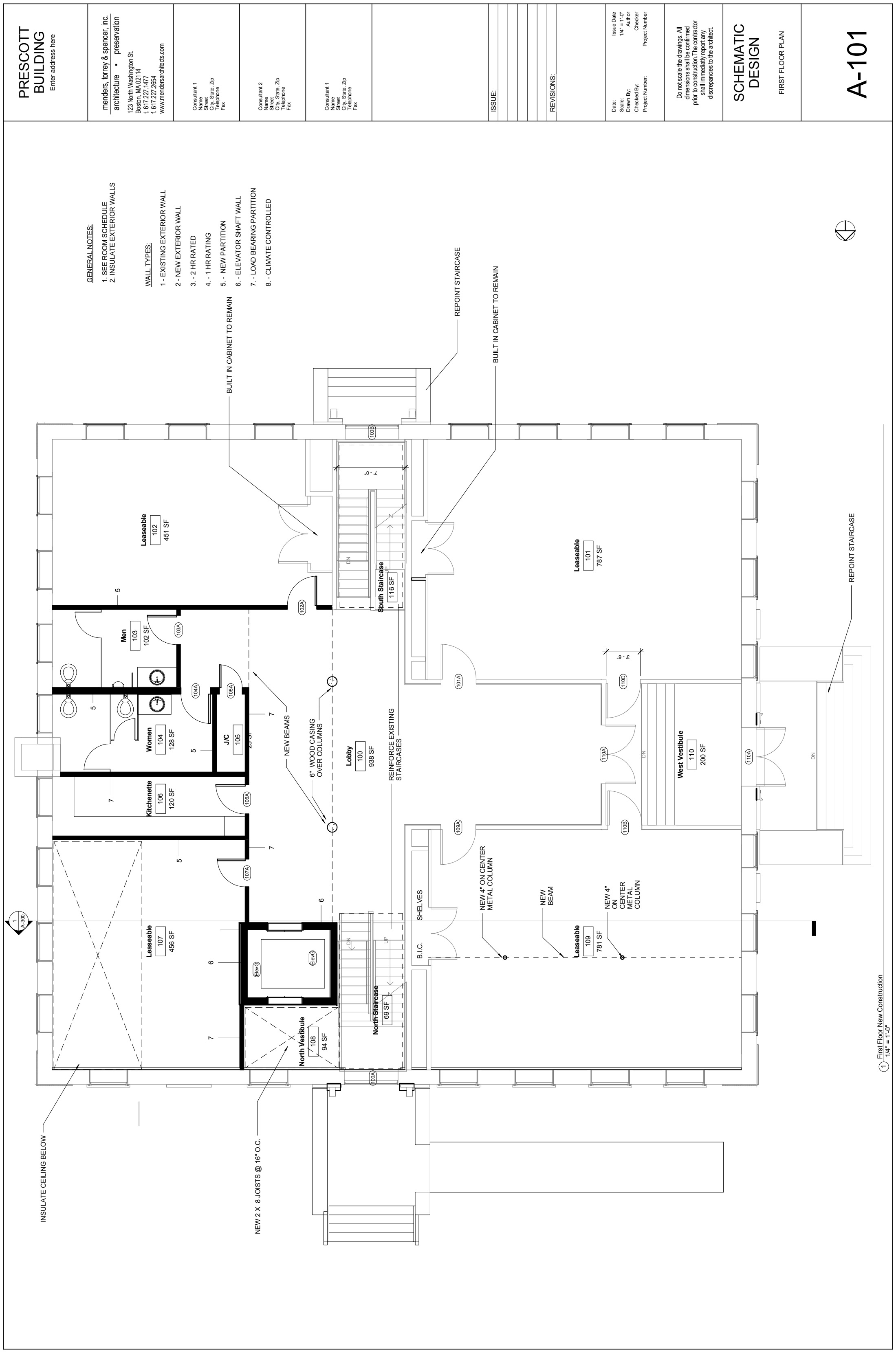
SCHEMATIC DESIGN
BASEMENT PLAN
A-100
GENERAL NOTES:
1. SEE ROOM SCHEDULE
2. INSULATE EXTERIOR WALLS
WALL TYPES:
1 - EXISTING EXTERIOR WALL
2 - NEW EXTERIOR WALL
3 - 2 HR RATED
4 - 1 HR RATING
5 - NEW PARTITION
6 - ELEVATOR SHAFT WALL
7 - LOAD BEARING PARTITION
8 - CLIMATE CONTROLLED
LEGEND
NEW CONCRETE FLOOR
WINDOW
AREA OF FILL & NEW SLAB
COLUMN & FOOTING
Leaseable 002 719 SF
South Staircase 142 SF
Storage 001 981 SF
Electrical 003A 70 SF
Mechanical 003 119 SF
Sprinkler 004 78 SF
Corridor 008 165 SF
Closet 001A 71 SF
Closet 007A 71 SF
Lobby 006
BEAM
Entry Porch EP 244 SF
Elevator Machine 005 114 SF
North Staircase 88 SF
Storage 007 980 SF
COLUMNS & FOOTINGS
Basement New Construction
1/4" = 1'-0"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SCHEMATIC DESIGN
FIRST FLOOR PLAN
A-101
GENERAL NOTES:
1. SEE ROOM SCHEDULE
2. INSULATE EXTERIOR WALLS
WALL TYPES:
1 - EXISTING EXTERIOR WALL
2 - NEW EXTERIOR WALL
3 - 2 HR RATED
4 - 1 HR RATING
5 - NEW PARTITION
6 - ELEVATOR SHAFT WALL
7 - LOAD BEARING PARTITION
8 - CLIMATE CONTROLLED
BUILT IN CABINET TO REMAIN
REPOINT STAIRCASE
INSULATE CEILING BELOW
NEW 2 X 8 JOISTS @ 16" O.C.
NEW BEAMS
REINFORCE EXISTING STAIRCASES
Lobby
West Vestibule
North Vestibule
South Staircase
North Staircase
Leaseable
Men
Women
Kitchenette
First Floor New Construction
1/4" = 1'-0"


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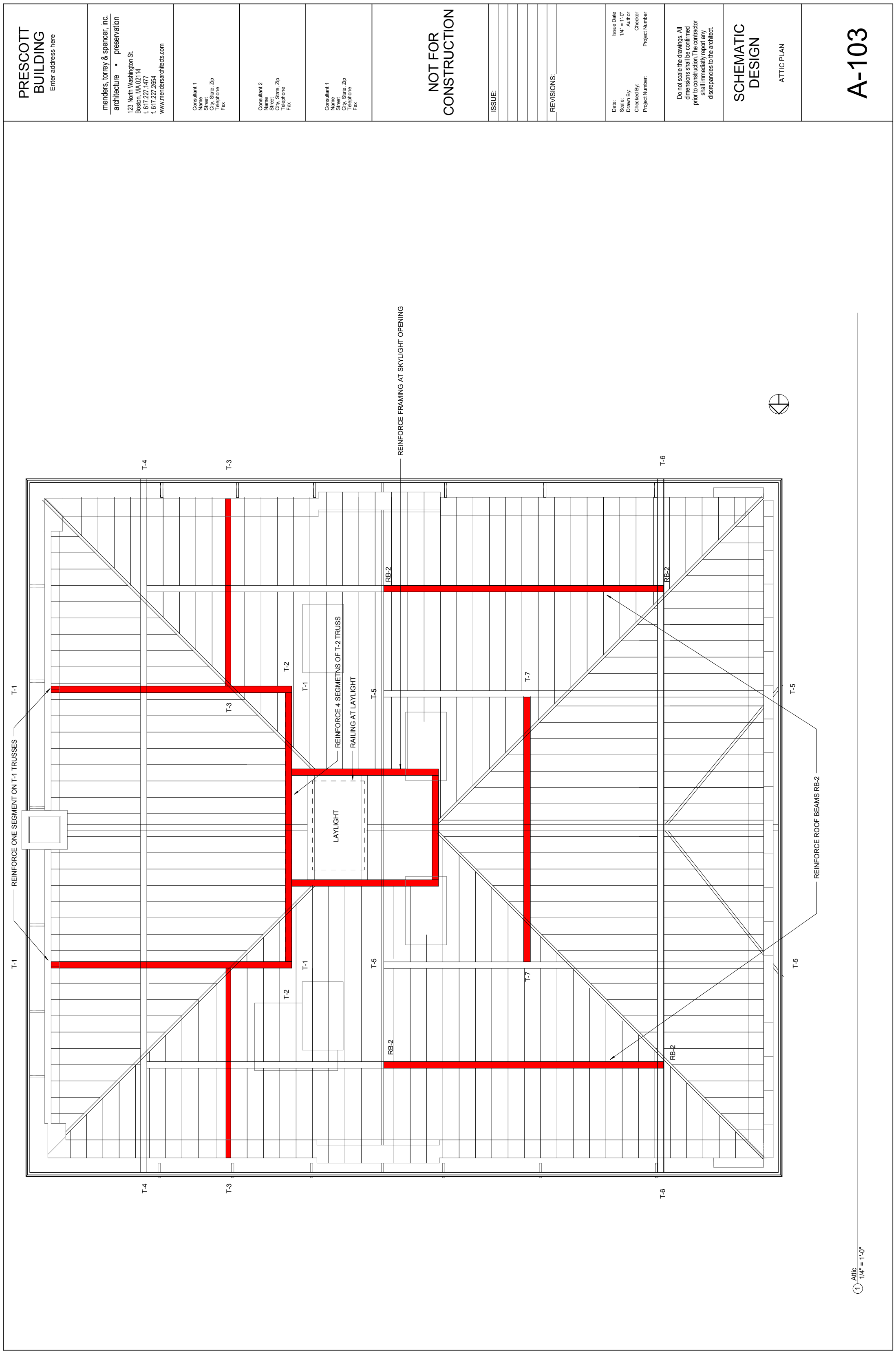
SCHEMATIC DESIGN
SECOND FLOOR PLAN
A-102
GENERAL NOTES:
1. SEE ROOM SCHEDULE
2. INSULATE EXTERIOR WALLS
WALL TYPES:
1 - EXISTING EXTERIOR WALL
2 - NEW EXTERIOR WALL
3 - 2 HR RATED
4 - 1 HR RATING
5 - NEW PARTITION
6 - ELEVATOR SHAFT WALL
7 - LOAD BEARING PARTITION
8 - CLIMATE CONTROLLED
Exhibit Room 203 445 SF
South Staircase SS 128 SF
Research Room 202 597 SF
Men 204 89 SF
Women 205 122 SF
J/C 206
Lobby 200 631 SF
Work Room 201 717 SF
Archives (Climate Controlled) 209 151 SF
Presentation Space 207 584 SF
Closet 207A 61 SF
North Staircase NS 121 SF
Archive 208 584 SF
BUILT IN WORK COUNTER
RECEPTION WINDOW
2 Second Floor Furniture Plan 1/8" = 1'-0"
1 Second Floor New Construction 1/4" = 1'-0"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SCHEMATIC DESIGN
ATTIC PLAN
A-103
REINFORCE FRAMING AT SKYLIGHT OPENING
REINFORCE ONE SEGMENT ON T-1 TRUSSES
REINFORCE 4 SEGMETNS OF T-2 TRUSS
RAILING AT LAYLIGHT
LAYLIGHT
REINFORCE ROOF BEAMS RB-2
T-1
T-2
T-3
T-4
T-5
T-6
T-7
RB-2
Attic
1/4" = 1'-0"


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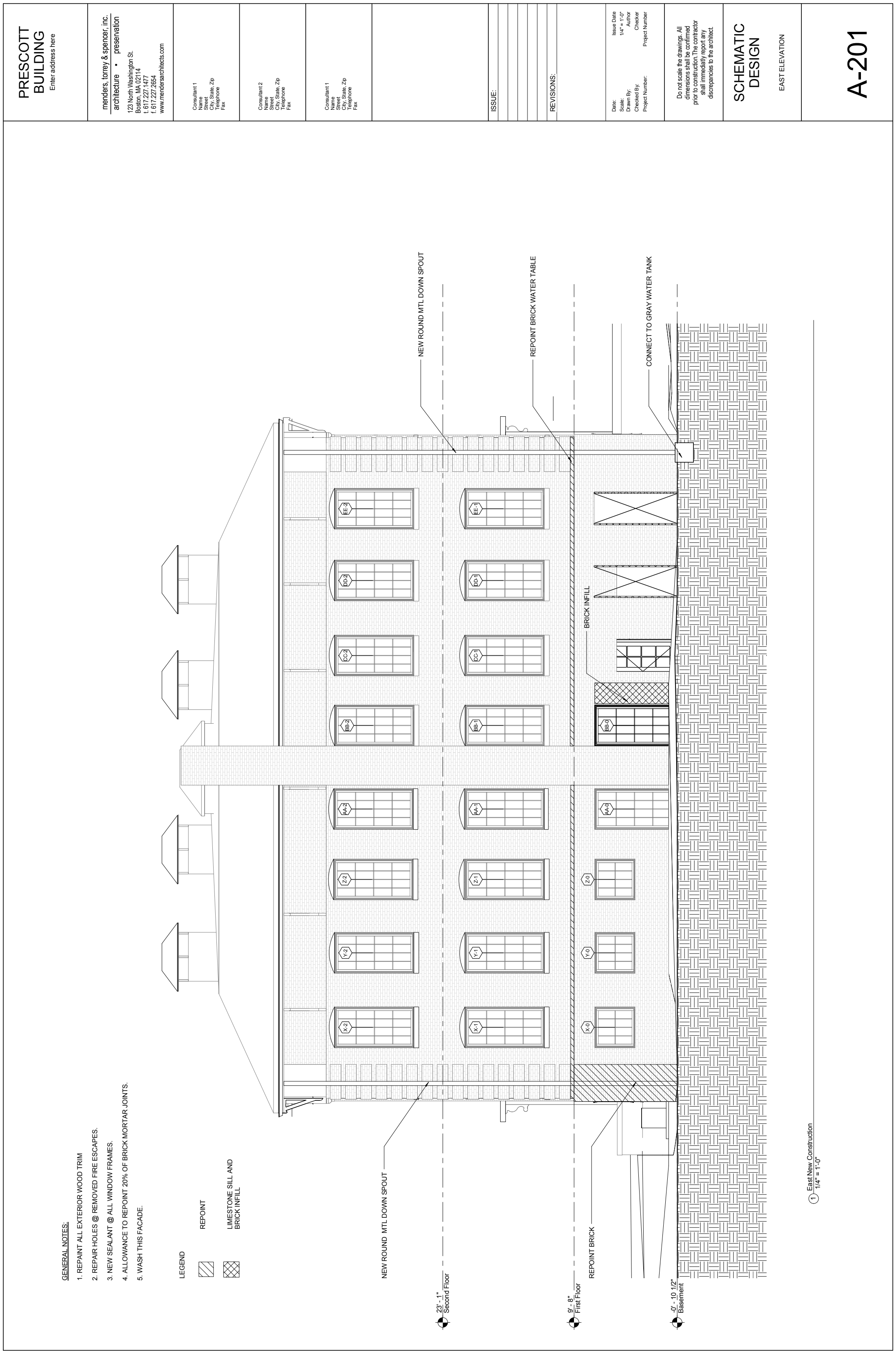
SCHEMATIC DESIGN
NORTH ELEVATION
A-200
ROUND METAL DOWNSPOUT
WATER TABLE
GRANITE STEPS
23' - 1"
Second Floor
9' - 8"
First Floor
North New Construction
1/4" = 1'-0"
GENERAL NOTES:
1. REPAINT ALL EXTERIOR WOOD TRIM
2. REPAIR HOLES @ REMOVED FIRE ESCAPES.
3. NEW SEALANT @ ALL WINDOW FRAMES.
4. ALLOWANCE TO REPOINT 20% OF BRICK MORTAR JOINTS.
LEGEND
REPOINT
LIMESTONE SILL AND BRICK INFILL
ROUND METAL DOWNSPOUT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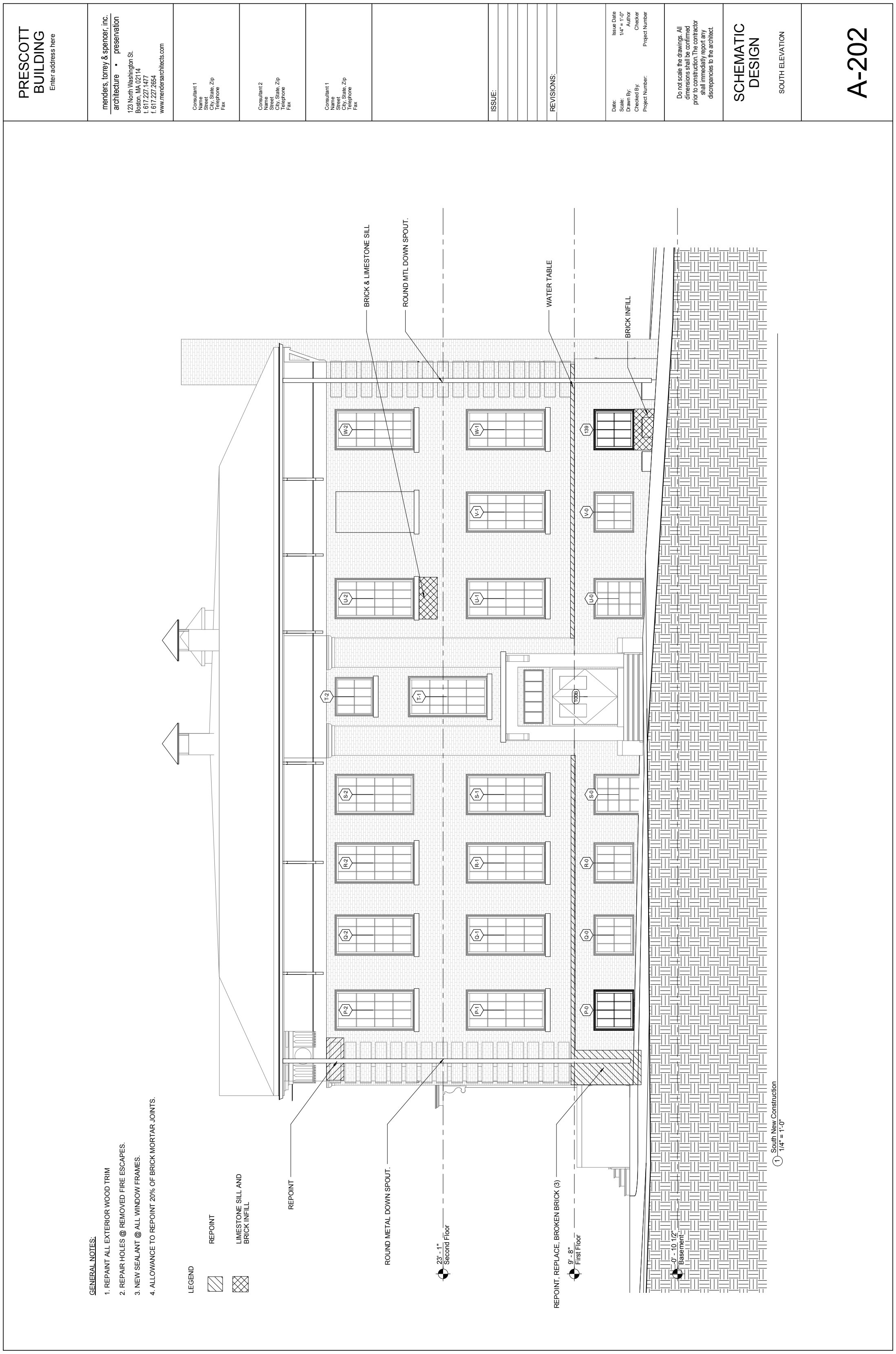
SCHEMATIC DESIGN
EAST ELEVATION
A-201
GENERAL NOTES:
1. REPAINT ALL EXTERIOR WOOD TRIM
2. REPAIR HOLES @ REMOVED FIRE ESCAPES.
3. NEW SEALANT @ ALL WINDOW FRAMES.
4. ALLOWANCE TO REPOINT 20% OF BRICK MORTAR JOINTS.
5. WASH THIS FACADE.
LEGEND
REPOINT
LIMESTONE SILL AND BRICK INFILL
NEW ROUND MTL DOWN SPOUT
REPOINT BRICK WATER TABLE
CONNECT TO GRAY WATER TANK
BRICK INFILL
NEW ROUND MTL DOWN SPOUT
REPOINT BRICK
23' - 1"
Second Floor
9' - 8"
First Floor
-0' - 10 1/2"
Basement
1 East New Construction
1/4" = 1'-0"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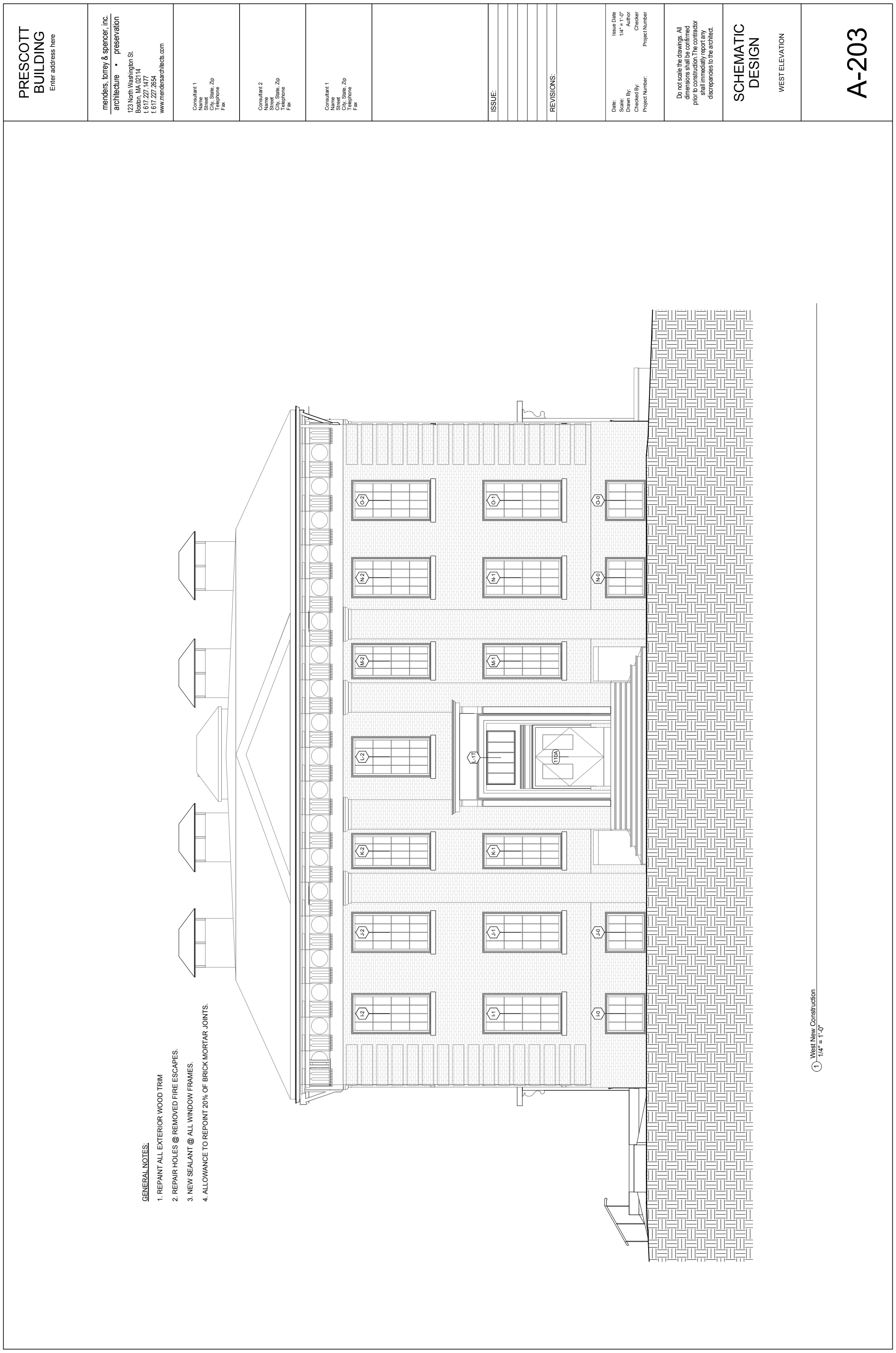
SCHEMATIC DESIGN
SOUTH ELEVATION
A-202
GENERAL NOTES:
1. REPAINT ALL EXTERIOR WOOD TRIM
2. REPAIR HOLES @ REMOVED FIRE ESCAPES.
3. NEW SEALANT @ ALL WINDOW FRAMES.
4. ALLOWANCE TO REPOINT 20% OF BRICK MORTAR JOINTS.
LEGEND
REPOINT
LIMESTONE SILL AND BRICK INFILL
REPOINT
ROUND METAL DOWN SPOUT.
REPOINT, REPLACE, BROKEN BRICK (3)
23' - 1"
Second Floor
9' - 8"
First Floor
0' - 10 1/2"
Basement
BRICK & LIMESTONE SILL
ROUND MTL DOWN SPOUT.
WATER TABLE
BRICK INFILL
South New Construction
1/4" = 1'-0"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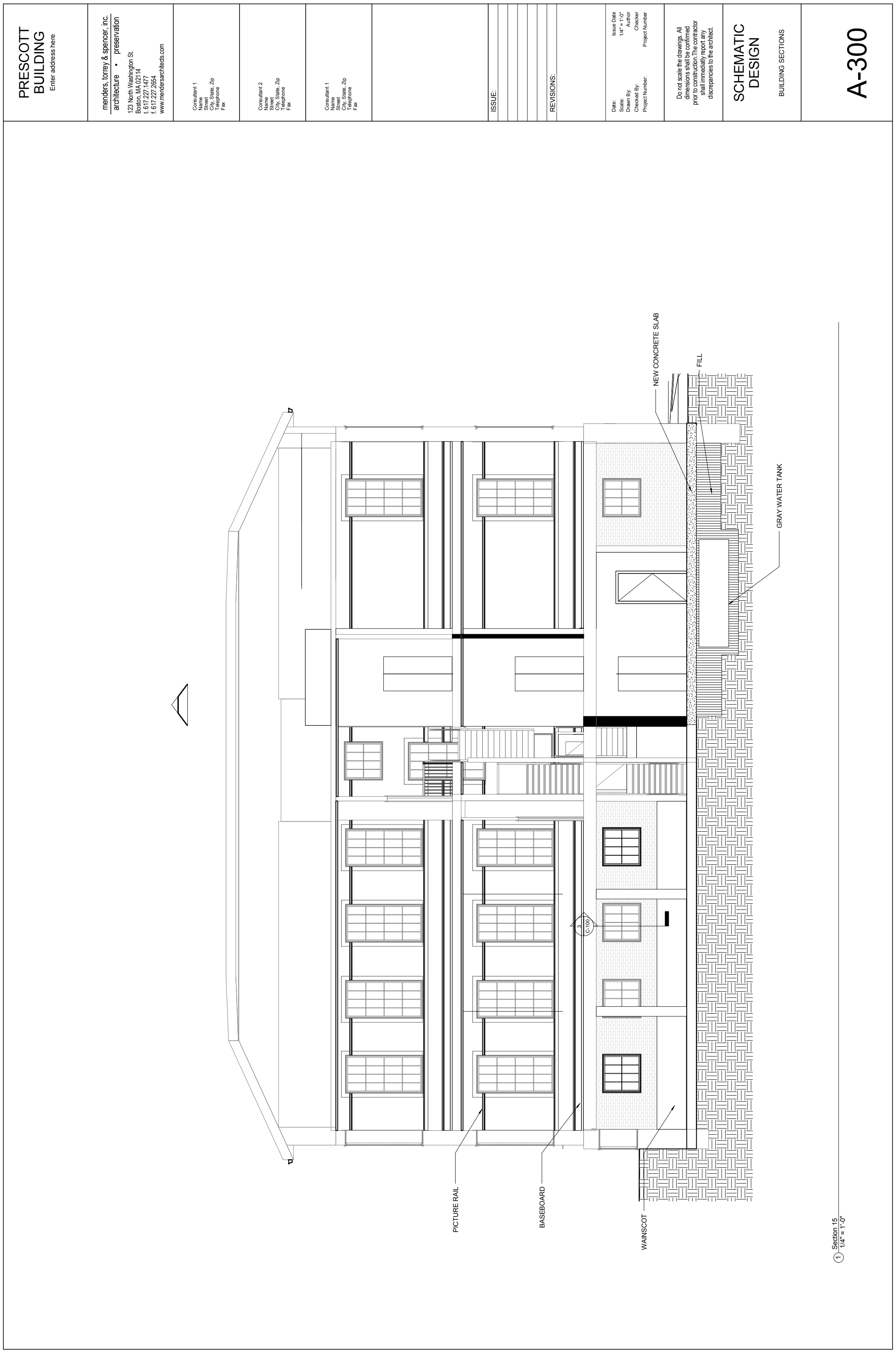
SCHEMATIC DESIGN
WEST ELEVATION
A-203
GENERAL NOTES:
1. REPAINT ALL EXTERIOR WOOD TRIM
2. REPAIR HOLES @ REMOVED FIRE ESCAPES.
3. NEW SEALANT @ ALL WINDOW FRAMES.
4. ALLOWANCE TO REPOINT 20% OF BRICK MORTAR JOINTS.
1 West New Construction
1/4" = 1'-0"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SCHEMATIC DESIGN
BUILDING SECTIONS
A-300
NEW CONCRETE SLAB
FILL
GRAY WATER TANK
PICTURE RAIL
BASEBOARD
WAINSCOT
Section 15
1/4" = 1'-0"

Room Schedule

Floor	Number	Name	Occupant	Area	Ceiling Height	Perimeter	Floor Finish	Ceiling Finish	Wall Finish	Base Finish	Wainscot	Comments
Basement	001	Storage	Town of Lancaster	981 SF	10' - 0"	166' - 7"	Seal existing concrete	New GWB	Brick	Wood	Wood	
Basement	001A	Closet	Town of Lancaster	71 SF	10' - 0"	34' - 3"	Seal existing concrete	New GWB	Brick	Wood	Wood	
Basement	002	Leaseable	Tenant	719 SF	10' - 0"	202' - 5"	Carpet tile	New GWB	Brick	New vinyl		
Basement	003	Mechanical	MEP	119 SF	10' - 0"	43' - 9"	New Concrete	New GWB	GWB	None		
Basement	003A	Electrical	MEP	70 SF	10' - 0"	34' - 0"	New Concrete	New GWB	GWB	None		
Basement	004	Sprinkler	MEP	76 SF	10' - 0"	34' - 3"	New Concrete	New GWB	GWB	None		
Basement	005	Elevator Machine	MEP	114 SF	10' - 0"	44' - 11"	Seal existing concrete	New GWB	CMU	None		
Basement	006	Lobby	Town of Lancaster	353 SF	10' - 0"	132' - 2"	VCT	New GWB	GWB	New wood		
Basement	007	Storage	Town of Lancaster	980 SF	10' - 0"	130' - 8"	Seal existing concrete	New GWB	Brick	Wood	Wood	
Basement	007A	Closet	Town of Lancaster	71 SF	10' - 0"	34' - 3"	Seal existing concrete	New GWB	Brick	Wood	Wood	
Basement	008	Corridor	Circulation	165 SF	10' - 0"	61' - 8"	VCT	New GWB	Brick	None		
Basement	EP	Entry Porch	Circulation	244 SF	10' - 0"	68' - 6"	New Concrete	Stucco	Brick			
Basement	NS	North Staircase	Circulation	88 SF	10' - 0"	59' - 3"	VCT	Ptd. Plaster	Brick	New wood		
Basement	SS	South Staircase	Circulation	142 SF	10' - 0"	53' - 11"	VCT	Ptd. Plaster	Brick	New wood		
First Floor	100	Lobby	Town of Lancaster	938 SF	10' - 0"	182' - 1"	VCT	Ptd Plaster	Ptd Plaster	Wood		
First Floor	101	Leaseable	Tenant	787 SF	10' - 0"	113' - 3"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
First Floor	102	Leaseable	Tenant	451 SF	10' - 0"	91' - 2"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
First Floor	103	Men	Service	102 SF	10' - 0"	41' - 6"	Ceramic tile	Ptd Plaster	New GWB	Ceramic	Ceramic	
First Floor	104	Women	Service	128 SF	10' - 0"	48' - 10"	Ceramic tile	Ptd Plaster	New GWB	Ceramic	Ceramic	
First Floor	105	J/C	Service	23 SF	10' - 0"	21' - 10"	Ceramic tile	Ptd Plaster	New GWB	Ceramic		
First Floor	106	Kitchenette	Tenant	120 SF	10' - 0"	51' - 9"	Sheet vinyl	Ptd Plaster	New GWB	Vinyl		
First Floor	107	Leaseable	Tenant	456 SF	10' - 0"	86' - 10"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
First Floor	108	North Vestibule	Circulation	94 SF	10' - 0"	45' - 7"	VCT	New GWB	New GWB	Wood	Beaded Board	
First Floor	109	Leaseable	Tenant	781 SF	10' - 0"	112' - 9"	Carpet tile	New GWB	Ptd Plaster	Wood		
First Floor	110	West Vestibule	Circulation	200 SF	10' - 0"	56' - 8"	VCT	Ptd Plaster	Ptd Plaster	Wood	Raised Panel	
First Floor	NS	North Staircase	Circulation	69 SF	10' - 0"	53' - 1"	VCT	Ptd Plaster	Ptd Plaster	Wood		
First Floor	SS	South Staircase	Circulation	116 SF	10' - 0"	72' - 10"	VCT	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	200	Lobby	Circulation	631 SF	10' - 0"	139' - 9"	New wood	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	201	Work Room	Historical Commission	717 SF	10' - 0"	121' - 6"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	202	Research Room	Historical Commission	597 SF	10' - 0"	104' - 6"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	203	Exhibit Room	Historical Commission	445 SF	10' - 0"	86' - 6"	New wood	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	204	Men	Service	89 SF	10' - 0"	38' - 8"	Ceramic tile	Ptd Plaster	New GWB	Ceramic	Ceramic	
Second Floor	205	Women	Service	122 SF	10' - 0"	47' - 9"	Ceramic tile	Ptd Plaster	New GWB	Ceramic	Ceramic	
Second Floor	206	J/C	Service	25 SF	10' - 0"	22' - 1"	Ceramic tile	Ptd Plaster	New GWB	Ceramic		
Second Floor	207	Presentation Space	Historical Commission	584 SF	10' - 0"	99' - 10"	Carpet tile	Ptd Plaster	New GWB	Wood		
Second Floor	207A	Closet	Historical Commission	61 SF	10' - 0"	31' - 10"	Carpet tile	Ptd Plaster	New GWB	Vinyl		
Second Floor	208	Archive	Historical Commission	584 SF	10' - 0"	103' - 7"	Carpet tile	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	209	Archives (Climate Controlled)	Historical Commission	151 SF	10' - 0"	51' - 2"	Carpet tile	Ptd Plaster	New GWB	Vinyl		Unique wall type
Second Floor	NS	North Staircase	Circulation	121 SF	10' - 0"	48' - 6"	New wood	Ptd Plaster	Ptd Plaster	Wood		
Second Floor	SS	South Staircase	Circulation	128 SF	10' - 0"	50' - 9"	VCT	Ptd Plaster	Ptd Plaster	Wood		

NOTE: IN EXISTING ROOMS, WALL BASE & WAINSCOT TO BE REPAINTED UNLESS OTHERWISE NOTED.

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SCHEMATIC DESIGN

ROOM FINISH SCHEDULE

A-600

Door Schedule											
				Door				Frame			
				Nominal Size							
Level	Mark	To Room: Name	Status	Width	Height	Thickness	Door Material	Frame Material	Fire Rating	Hardware Set	Comments
Basement											
Basement	001 A	Storage	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
Basement	001 B	Storage	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		8	
Basement	001 C	Storage	Demolish	2' - 10"	6' - 8"	0' - 2"	Metal	Hollow Metal		(none)	
Basement	001 D		Demolish	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Basement	002		Demolish	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	002 A	Leaseable	New	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		4	
Basement	002 B	Leaseable	Demolish	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	002 C	Leaseable	Demolish	2' - 4"	6' - 8"	0' - 2"	Metal	Hollow Metal		(none)	
Basement	002 D	Leaseable	Demolish	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	002 E	Leaseable	Demolish	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	003	Mechanical	New	6' - 0"	7' - 0"	0' - 2"	Hollow Metal Core	Hollow Metal	1.5 HR	7	
Basement	003 A	Electrical	New	3' - 0"	7' - 0"	0' - 2"	Hollow Metal Core	Hollow Metal	1.5 HR	4	
Basement	003 B	Entry Porch	Demolish	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	Two leafs
Basement	003 C	Leaseable	Demolish	2' - 10"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Basement	004 A	Sprinkler	New	3' - 0"	7' - 0"	0' - 2"	Hollow Metal Core	Hollow Metal	1.5 HR	7	
Basement	005	Elevator Machine	New	2' - 10"	7' - 0"	0' - 2"	Hollow Metal Core	Hollow Metal	1.5 HR	7	
Basement	006	Entry Porch	New	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		2	
Basement	006		Demolish	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	Two leafs
Basement	006 A	Corridor		3' - 0"	7' - 0"	0' - 2"				3	
Basement	006 B	Corridor	Demolish	2' - 6"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	006 C	South Staircase	Demolish	2' - 6"	6' - 8"	0' - 2"	Metal	Hollow Metal		(none)	
Basement	006 D	Corridor	Demolish	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Basement	006 E	North Staircase	Demolish	2' - 6"	6' - 8"	0' - 2"	Metal	Hollow Metal		(none)	
Basement	006 F	Corridor	Demolish	2' - 6"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Basement	007 A	Storage	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
Basement	007 B	Storage	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
Basement	007 C	Storage	Existing	2' - 10"	6' - 8"	0' - 2"	Wood	Wood		4	
Basement	007 D	Storage	Demolish	2' - 10"	6' - 8"	0' - 2"	Metal	Hollow Metal		(none)	
Basement	007 E		Demolish	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Basement	008 A	South Staircase	New	3' - 0"	7' - 0"	0' - 2"	Hollow Metal	Hollow Metal	1.5 HR	3	
Basement	008 B	North Staircase	New	3' - 0"	7' - 0"	0' - 2"	Hollow Metal Core	Hollow Metal	1.5 HR	3	
Basement	Elev 2			3' - 6"	7' - 0"					(none)	
Basement	Elev B			3' - 6"	7' - 0"					(none)	
Basement	Elev G			3' - 6"	7' - 0"					(none)	
Basement	Elev G			3' - 6"	7' - 0"					(none)	
North & South Entry Level											
North & South Entry Level	100 A		Existing	5' - 8"	7' - 0"	0' - 2"	Wood	Wood		(none)	Two leafs
North & South Entry Level	100 B	South Staircase	Existing	5' - 8"	6' - 8"	0' - 2"	Wood	Wood		1	Two leafs
West Entry Level											
West Entry Level	110 A	West Vestibule	Existing	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		1	Two leafs
First Floor											
First Floor	100 A	Lobby	Demolish	2' - 10"	6' - 8"	0' - 2"	Wood	Wood		(none)	
First Floor	100 B	Lobby	Demolish	2' - 10"	6' - 8"	0' - 2"	Wood	Wood		(none)	
First Floor	101 A	Leaseable	Existing	3' - 7"	6' - 8"	0' - 2"	Wood	Wood		4	

Door Schedule											
				Door				Frame			
				Nominal Size							
Level	Mark	To Room: Name	Status	Width	Height	Thickness	Door Material	Frame Material	Fire Rating	Hardware Set	Comments
First Floor	101 B	Leaseable	Cabinetry	5' - 4"	6' - 8"	0' - 2"	Wood	Wood		(none)	Two leafs
First Floor	101 C	Leaseable	Demolish	2' - 10"	6' - 8"	0' - 2"	Wood - Hollow Core	Wood		(none)	
First Floor	102 A	Leaseable	Reused -	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		4	
First Floor	102 B	Women	Remove/Salvage	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
First Floor	102 C	Lobby	Remove/Salvage	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
First Floor	102 D	Leaseable	Cabinetry	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	Two leafs
First Floor	103 A	Men	New	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		6	
First Floor	104 A	Women	New	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		6	
First Floor	105 A	J/C	New	2' - 4"	6' - 8"	0' - 2"	Wood	Wood		4	
First Floor	106 A	Kitchenette	Reused	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		8	
First Floor	107 A	Leaseable	Reused	2' - 10"	7' - 0"	0' - 2"	Wood	Wood		4	
First Floor	107 B	Lobby	Remove/Salvage	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
First Floor	107 C	Lobby	Demolish	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	Two leafs
First Floor	109 A	Leaseable	Existing	3' - 7"	6' - 8"	0' - 2"	Wood	Wood		4	
First Floor	109 B	Leaseable	Cabinetry	5' - 4"	6' - 8"	0' - 2"	Wood	Wood		(none)	Two leafs
First Floor	109 C	Leaseable	Demolish	2' - 10"	6' - 8"	0' - 2"	Wood - Hollow Core	Wood		(none)	
First Floor	110 A	West Vestibule	Existing	6' - 0"	6' - 10"	0' - 2"	Wood	Wood		9	Two leafs
First Floor	110 B	West Vestibule	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
First Floor	110 C	West Vestibule	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor											
Second Floor	200 A	Lobby	Demolish	3' - 0"	7' - 0"	0' - 2"	Wood - Hollow Core	Wood		(none)	
Second Floor	201 A	Work Room	Remove/Salvage	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Second Floor	201 B	Work Room	New	6' - 0"	7' - 0"	0' - 2"	Wood	Wood		5	Custom frosted glass transom
Second Floor	201 C	Work Room	Demolish	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Second Floor	201 D	Work Room	Reused	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		8	
Second Floor	202 A	Research Room	Existing	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor	202 B	Research Room	Reused	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		8	
Second Floor	202 C	Research Room	Demolish	3' - 0"	7' - 0"	0' - 2"	Wood	Wood		(none)	
Second Floor	203 A	Exhibit Room	Existing	2' - 10"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor	203 B	Exhibit Room	Cabinetry	5' - 4"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Second Floor	204 A	Men	New	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		6	
Second Floor	204 A	Men	Demolish	2' - 10"	6' - 8"	0' - 2"	Wood - Hollow core	Wood		(none)	
Second Floor	205 A	Women	New	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		6	
Second Floor	205 B	Women	Demolish	3' - 0"	6' - 8"	0' - 2"	Wood - Hollow Core	Wood		(none)	
Second Floor	206 A	J/C	New	2' - 4"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor	206 B		Demolish	2' - 10"	6' - 8"	0' - 2"	Wood - Hollow Core	Wood		(none)	
Second Floor	207 A	Presentation Space	Existing	3' - 6"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor	207 B	Closet	New	2' - 10"	7' - 0"	0' - 2"	Wood	Wood		8	
Second Floor	207 C	Lobby	Remove/Salvage	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		(none)	
Second Floor	208 A	Archive	Existing	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		4	
Second Floor	209 A	Archives (Climate Controlled)	Existing	3' - 0"	6' - 8"	0' - 2"	Wood	Wood		11	

Hardware Set	
Key Name	Comments
1	Double Door Egress
2	Single Door Egress
3	Egress Path & Stairs
4	Office
5	Tenant / Historical Commission Double Door
6	Restrooms
7	Mechanical Rooms
8	Site Room
9	Double Door Egress Path
10	Double Accessible
11	Vapor Seal

NOTE: ALL EXISTING/REUSED DOORS RECEIVE NEW HARDWARE.

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Do not scale the drawings. All dimensions shall be confirmed prior to construction.The contractor shall immediatly report any discrepancies to the architect.

SCHEMATIC DESIGN

DOOR SCHEDULE

A-601

Window Schedule

Elevation	Mark	State	Frame	Rough Height	Rough Width	Lites Vertical	Lites Horizontal	Exterior Finish	Interior Finish	Comments
North	A-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	A-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	A-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	B-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	C-0	Existing	Wood	5' - 0"	4' - 0"	3	4	Paint	Paint	
North	C-1	New	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	C-2	New	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	D-0T	Existing	Wood	2' - 0 3/4"	5' - 6 3/4"					
North	D-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	D-2	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	E-0	Demolish	Wood	4' - 6 1/2"	3' - 4 1/2"					
North	E-0	New/Salvaged	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	E-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	E-2	New	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	F-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	F-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	F-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	G-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	G-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	G-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	H-0	New/Salvage	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
North	H-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	H-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
North	P-0	New/Salv	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
West	I-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
West	I-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	I-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	J-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	New top sash
West	J-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	J-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	K-1	Existing	Wood	8' - 0"	3' - 6"	4	4	Paint	Paint	
West	K-2	Existing	Wood	8' - 0"	3' - 6"	4	4	Paint	Paint	
West	L-1T	Existing	Wood	2' - 11 3/4"	5' - 7"					
West	L-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	M-1	Existing	Wood	8' - 0"	3' - 6"	4	4	Paint	Paint	
West	M-2	Existing	Wood	8' - 0"	3' - 6"	4	4	Paint	Paint	
West	N-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	New top sash
West	N-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	N-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	O-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
West	O-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
West	O-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	139	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
South	P-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	P-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	

Window Schedule

Elevation	Mark	State	Frame	Rough Height	Rough Width	Lites Vertical	Lites Horizontal	Exterior Finish	Interior Finish	Comments
South	Q-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
South	Q-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	Q-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	R-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
South	R-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	R-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	S-0	Existing	Wood	5' - 0"	4' - 0"	3	4	Paint	Paint	
South	S-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	S-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	T-0T	Existing	Wood	2' - 0 3/4"	5' - 6 3/4"					
South	T-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	T-2	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
South	U-0	Existing	Wood	5' - 0"	4' - 0"	3	4	Paint	Paint	
South	U-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	U-2	New	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	V-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
South	V-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	W-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
South	W-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	X-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
East	X-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	X-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	Y-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
East	Y-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	Y-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	Z-0	Existing	Wood	4' - 0"	4' - 0"	4	2	Paint	Paint	
East	Z-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	Z-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	AA-0	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	AA-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	AA-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	BB-0	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	BB-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	BB-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	CC-0	Remove/Salvage	Wood	4' - 6 1/2"	3' - 4 1/2"					Remove & Salvage for re-use at XX-X
East	CC-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	CC-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	DD-0	Remove/Salvage	Wood	4' - 6 1/2"	3' - 4 1/2"					Remove & Salvage for re-use at XX-X
East	DD-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	DD-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	EE-0	Remove/Salvage	Wood	4' - 6 1/2"	3' - 4 1/2"					Remove & Salvage for re-use at XX-X
East	EE-1	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	
East	EE-2	Existing	Wood	8' - 0"	4' - 0"	4	4	Paint	Paint	

General Notes:

Replace all aluminum storm windows with new alumnim double track storm windows.

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SCHEMATIC DESIGN

WINDOW SCHEDULE

A-602

OUTLINE SPECIFICATIONS

The outline specifications describe work approaches to the items identified in this conditions assessment. Note that instruction for access – staging, lifts, etc. – are not included since access to work areas typically falls under the purview of the contractor. Specification sections below are listed by the conventional numbering sequence of the Construction Specifications Institute MasterFormat 2011 which maintains a general listing construction activities organized by trade or material.

00 00 00	**PROCUREMENT AND CONTRACTING REQUIREMENTS**
00 20 00	**Instructions for Procurement**
	Publically bid Bid Bond Single Prime Contract Filed Sub-Bids Required Prevailing wage Owner's Project Manager Required Payment Bond Performance Bond
00 31 26	**Hazardous Material Information**
	Tested Positive for Asbestos Bearing Materials Tested Positive for Lead Painted Surfaces
01 00 00	**GENERAL REQUIREMENTS**
01 10 00	**Summary**
	Renovation of existing 15000 s.f. brick and wood-framed former school into office space, meeting rooms and storage for town records. All building systems will be replaced, an elevator will be inserted and fire suppression will be added.
01 40 00	**Quality Requirements**
	Build to requirements of 8th edition Massachusetts Building Code Restoration, Renovation and Repainting lead paint requirements will apply
01 50 00	**Temporary Facilities and Controls**
	Temporary electricity Field Office in building Temporary Sanitary Facilities Temporary erosion and sediment control Temporary Fencing Temporary Town Project Sign
01 74 00	**Cleaning and Waste Management**
	Construction waste to be sorted for recycling Final cleaning to leave building move-in ready
01 90 00	**Life Cycle Activities**
	Commissioning

02 00 00	**EXISTING CONDITIONS**
02 40 00	**Demolition**
	Selective site demolition Paving demolition at trenches for utilities and at path along east elevation to be replaced with sloped walkway Fire escape demolition (2) Interior air monitoring for lead levels during demolition Selective brick partition demolition Selective wood partition demolition Selective bearing wall demolition Selective window demolition Selective door demolition Demolish all existing electrical wiring and devices Demolish all existing mechanical equipment, devices and controls Demolish all existing plumbing equipment, devices and controls Core 24" brick wall for utility penetrations at 6 locations. Remove and salvage granite steps, landing and cheekwalls on north exterior elevation
02 80 00	**Facility Remediation**
	Selective asbestos floor tile and mastic remediation for through floor penetrations for building infrastructure – see Fuss and O'Neill report. Asbestos bearing mechanical insulation and fire stopping removal Removal of mercury ballast lights, mercury thermostats
03 00 00	**CONCRETE**
03 30 00	**Cast-In-Place Concrete**
	4"slab with wire reinforcing, pitched to drain at new entry porch 4"slab with reinforcing as flooring at former mechanical pit, finished for paint or VCT final finish. 6" pad for condensers (4) 12" pad for transformer, 6 steel bollards at pad 12x24x24 post footings with reinforcing and embedded threaded rods (4) 5' deep elevator pit with walls keyed into 12" slab/footing and water stopping at all cold joints, vertical and horizontal epoxy coated reinforcing
03 80 00	**Concrete Cutting and Boring**
	Cut existing 6" slab (assumed) for post footings (3) Cut existing slab for elevator pit Cut existing slab for gray water storage tank
04 00 00	**MASONRY**
04 01 00	**Maintenance of Masonry**
	Repoint existing brick with Type N mortar, using white Portland cement and buff coloring, provide three samples for color and tooling selection. Repoint existing granite steps and cheekwalls at west and south entries

04 20 00	**Unit Masonry**
	Brick units to match existing masonry (waterstruck brick) for infill at closed or reduced openings set with Type N mortar using white Portland cement and buff coloring, provide three samples for color and tooling selection Brick veneer on exterior of new walls of new entry porch At elevator shaft 8" CMU, fully grouted, reinf. for full height with #5 bars @ 32" on center and bond beams every 48"
04 43 00	**Stone Masonry**
	Saw cut, 4" granite veneer pinned to new north entry landing cheekwalls Saw cut 6'x 6" x 14" granite steps pinned to concrete step foundations (6)
05 00 00	**METALS**
05 10 00	**Structural Metal Framing**
	9" channels bolted both sides of 8 truss locations 8" channels bolted both sides of 2 roof beams 8" hoist beam for elevator 4" tube steel posts (6) for second floor beam down to basement 14" steel beam at locations indicated to receive beams 6" angles for new brick wall penetration headers over 12" wide Miscellaneous brackets and flanges and plates as required for strengthening wood framing 5% allowance for additional miscellaneous metal framing that may be required after further investigation
05 40 00	**Cold Formed Metal Framing**
	Metal support assemblies for electrical panel boards, tel/com home panels, attic placed HVAC equipment, basement ceiling hung HVAC equipment
05 70 00	**Decorative Metal**
	Bronze railing and posts at north entry steps
06 00 00	**WOODS, PLASTICS AND COMPOSITES**
06 01 00	**Maintenance of Wood, Plastics and Composites**
	Architectural woodwork refinishing at first and second floor rooms where built-in cabinets remain – strip and finish with clear finish (4 floor to ceiling cabinets)
06 10 00	**Rough Carpentry**
	New floor framing, 2x8 at 16" o.c. New stud bearing walls 2x6 at 16" o.c. New partitions 2x4 at 16 " o.c. Infill at closed openings 2x to match wall thickness Headers at new 3' doors (2) 2x8 padded flush to wall framing Subflooring for new finished flooring at first and second floors LVLs 1.75x7.25 sistering at attic framing, at stair landing strengthening (assume 30 pieces at 10' ea.) 5% allowance for additional miscellaneous rough carpentry that may be required after further investigation

06 40 00	**Architectural Woodwork**
	Exterior trim at new windows Adjustments to north door casing to make accessible New wood railings – clear finish with square palings and wooden cap rail between first and second floors on inside run of steps and at West Entry steps New wood railings and wall brackets at outside run of steps Wood door trim at new doors first and second floor Wood door casing at entry from new porch Wood stops stools and sills at new windows Wood baseboard on new partitions in rooms with existing walls and base to remain
06 60 00	**Plastic Fabrications**
	Solid surface lavatory countertops at restrooms (4)
07 00 00	**THERMAL AND MOISTURE PROTECTION**
07 10 00	**Dampproofing and waterproofing**
	Dampproof existing wall exposed at north entry landing construction Dampproof behind new veneer masonry at new entry porch Waterproof new entry porch slab Iron oxide waterproofing at elevator pit
07 20 00	**Thermal Protection**
	Wet pack cellulose insulation blown in to 3.5" wall cavity between existing plaster and exterior masonry wall. Cullulose insulation in attic 12" for R-38 Underslab rigid insulation at new entry porch slab Rigid insulation R-19 on exterior side new partition walls at new entry porch
07 26 00	**Vapor Retarders**
	Vapor retarder under all new slabs except for new entry porch Vapor retarder at new exterior partition walls at new entry porch Vapor retarder at new walls of archival storage space, surface applied to existing walls and ceilings
07 27 00	**Air Barriers**
	Fluid applied membrane air barrier at new exterior partition walls at new entry porch
07 60 00	**Flashing and Sheet Metal**
	Copper flashing at new windows and doors New, 6" round, metal downspouts and hangers (4)
07 80 00	**Fire and Smoke Protection**
	Firestopping at penetrations of rated walls Building perimeter firestopping Firestopping at vertical shaftways at floor penetrations
07 90 00	**Joint Protection**
	Joint sealants

08 00 00 **OPENINGS**

08 01 00 **Operation and Maintenance of Openings**

Historic treatment of wood windows – remove sash, strip paint and glazing, prime, paint and reglaze, install weatherstripping in rabbets cut in sash and meeting rails, attach new cords to sash weights and reinstall in openings.
Historic treatment of wood doors – remove doors, strip paint, remove hardware, prime and paint, install weatherstripping in rabbets cut in bottom rail and jambs for exterior doors, replace astragals in double doors.

08 06 00 **Schedules for Openings**

See attached door and window schedules

08 10 00 **Doors and Frames**

Hollow metal doors and frames, slab doors, rated as indicated on schedule, welded frame
Wood stile and rail doors custom sticking to match existing doors, glazed and rated per schedule

08 30 00 **Specialty Doors and Frames**

Access doors, with typical distribution for 10000 square feet of commercial space – assumed exposed mechanical systems in basement
Overhead coiling counter door at archive reading room – factory painted finish
Lightproof, vapor sealed door at archival storage

08 50 00 **Windows**

Metal storm windows – exterior mounted with low-e coatings - add UV film at archival room (6 windows).
New insulated glass, true divided light, wood double hung windows with true sash weight counterbalance operation and matching the stile, rail and glazing configuration of existing wood windows – as indicated on schedule

08 70 00 **Hardware**

See attached hardware schedule – replace all at existing doors to remain, install all new with new hardware, electric door locks at new porch entry and at daily entrance – per schedule

Sets: All sets have ball bearing hinges, door silencers, door stops. All latches are mortises

1. Panic bars – vertical rod devices, astragal, closers, closer coordinators, weatherstripping, electric strike entry function
2. Panic bar, closer, electric strike entry function
3. Panic bar, closer, passage function
4. Office function
5. Astragal, vertical rod device inactive leaf, office lock set active leaf
6. Closer, push plate, D-pull, kick plates both sides, no latch set.
7. Store room function, knurled surface
8. Store room function
9. Two-way spring hinges, no latch set
10. Automatic door opener, wall mounted push panel activators, panic bar – vertical rod devices – astragal, closer coordinators, weatherstripping, electric strike entry function
11. Full gasketing, store room function.

08 80 00	**Glazing**	
	Solar control film applied to sash of archival room - as indicated on schedule.	
08 90 00	**Louvers and Vents**	
	Elevator louver through CMU shaftwall Fresh air louver at mechanical room Exhaust louver for energy recovery system	
09 00 00	**FINISHES**	
09 01 00	**Maintenance of Finishes**	
	At basement rooms remove paint from masonry with low pressure abrasive blasting. Prepare wall and wood surfaces by scraping on all floors, prime bare wood, two finish coats At exterior woodwork around existing openings (cornice previously completed) scrape and prepare for new paint.	
09 20 00	**Plaster and Gypsum Board**	
	5/8" Gypsum board on new wood or metal stud partitions for new wall construction with acoustical batt insulation for interior partions, type X both sides where rating required at elevator mechanical room, sprinkler valve room, basement to first floor of both stairways, mechanical/electrical room. Skim coat plaster and blueboard at new partitions in existing rooms on first and second floors, entry hall and elevator lobby of basement. All other GWB partitions, tape, mud and paint Cementitious backing boards at restroom walls for tile application Cement Stucco ceiling of new entry porch	
09 30 00	**Tiling**	
	Thin set ceramic tile floor, cove, 42" high wainscot and bull-nose cap tile at restrooms Exterior glazed paver tiles at new entry porch	
09 50 00	**Ceilings**	
	Patch plaster from removal of surface applied decorative tin ceiling and direct glue acoustical panels	
09 60 00	**Flooring**	
	Resilient base and accessories at all room floors as scheduled Carpet tile – commercial grade as scheduled with underlayment over existing flooring to provide level application VCT – 12", standard commercial colors, two color patterns per room schedule with underlayment over existing flooring to provide level application Wood composition flooring in scheduled rooms Resilient stair treads and risers over existing steps and finishes at interior	
09 90 00	**Painting and Coating**	
	Exterior new wood seal, prime, paint – 2 coats Exterior new metal prime, paint – 2 coats Interior – new plaster, two coats, sand between each coat Interior – new wood, prime, paint – 2 coats Steel beams – factory priming	

10 00 00	**SPECIALTIES**
10 10 00	**Information Specialties** Silk screened room signage with raised Braille room indicators Wall mounted room directory at elevator lobbies (3)
10 20 00	**Interior Specialties** Fiberglass toilet compartments Stainless steel ADA fittings at accessible toilet stalls Plastic toilet paper holders – partition mounted ADA restroom mirrors
10 40 00	**Safety Specialties** Wall hung fire extinguishers for elevator mechanical room
10 50 00	**Storage Specialties** Post and shelf metal storage shelving at archives spaces – 8' tall, 8' long, 3' wide – 3 sets. Post and shelf metal storage shelving at archives spaces – 8' tall, 4' long, 2' wide – 8 units.
11 00 00	**EQUIPMENT**
11 20 00	**Commercial Equipment** Facility fall protection at attic skylight
11 50 00	**Educational and Scientific Equipment** Ceiling mounted projection screen – presentation room – 10' tall
12 00 00	**FURNISHINGS**
12 20 00	**Window Treatments** Black out Blinds at Presentation Room Roll Down Blinds all second floor rooms
12 30 00	**Casework** Wood veneer display cases at second floor exhibit spaces – (9) 84" high P-lam cabinets above below and counter tops with wood edge band at two kitchenettes, work desk at archives reception (Room 201), all drawers with heavy duty glides, self closing hinges on doors and silencers for doors and drawers
12 40 00	**Furnishings and Accessories** Entrance floor mats and frames 3'x4' – (3 locations)
12 50 00	**Furniture** 3 modular work stations with built-in power and 60" high partitions 2 sides 2 six person wood study tables 48" x 72" 2 three person wood study counters 24" x 96"
12 60 00	**Multiple seating** 40 cloth seat, metal, stackable chairs with trolley 5 work station seats 20 cloth seat general seating chairs

13 00 00	**SPECIAL CONSTRUCTION**
Not used	**Not used**
14 00 00	**CONVEYING SYSTEMS**
14 20 00	**Elevators**
	Machine room-less electric traction elevator – Kone EcoSpace 3000# passenger elevator w/ front and reverse opening, 4-stops, 3 full floors, 1 half floor
21 00 00	**FIRE SUPPRESSION SYSTEM**
21 10 00	**Water-Based Fire Suppression Systems**
	Wet pipe basement to second floor Dry pipe attic See Attached description in plumbing
22 00 00	**PLUMBING**
22 00 00	**See attached plumbing description**
23 00 00	**HVAC**
23 00 00	**See attached HVAC description**
26 00 00	**ELECTRICAL**
26 00 00	**See attached electrical description**
27 00 00	**COMMUNICATIONS**
27 30 00	**Voice Communications**
	Elevator phone with own dedicated line Install to Work Room 201 – 5 phone lines Rings and strings to leasable spaces
27 40 00	**Audio-Video Communications**
	Audio system for Presentation Space Room 207 – wall mount speakers, wireless microphones
27 50 00	**Distributed Communications and Monitoring Systems**
	Public address through second floor rooms
28 00 00	**ELECTRONIC SAFETY AND SECURITY**
28 10 00	**Electronic access control and intrusion detection**
	Video monitor and call button at north and east entries Contact switches at entries and basement windows. Motion detectors at north and south stairways
28 30 00	**Electronic detection and alarm**
	Digital, addressable fire alarm system with fire department and remote monitoring connections, detectors for heat, smoke and carbon-monoxide

27 00 00	**COMMUNICATIONS**
28 10 00	**Electronic access control and intrusion detection** Video monitor and call button at north and east entries Contact switches at entries and basement windows. Motion detectors at north and south stairways
31 00 00	**EARTHWORK**
31 10 00	**Site Clearing** Clearing and grubbing along east elevation Sod and soil stockpiling for north elevation walkway and utilities work
31 20 00	**Earth Moving** Rough and finish grading at new sloped walkway, new paved area outside Entry Porch EP Excavation and backfill at utilities, roof run-off collection Sod and soil stockpiling for north elevation walkway and utilities work EPS GeoFoam fill at lower mechanical space floors to raise for new slab Sediment fencing along east sides of excavations
32 00 00	**EXTERIOR IMPROVEMENTS**
32 10 00	**Bases, Ballasts and Paving** Asphalt paving on sloped walkway to landing at north entry (pedestrian) Patch asphalt paving at trenching for utilities (parking and roadways) Precast concrete unit paving at new hardscape east of east entry porch
32 30 00	**Site Improvements** 4000 psi, cast in place concrete retaining wall and stringers for exterior stair landing at north entry with epoxy coated reinforcing with stone shelf for granite veneer
32 80 00	**Irrigation** Drip irrigation from gray water collection tank with three hose bibs from same system
32 90 00	**Planting** Replant stockpiled sod Hydroseed in disturbed areas where old sod does not cover Import new topsoil at east elevation and seed Prepare planting beds within seeded area along east elevation, plant with 1-dozen flowering shrubs
33 00 00	**UTILITIES**
33 20 00	**Water Utilities** New 6” domestic water for fire from line in street on west side of building New 2” domestic water parallel to fire line Plastic underground water utility storage tank – 10000 gal in basement with graywater filter and pumping equipment
33 30 00	**Sanitary Sewerage Utilities** New sanitary line to existing sanitary man hole on east side of building.

33 50 00	**Fuel Distribution Utilities** Underground pipe to existing underground liquid propane storage tank east of building
33 70 00	**Electrical Utilities** Underground electrical duct bank to transformer ~ 200' long with handholds Pad mounted transformer

SUMMARY OF PROBABLE COST

Cost estimating services were provided by A.M. Fogarty based upon the outline plans and specifications provided by MTS. The estimate provides a completely rehabilitated building with new mechanical, electrical, plumbing, and fire protection systems, new rest rooms, an elevator and universal access solution, and upgraded finishes throughout the interior. It includes bringing utilities to the building from Thayer Memorial Drive including a new water line, new sanitary line, propane line from an existing underground tank, and a new upgraded electric service. Repairs to the exterior of the building include repointing and window restoration. Structural deficiencies in the building are rectified, and the site immediately surrounding the Prescott is improved with landscaping and hardscape. The total cost for the base bid project is projected to be approximately $3.2 million. With the addition of soft costs (architectural/engineering fees calculated at 10% of construction cost) and an Owners Project Manager, the total project cost would be **$3.6 million.**

Possible savings in the project cost include replacing the proposed variable refrigerate heating and air conditioning system with a more conventional system. While this solution has short term savings, long term projections for efficiency show that the variable refrigerate system will pay for itself in approximately ten years.

An opportunity for energy conservation and savings would be to install a grey water collection storage tank. While there is a capital investment up front, the storage tank would help to alleviate storm water run off from the building entering into the wetlands to the east.

If desired, the project could be broken into three phases: (1) exterior preservation, (2) hazardous materials mitigation, and (3) rehabilitation. Phasing a project can help to maintain project momentum and awareness to help gain support from the community. However, the costs incurred each time contractors have to mobilize to work on site ultimately increase the price of the overall construction project.

The exterior preservation project would include removing the steel fire escapes, restoring door openings to the historic windows, preserving the existing window sash, repointing, and painting. The construction cost is estimated at $325,000. The hazardous materials mitigation project would involve removing hazardous materials from the building such as asbestos floor tile and mechanical equipment. This project is estimated at $52,000.

The rehabilitation project would involve all work not covered by the previous two phases, including systems integration, interior finish upgrades, site work, and a new elevator. The construction cost is estimated at $2,832,000.

Included here are the budget summary and a conceptual estimate prepared using the same CSI format found in the Outline Specification. A more detailed itemization of tasks and costs is included in the appendix of this report.

Prescott Building - Budget Summary

Item	Description -- Scope of Work	Take off	Cost	Remarks/ Comments
Base Construction Project	Renovation of Building		**$3,208,588**	
Owners Project Manager	Required for projects over $1.5 million		**$80,000**	
Architectural / Engineering Fees	Architect, Structural, MEP, Civil, Landscape	**10%**	**$320,859**	
Total			**$3,609,447**	
Alternate #1	Add grey water system		**$57,468**	

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"Construction Cost Consultants"

Prescott Building
Lancaster, MA

February 15, 2012

GRAND SUMMARY

RENOVATION		$2,299,435

TOTAL DIRECT COST		$2,299,435
GENERAL CONDITIONS	7%	$160,960
GENERAL ADMINISTRATIVE O&P	8%	$196,832
P&P BOND	1.5%	$39,858
PERMITS	3%	$80,913
CONTINGENCY	10%	$277,800
ESCALATION (WINTER 2013)	5%	$152,790

TOTAL CONSTRUCTION COST		$3,208,588
ALTERNATES:		
NO. 1 ADD GREY WATER SYSTEM		$57,468

PROJECT:	Prescott Building	NO. OF SQ. FT.:	13,580
LOCATION:	Lancaster, MA	COST PER SQ. FT.:	169.33
CLIENT:	Menders, Torrey & Spencer, Inc.		
DATE:	15-Feb-12	*GSF excludes exterior wall and includes porch	

No.: 12001

RENOVATION

SUMMARY	DIVISION TOTAL	PERCENT OF PROJECT	COST PER SF
DIVISION 02 - EXISTING CONDITIONS	120,807	5%	8.90
DIVISION 03 - CONCRETE	28,526	1%	2.10
DIVISION 04 - MASONRY	138,465	6%	10.20
DIVISION 05 - METALS	57,422	2%	4.23
055000 METAL FABRICATIONS	34,002	1%	2.50
DIVISION 06 - WOOD, PLASTICS & COMPOSITES	61,240	3%	4.51
DIVISION 07 - THERMAL & MOISTURE PROTECTION			
071000 DAMPPROOFING & WATERPROOFING	9,075	0%	0.67
072000 THERMAL PROTECTION	29,650	1%	2.18
075000 ROOFING & FLASHING	13,700	1%	1.01
078000 FIRE AND SMOKE PROTECTION	2,716	0%	0.20
079000 JOINT PROTECTION	4,074	0%	0.30
DIVISION 08 - OPENINGS	53,775	2%	3.96
085000 WINDOWS	168,000	7%	12.37
088000 GLAZING	2,344	0%	0.17
089000 LOUVERS AND VENTS	2,000	0%	0.15
DIVISION 09 - FINISHES			
092000 PLASTER & GYPSUM BOARD	201,694	9%	14.85
093000 TILING	36,354	2%	2.68
095100 ACOUSTICAL CEILINGS	0	0%	0.00
096400 WOOD FLOORING	16,950	1%	1.25
096500 RESILIENT FLOORING	15,795	1%	1.16
096800 CARPETING	33,609	1%	2.47
099000 PAINTING	62,530	3%	4.60
DIVISION 10 - SPECIALTIES	25,027	1%	1.84
DIVISION 11 - EQUIPMENT	900	0%	0.07
DIVISION 12 - FURNISHINGS	79,331	3%	5.84
DIVISION 13 - SPECIAL CONSTRUCTION	0	0%	0.00
DIVISION 14 - CONVEYING EQUIPMENT	140,000	6%	10.31
DIVISION 21 - FIRE SUPPRESSION	81,540	4%	6.00
DIVISION 22 - PLUMBING	90,350	4%	6.65
DIVISION 23 - HVAC	368,870	16%	27.16
DIVISION 26 - ELECTRICAL	344,880	15%	25.40
DIVISION 31 - EARTHWORK	13,675	1%	1.01
DIVISION 32 - EXTERIOR IMPROVEMENTS	14,730	1%	1.08
DIVISION 33 - UTILITIES	47,405	2%	3.49

TOTAL	2,299,435	100%	169.33

CYCLICAL MAINTENANCE PLAN

Introduction

This section of the conditions assessment provides an anticipated cost for work that would be considered typical responsible exterior maintenance at the Prescott Building. These simple activities, most consisting of inspection and minor repairs performed at regular intervals, will slow deterioration and extend the life of the already durable materials. The goal here is to recommend a limited annual investment that will help limit the scope and cost of future repairs.

Maintenance Plan

The following maintenance plan follows an itemization of exterior features and building systems.

The first columns on the chart describe the feature, its location, and its maintenance cycle. The recommended tasks and procedures will not prevent wear and tear on the building but will increase the lifespan of materials and will allow the cost to be amortized over a longer period of time.

Perhaps the single most important maintenance activity is an annual inspection. The building exterior should be carefully inspected from the ground, preferably by two people and the same people each year, who document any signs of deterioration on any portion of the envelope. When changes are noted, consultation with an architect or engineer may be warranted. Digital photographs should be taken to accompany the written record and stored for comparative referencing the following year.

Listed below are the column headings on the accompanying chart with a brief explanation of their meanings.

Material

The building system is the feature or characteristic that requires a maintenance and/or capital budgeting line item. For example, exterior brick walls comprise a building system that requires periodic pointing of mortar joints.

Location

A brief narrative description of the element location is provided.

Scheduled Frequency, Cost, Annual Cost

The fourth, fifth, and sixth columns describe maintenance activities with intervals and costs for the locations identified. Maintenance activities are largely housekeeping tasks and straightforward proactive work. The frequency is in years and the maintenance work is considered routine upkeep which might require special attention from maintenance personnel or an outside contractor. The intervals are suggested as the maximum span of time between maintenance activities. For example, the wood trim should be painted every six or seven years to retard deterioration of the wood. Note that fractional yearly frequency means more than once a year. The cost is the estimated cost for the work based on historical information gleaned from industry standards. The annual cost is calculated for convenience to provide a total annual maintenance stipend for the building. This is idealized since some activities occur more than once a year and others only once in several years.

Comments

More detail on the building system and the maintenance work is provided. General observations about access to work or special requirements are made here.

Annual Maintenance Total

The chart has a bottom line showing the cumulative maintenance total per year which is approximately $16,000. This total applies to the building exterior, interior finishes and as yet undetermined systems maintenance. This figure should be applied on top of annual expenses for maintenance staff, housekeeping, consumable replacements (light bulbs, etc.), snow removal, landscaping and interior maintenance items. Note that this total is averaged. Depending on the frequency of individual maintenance activities, the yearly figure may be greater or less. By budgeting the total amount annually and setting aside as a reserve funds not expended in a particular year, there should be sufficient funds for years when the scheduled maintenance expenditures are higher. This total does not include reserves for capital budget items which have been itemized under the repairs section of this report.

Maintenance and Preservation										
PRESCOTT BUILDING										
	Material	Location	Scheduled Inspection/Maintenance			Comments	Capital Budgeting			Comments
			Frequency in years	Cost	Annual Cost		Projected endurance	Replacement Year	Replacement Cost	
EXTERIOR										
Roofing										
	Membrane	Low slope at top of hip	1.0	$1,050	$1,050	Inspect from roof, minor seam repair	25	2037	$33,600	Replace
	Asphalt Shingle	Hip roof	1.0	$1,356	$1,356	Inspect from flat roof, minor repairs	30	2042	$58,300	Replace
	Asphalt Shingle	West cross gable	1.0	$175	$175	Visula inspection from flat roof	30	2042	$13,000	Replace with hipped roof
	Skylight	East slope of upper roof	1.0	$53	$53	Inspect for condition	40	2052	$875	Repairs
	Roof vents	Historic and new	1.0	$11	$11	Inspect for condition	40	2052	$5,250	Repairs
	Metal gutters	All four sides	1.0	$525	$525	Includes means of access	50	2062	$8,925	Replace
	Metal downspouts	North and south elevations	1.0	$245	$245	Clean out	50	2062	$4,165	Replace
Masonry										
	Brick masonry	All eleavations	10.0	$11,858	$1,186	Inspect, spot pointing	40	2052	$163,048	Prepare and repoint joints.
	Granite Masonry	Exterior steps, cheek walls, window sills	10.0	$375	$38	Inspect, spot pointing	40	2052	$7,219	Prepare and repoint joints.
Doors										
	Historic wood entries	North, south and west elevations (3)	7.0	$158	$23	Lubricate hardware, touch up paint	40	2052	$2,625	Repaint, repair wood, adjust hardware
	Porch entry door	East elevation	7.0	$53	$8	Lubricate hardware, touch up paint	35	2047	$2,625	Replace door and hardware - include emergency egress hardware.
Windows										
	Historic 8/8 double hung	All elevations	1.0	$228	$228	Clean and inspect	40	2052	$127,400	Clean, repair, new weatherstrip and reglaze
	Historic 8-lite	All elevations	1.0	$79	$79	Clean and inspect	40	2052	$44,100	Clean, repair, new weatherstrip and reglaze
	Replacement 8/8 double hung	North and south elevations	1.0	$228	$228	Clean and inspect	40	2052	$127,400	Clean, repair, new weatherstrip and reglaze
	Historic 8-lite	All elevations	1.0	$79	$79	Clean and inspect	40	2052	$44,100	Clean, repair, new weatherstrip and reglaze
Wood trim	Frieze	All elevations	7.0	$1,750	$250	Spot painting, minor wood repair	20	2032	$7,000	Repaint entirely, wood repair, damaged wood replacement
Sitework										
	Access path	Asphalt path to north entry	3.0	$490	$163	Clean and seal	40	2052	$735	Replace (ideally with new stone curbing)
	Unit block paving	Outside east porch	5.0	$449	$90	Reset loose pavers	40	2052	$3,591	Replace pavers and base material
	Graywater collection pipe	north elevation	1.0	$61	$61	Clean out	40	2052	$2,205	Replace

	Material	Location	Scheduled Inspection/Maintenance			Comments	Capital Budgeting			Comments
			Frequency in years	Cost	Annual Cost		Projected endurance	Replacement Year	Replacement Cost	
	Storm drain pipe	north elevation	1.0	$1,103	$1,103	Clean out	40	2052	$1,838	Replace
INTERIOR										
Finishes										
	Paint	Interior walls and ceilings	7.0	$4,887	$698	Touch-up	25	2037	$39,095	Repaint interior
	Wood floors		5.0	$2,363	$473	Refinish	40	2052	$13,500	Replace
	Ceramic tiles	Restrooms/janitors closet	10.0	$2,363	$236	Regrout	40	2052	$16,200	Replace
	Ceramic tiles	Porch tiles	5.0	$525	$105	Regrout	40	2052	$10,000	Replace
	Vinyl Tile	Stair halls	5.0	$4,003	$801	Refinish	25	2037	$4,956	Replace
	Carpet Tile	Offices	5.0	$2,559	$512	Replace worn tiles	25	2037	$25,740	Replace
Doors										
	Interior Doors	All floors	3.0	$2,188	$729	Lubricate hardware, touch up paint/finsih	40	2052	$10,938	Repaint, repair wood, adjust hardware
SYSTEMS										
Electrical	Wiring	Building Wide	1.0	$489	$489	Test breakers, GFI outlets, replace lights interior/exterior, etc.	30	2042	$293,213	Assumes full system replacement - switches and wiring.
HVAC	VRV	Variable refrigerant volume heating and cooling	1.0	$1,745	$1,745	Replace filters, test air volume, check valves, etc.	30	2042	$181,513	Replace condensers, air handlers, energy recovery system wiring and refrigerant piping to remain
Plumbing	Water closets		6.0	$3,136	$523	Service flush valves	35	2047	$7,826	Replace water closets and urinals
	Lavatory		10.0	$1,032	$103	Check valves, sensors, washers, etc.	40	2052	$5,600	Replace lavatory
	Piping		10.0	$1,024	$102	Inspect fittings and resolder/repair	60	2072	$30,713	Replace plumbing distribution
	Water heaters		2.0	$263	$131	Inspect unit and heating coils	15	2027	$1,313	Replace heaters
	Water meter		10.0	$263	$26	Inspect	25	2037	$882	Replace water meter
Fire Protection	Fire Protection - Sprinklers	Wet system	1.0	$244	$244	System charge, flow tests	30	2042	$39,095	Assumes replacement of all heads, replace valves at check valve. Iron pipe lifespan indefinite.
Fire Protection	Fire Protection - Sprinklers	Dry system	1.0	$163	$163	System charge, flow tests, service pump	30	2042	$13,034	Assumes replacement of all heads, replace valves at check valve. Iron pipe lifespan indefinite.
	Detection - Fire and Intrusion		0.5	$33	$66	Check lights, alarms, annunciators, signals and detectors.	15	2027	$16,665	Replace detector componants for fire, heat, and intrusion systems. Replace panels.

	Material	Location	Scheduled Inspection/Maintenance			Comments	Capital Budgeting			Comments
			Frequency in years	Cost	Annual Cost		Projected endurance	Replacement Year	Replacement Cost	
Elevator	Elevator equipment		1.0	$1,876	$1,876	Annual license inspection, pump, vent operation testing.	35	2047	$26,250	Assumes replacement of motors and electrical systems - cab and shaft life indefinite.
Tel/Data	Tele/Data		8.0	$2,133	$267	Repair wires, add lines.	50	2062	$13,125	Replacing phone wiring/data cables
Annual Maintenance Total					**$16,236**					

APPENDIX:

A) Structural Survey & Recommendations (Structures North)

B) Mechanical, Electrical, & Plumbing Survey & Recommendations (CSI Engineering)

C) Hazardous Materials Report (Fuss & O'Neill EnviroScience)

D) Summary of Probable Cost (A.M. Fogarty)

E) Site Plan

F) Meeting Materials (illustrating evolution of thinking and conceptual design)

G) Presentation to Selectman 2.21.12

STRUCTURAL SURVEY & RECOMMENDATIONS
Structures North Consulting Engineers

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February 17, 2012

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Reference: Prescott Building, 695 Main St., Lancaster, MA
Existing Conditions and Initial Assessment of Proposed Renovations

Dear Lynne:

In September of 2011 we visited the Prescott Building (also known as the Center School) to observe existing conditions where not hidden by existing finishes. In November and December of 2011 we performed calculations to develop approximate load capacities of the structure and drew the existing framing on the proposed architectural layouts to get a preliminary schematic idea of what structural work would be required to make the proposed renovations. Below is the summary of our observations from our email to you dated 12/19/2011.

Summary of Observations & Recommendations:

- <u>Roof & Attic framing:</u>
  - Roof framing supports attic framing by means of hangers down to the attic joists, so attic loads affect roof results. Trusses were analyzed first with a nominal 10psf live load (occasional maintenance worker, but no storage or equipment), then for the maximum 36psf live load that the attic joists can handle before they need reinforcing. In both cases, the results are the same:
    - Trusses needing reinforcing (please see roof framing sketch for truss identification). Assume steel channel sisters on both sides of each segment needing reinforcing, with the pairs of channels through-bolted through the existing timber member. If framing is flush framed, supported framing may need to be temporarily shored, trimmed, and re-connected to reinforced beams with metal hangers.:
      - T-1 (1 segment needs reinforcing x 2 trusses).
      - T-2 (4+ segments need reinforcing)
      - T-7 (4+ segments need reinforcing)
    - Trusses not needing reinforcing:
      - T-3 (2 trusses)
      - T-4
      - T-5 (2 trusses)
      - T-6

- If a larger than 36psf attic live load is desired, trusses will need to be re-evaluated on a case-by-case basis, and attic joists will require reinforcing.
- Some of the existing roof beams will also require reinforcing. Beams include (see roof framing sketch for beam locations/ID's):
  - RB-2 (2 beams/locations): Assume steel channel sisters on both sides of each beam, with the pairs of channels through-bolted through the existing timber member. If framing is flush framed, supported framing may need to be temporarily shored, trimmed, and re-connected to reinforced beams with metal hangers.
  - Beams framing out the center skylight/penthouse: Assume LVL plies fastened to each side of the existing beams with lag screws. If framing is flush framed, supported framing may need to be temporarily shored, trimmed, and re-connected to reinforced beams with metal hangers.
- At the new elevator, install a ledger on the elevator wall to support existing attic joists. Joist framing will need to be temporarily shored, trimmed, and re-connected to ledger with metal hangers.
- Existing roof framing is <u>not</u> anticipated to be supported by the elevator walls:
  - It does not appear that the elevator walls will align with existing truss locations
  - Trusses are typically designed specifically for a given support condition. Depending on the truss configuration, introducing new points of support could reverse the loads in trusses and make them perform worse rather than better. We would advise maintaining the existing support locations and reinforcing members that have insufficient capacity.
- At the east side of the building near the center of the building, an existing bearing wall is being proposed to be removed (over the proposed women's bathroom). Supported joist framing may need to be temporarily shored, trimmed, and re-connected to a new beam with metal hangers. The beam will likely be either steel or LVL with bearing on the existing east masonry exterior wall and on a new column at an interior wall. Additional columns or other new framing will be required in lower levels as the new interior column will require a load path down to new or existing foundations.
- Ramifications of new air handling units in the attic:
  - Attic joists can handle approximately 36psf live load over their full spans before reinforcing is required, they are only 2x6@22"o.c.. Roof framing supports attic framing by means of hangers down to the attic joists, so attic loads affect roof results. The ramifications will likely depend on equipment weights and locations, and attic use/uniform live load. Existing attic joist hangers will require further investigation and additional hangers may be required.

- <u>Second Floor Framing</u>:

- Along the existing stairs' east wall there is a line of bearing wall that spans the full length of the building with limited interruption. Proposed drawings show much of this wall being removed. A new line of posts and beams will need to be installed to replace the bearing wall. If this wall was needed for lateral load resistance, other walls may need to be reinforced or used as shear walls. If flush framing of new beams is required, then existing joist framing will need to be temporarily shored, trimmed, and connected to the new beam with metal hangers.
- At the northeast alongside the proposed elevator's east wall there is a line of wall that will likely be used as a new bearing wall. Additional posts, beams, and footings may be required in the basement as a result so that the load path is continuous down to foundations. Whether this line of support continues all the way to the south exterior wall by means of posts and beams will depend on live load requirements for the southeast Exhibit Space. Currently 2nd floor joists in this area have a 72 psf allowable live load.
- Further investigate and feinforce stair landings to straighten stairs
- Load capacity for the 2nd floor northeast Presentation Space (southeast Exhibit Space has similar results):
  - If the joists are shortened from their current 28ft+/- length to a 20ft+/- length using new walls as bearing walls, then the joists would have a 200psf allowable live load, which would far exceed any code requirements. We would need to carry the loads down to the foundations though. If the new walls are not used as bearing walls, then the joists have a 72 psf live load capacity. If the space needs to have a 100psf live load capacity for assembly use then reinforcing may be required, or the building official can determine whether an occupancy limit can be posted to allow for a lower live load.
- Load capacity for live load paper storage in the northwest Archive and Climate Controlled Archive space:
  - 2nd floor joists in this area currently span north-south and have a 54psf live load capacity. If 54psf is insufficient for the proposed use, then adding beams and posts in the leasable space (posts would be within room, interfering with the space) below would be the most efficient and cost effective way to increase the floor capacity. The beam would need to span east-west (most recent architectural markup shows a north-south beam). Using a new beam line thus cutting the existing joist span into a 15 ft span and a 12ft+/- span would allow the joists to carry 200psf live load. A less efficient, more costly method would be to sister every joist with LVL's. The joists are very long though, and since bending capacity is a function of the length squared, shortening the spans would be much more effective. If a new post and beam system is used though, the loads will have to be carried down to foundations.
  - The Climate Controlled Archive space is partially over the west corridor below, which is a different joist span. This joist span has an allowable live load capacity of 65 psf LL. Since the joist span is relatively short here, and

it is presumed that columns in the corridor below would be unacceptable, these joists might need reinforcing (sistering) depending on the required live load for the use of the C.C. Archive space and the room adjacent to it.

  - At the new elevator, install a ledger on the elevator wall to support new and existing joists. Existing joist framing will need to be temporarily shored, trimmed, and re-connected to ledger with metal hangers. New framing will be fastened with metal hangers.
  - New or existing walls may need reinforcing if existing walls being removed were needed as shear walls.

- <u>First Floor Framing:</u>
  - At the new elevator, install a ledger on the elevator wall to support new and existing joists. Existing joist framing will need to be temporarily shored, trimmed, and re-connected to ledger with metal hangers. New framing (new stair landing) will be fastened with metal hangers.
  - A new line of north-south column, beam framing, and footings is expected to be needed to replace existing framing that is being removed along the east side of the stairs.
  - A new line of north-south column, beam framing, and footings is expected to be needed, from the far north exterior wall to the far south exterior wall, to support the new bearing walls and posts up at the east side of the new elevator. If new beams are to be flush-framed, then existing joists will need to be temporarily shored, trimmed, and connected to the new beams with metal hangers.
  - New columns and footings will be needed in the northwest Storage room to support new columns above.
  - New or existing walls may need reinforcing if existing walls being removed were needed as shear walls.

- <u>Basement</u>:
  - New slab and infill of existing mechanical pit: Depending on loading requirements and height of infill, the mechanical pit will need to be filled either with lean concrete or geofoam, with a new concrete slab reinforced with welded wire fabric on top.
  - New footings will be needed at various locations, as described in the First Floor Framing section.
  - At the elevator, a new elevator pit footing will be needed, along with foundation walls for the pit. We would anticipate reinforced concrete and conventional foundations. Unless a geotechnical engineer is hired to investigate bearing conditions, final determination of footing type will need to be made during construction after the excavations for footings have been dug.

- <u>New Elevator</u>:

  - o 8” is the thinnest we would recommend, especially since it looks like the walls will be used as bearing and shear walls. The shaft wall will serve as a bearing wall for some floor framing. The wall will likely be fully reinforced and grouted solid. Custom-made beam hangers may need to be fabricated and fastened to the wall to support large beams.

- Exterior:
  - o At the north entrance there will be a new exterior raised landing and stone steps. These will likely require frost wall foundations and reinforced concrete slabs/stairs.
  - o Existing exterior stairs/ramps may require additional repairs or replacement after further investigation is performed.

Please do not hesitate to contact this office if you have any question regarding the information contained in this letter report.

Very truly yours,
Structures North Consulting Engineers, Inc.

Jefferey J. Reese, P.E.

attachments: Preliminary schematic proposed structural framing hand sketches: 1st floor framing plan, 2nd floor framing plan, attic framing plan
(Note: each of the 3 levels of framing is divided into 4 pages for each of the 4 quadrants of the drawing: northeast, northwest, southeast, and southwest. Structures North has nearly completed AutoCAD drafted existing framing plans, and upon request can use these rough hand sketches to make cleaner, AutoCAD drafted framing plans)

MECHANICAL, ELECTRICAL & PLUMBING SURVEY & RECOMMENDATIONS
CSI Engineering

Electrical Schematic Narrative

Prescott Building
Lancaster, MA

Service:

- Based on preliminary calculations (see attached) the new building service shall be rated at 600 amps, 120/208 Volts, 3 phase, 4 wire. The new service will most likely require a pad mounted transformer. According to National Grid's installation manual, any service above 150 KVA would require a pad mounted transformer. Based on preliminary load calculations, we are above 150 Kva (see attached)
- From an existing utility pole, provide (2) two 4" schedule F0 pvc, concrete encased conduits to a new pad mounted transformer/
- Ground transformer pad according to the
- Provide 2[4-350 MCM, 4"C] from transformer pad to new service entrance equipment located in the Main electric room in basement.

Service Entrance Equipment

Provide a multimeter center with a 600 Amp main breaker and a (2) two, 3 gang gang meter module. Four meters with a 200 Amp rated socket and a 100 Amp 3 pole main circuit breaker and (1) one meter with a 200 Amp 3 pole main and one spare meter socket with no main breaker. Provide a 320 Amp meter module with a 400 Amp 3 pole main circuit breaker.

Distribution

- Provide (1) one 100 Amp, 120/208 Volt, 3 phase, 4 wire feeder (4-#3 & 1-#86, 1'4"C) from 100 Amp tenant meter main to a new 100 Amp, 120/208 Volt, 3 phase, 4 wire, 30 circuit main lug only panel located in each of the first floor leadable tenant spaces.
- Provide (1) one 200 Amp, 120/208 Volt, 3 phase, 4 wire feeder (4-#3/0 & 1-#66, 2 1/2"C) from 200 Amp meter main to a 200 Amp, 120/208 Volt, 3 phase, 4 wire, 42 circuit main lug only, historic commission located in second floor tenant spaces. This panel will service historic commission space on second floor.
- Provide a 400 Amp, 120/208 Volt, 3 phase, 4 wire feeder (4-500 MCM & 1-#3G, 4"C) From 320 Amp meter main to a 400 Amp, 120/208 Volt, 3 phase, 4 wire, 42 circuit main lug only panel located in basement main electric room for common area loads in basement and feeders to first floor.

- Provide a 100 Amp, 120/208 Volt, 3 phase, 4 wire feeder 4-#3 & 1-#86, 1 1/4"C from 400 Amp common area panel to a new 100 Amp, 120/208 Volt, 3 phase, 4 wire, 30 circuit main lug only panel located in janitor closet on first floor. Panel will serve first floor common area loads
- Provide a 100 Amp, 120/208 Volt, 3 phase, 4 wire feeder (4-#3 & 1-#86, 1 1/4"C) from 400 Amp common panel to a new 100 Amp, 120/208 Volt, 3 phase, 4 wire, 30 circuit main lug only panel located in second floor janitor closet. Panel will serve second floor common area and attic loads.

Elevator:

- Provide (1) one 110 Amp, 120/288 Volt 3 pole breaker in 400 Amp common area panel.
- Provide a 200 Amp disconnect fused at 110 Amps within the elevator machine room.
- Provide a 90 Amp, 208 Volt, 3 phase, 3 wire feed (3-#3 & 1-#89, 1 ¼'C) from 400 Amp common area panel to elevator room disconnect.
- Provide (1) one 20 Amp 120 Volt 1 pole breaker in 400 Amp common area panel for elevator cab lights. Provide a 30 Amp disconnect in elevator machine room for cab lights. Provide 2- #2 & 1- #12G, ½"C from 400 Amp panel to elevator machine room cab lighting disconnect.
- Provide a GFI receptacle in elevator machine room with dedicated ground.
- Provide a 20 Amp 120 volt dedicated circuit to elevator pit. Provide GFI receptacle, pit light and switch.

Branch Circuiting and Receptacles

- Provide a 20 Amp circuit and Quad receptacle at Main Phone backboard.
- Provide (1) one 20 Amp duplex receptacle every 12' on center, around perimeter in all storage spaces, leadable tenant spaces, presentation space, exhibit space archive area office and research rooms. No more than (4) four duplex outlets per 20 Amp 120 Volt circuit. All circuits shall be mounted to appropriate tenant panels.
- Provide (7) seven duplex receptacles in basement hall and corridor area. Provide (2) two 20 Amp 120 Volt circuits
- Provide (7) seven duplex receptacles in first floor hall corridor. Provide (2) two 20 Amp 120 Volt circuits.
- Provide (1) one 20 Amp GFI receptacle in each of the men's and women's bathrooms on the first and second floors. Provide (1) one 20 Amp 120 Volt circuit for each floor bathroom. Route to appropriate floor common panel.
- Provide (1) one 20 Amp 120 volt circuit and receptacle for refrigerator in kitchenette. Route to first floor common panel.
- Provide (1) one 20 Amp 120 volt circuit and receptacle for microwave in kitchenette. Route to first floor common panel.
- Provide (2) two 20 Amp 120 Volt circuits and 20 Amp GFI receptacles spaced no more than 4' on center above counter in kitchenette. Route to first floor common panel.

- Provide dedicated 20 Amp 120 Volt circuit to fire alarm control panel in vestibule. Route to first floor common panel.
- Provide floor receptacles under table/desks in research room. Two (2) double duplex receptacles for each table/desk in center of room. Provide (1) one 20 Amp 120 Volt circuit for each set of (2) two double duplex. Route to tenant panel.

Lighting

Lancaster is part of the communities which have adopted the stretch energy code and therefore lighting and controls must meet these applicable codes for energy use and controls.

Basement

- Electrical, Mechanical, Sprinkler and machine room shall have 2-lamp T5 fluorescent strip fixtures with wire guards. There shall be (2) two in the electric room and sprinkler room. There shall be (4) four in the elevator machine room and (6) six in the mechanical room. Each room shall receive a single pole light switch.
- Each storage room shall contain (1) one 4'-2 lamp T5 florescent strips with wire guards. There shall be one fixture every 80-90 square feet. Control of lighting in storage areas shall be by ceiling mounted motion sensors for all storage areas 60 square feet and above. Smaller storage areas shall have wall mounted motion sensors.
- Stairwell lighting shall consist of a 4' -2 lamp T5 fixture. Wall mounted at each level and intermediate landing. Fixtures shall remain on 24 hours per day.
- Fixtures in basement hall and corridor shall be commercial grade 2' x 4' -3 lamp T5 direct/indirect fixtures. There shall be (4) four located in the elevator lobby area and (2) two in the corridor to the sprinkler room. These shall be controlled via time clock during normal hours of operation.

First Floor

- For each large leasable space, provide (12) twelve direct/indirect pendant fixtures with (3) three 28 W 75 lamps. Fixtures to be controlled via ceiling mounted motion sensor.
- For each small leasable space, provide (6) six thred lamp 28 W 75 direct/indirect pendant fixtures. Fixtures to be controlled via ceiling motion sensor.
- Provide (3) three decorative period type pendants at front entrance porch. Fixtures to be controlled via time clock.
- Provide (1) one 2 Lamp 20 W 75 florescent strip fixture with wire guard in janitor closet. Fixture to be controlled via single pole switch.
- Provide (2) two 42 W PL florescent downlights in men's room and (3) three in women's room. Control of fixtures in each room shall be via wall mounted dual sensor switch
- Corridors and stairwells shall be lit with florescent 2-42 W PL lamp school house type fixtures. There shall be approx. (12) twelve located throughout the stairs and hall space. Control will be via time clock during hours of operation with night lights at stairs and specific hall fixtures.
- Provide (3) three schoolhouse type pendants with (2) two 42 watt PL lamps in kitchenette. Control will be via wall mounted motion sensor.

All first floor tenant fixtures shall be circuited to tenant panels. All common area lighting shall be routed to first floor common area panel.

Second Floor Lighting

- Provide (8) schoolhouse pendants with (2) two 42 W PL lamps in each within the presentation space. Control shall be by motion sensor. Presentation room closet shall receive a florescent 2 lamp 21 W 75 fixture controlled by motion switch.
- Provide 1 Lamp, 42 Watt PL florescent down lights, (2) two in men's room and (3) three in women's room. Lights will be controlled by wall mounted motion sensors located in each rest room.
- Provide (1) one 4' -2 lmap 28 W T5 florescent strip fixture with wire guard in janitor closet. Fixture will be controlled by single pole light switch.
- Exhibit room: Provide (6) six 2 lamp 42 W PL school house pendant fixtures. Fixtures shall be controlled by motion sensor. Also within room, provide (3) three 8' section of light track and (4) four 4' sections of light track. Lighting is for displays and are exempt from the energy code requirements. However, LED track leads should be used for energy savings. Tracks will be controlled with standard dimmers.
- Exhibit space/corridor stairs shall have (14) fourteen 2 Lamp 42 watt PL school house pendant fixtures. Fixtures shall be controlled via time clock during normal operation hours and shall have dedicated night lights. In addition, there shall be (4) four 8' sections of light track for displays. This lighting shall be controlled via dimmer switches located in the Archive reception area. These track lights are exempt from the energy code. However, LED lamps should be utilized for overall energy saving.
- Provide (18) eighteen 4', 2 lamp 28W 75 florescent pendants in the Archive area. Provide UV sleeves on all lamps. Fixtures shall be controlled by ceiling mounted motion sensors.
- Provide (4) four 4' 2 lamp 28 W T5 fluorescent pendant fixtures in controlled archive. Fixtures to have UV sleeves on lamps. Fixtures shall be controlled by motion sensor.
- Provide (4) four 2 lamp 42 Watt PL school house pendant fixtures in Archive Reception. Control shall be via motion sensor.
- Provide (2) two, 2 lamp, 28 W T5 florescent direct/indirect pendant fixtures in Archive office. Fixtures shall be controlled by motion sensor.
- Provide (12) twelve, 2 lamp, 42 Watt PL school house pendant fixtures in research room. Fixtures shall be controlled via motion sensors.

Site Lighting

- Site lighting shall consist of (4) four metal halide light poles. Poles shall be controlled by time clock. Additional site lighting shall be provided by (6) six 250 watt metal Halide wall pack fixtures mounted to the façade of building on two sides and rear of building. Wall pack will be controlled by time clock.

Attic

- Provide florescent strip fixtures in attic. Fixtures controlled via single pole switch located at attic entrance.

- All fixtures shall be routed to second floor tenant panel except for men’s room, women’s room and janitors closet which shall be routed to second floor common panel.

Exit & Emergency

Basement

- Provide (3) three exit signs within hall space in basement
- Provide (2) two 2 head emergency battery panels in each of the storage areas above 600 sq. ft. in basement
- Provide (1) one 2 head emergency battery panel in each of the small storage rooms in basement
- Provide (1) one 2 head emergency battery packs in the elevator machine room, mechanical room, electric room, sprinkler room, and corridor to sprinkler room.
- Provide (1) one 2 head emergency battery pack in stairwell at every level and intermediate landing throughout building.

First Floor

- Provide (6) six exit signs
- Provide (5) five 2 head emergency battery packs in hallway
- Provide (2) two 2 head emergency battery packs in each tenant space
- Provide (1) one 2 head emergency battery unit in each of the men’s and women’s bathrooms
- Provide (1) one 2 head emergency battery pack in the kitchenette

Second Floor

- Provide (2) exit signs in hall area
- Provide (2) exit signs in archive area
- Provide (1) exit sign in research room
- Provide (3) three 2 lamp emergency battery packs in the archive area.
- Provide (1) one 2 head emergency battery pack in the archive reception area
- Provide (2) two 2 head emergency battery packs in the research room
- Provide (3) three 2 head emergency in hall area
- Provide (1) one 2 head emergency battery pack in each men’s and women’s bathrooms
- Provide (2) two 2 head emergency battery packs in exhibit space room and the presentation space room

Attic

Provide exit and emergency lighting as needed

All exit and emergency lighting for common areas shall be circuited to the common area panels. All exit and emergency lighting in tenant spaces shall be routed to the individual tenant panels.

Fire Alarm

- There shall be an addressable fire alarm panel (FACP) located in the front vestibule
- There shall be (2) two dedicated phone lines installed to the FACP
- There shall be an exterior beacon mounted to the exterior of the building. Exact location shall be determined by the fire department
- There shall be a Knox box located on the front porch, adjacent to the main entrance.
- Addressable modules shall be provided to monitor all flow and tamper devices
- (2) Two addressable control devices shall be provided in elevator machine room to provide for elevator recall
- Provide smoke detectors in the elevator machine room, elevator lobbies, top of stair wells and top of elevator shaft.
- Provide remote LED for top of shaft smoke detector
- Provide conventional heat detectors in attic, routed to an addressable module located in conditioned 2nd floor space.
- Provide strobe only devices in each men's and women's bathrooms.
- Provide a pull station at each exit to the building and at each level of the building at the stair wells
- Provide horn/strobe devices as follows:
    a. (1) one in each large storage space above 600 sq ft in basement
    b. (1) one in mechanical space
    c. (2) two in hall space
    d. (1) one in corridor to sprinkler room
    e. (1) one in each first floor tenant space
    f. (2) two in the hall space of first floor
    g. (1) one in vestibule
    h. (1) one in exhibit space room
    i. (1) one in second floor hall space
    j. (1) one in presentation space
    k. (1) one in research room
    l. (1) one in archive reception
    m. (2) two in archive area
    n. As needed in attic space

Voice & Data

- Provide a new 4" empty conduit and utility pole to basement main demarcation backboard (MDF)
- Provide a 4'x8'x ¾" plywood backboard
- Provide a 2" empty conduit from MDF in basement to each tenant space
- Provide a voice/data jack and faceplate at a minimum of (8) eight locations within large tenant spaces on first floor. Each faceplate with a voice and data jack shall have category a5E cable routed from tenant IDF to each jack on faceplate. Cable shall terminate at jacks and tested. Tenant shall be responsible for individual phone service and data equipment within their space.

- There shall be one voice/data location provided in each of the three levels. The hall space at wiring shall be CAT 5E and routed to basement MDF
- Provide (3) three voice/data outlets in the presentation room. Provide (2) two voice/data locations in the exhibit space room. Provide (2) two voice/data locations in the archive office area. Provide (7) seven voice/data locations in the research room. Provide (1) one voice/data location in the archive office. Provide (4) voice/data locations in the archive area. All locations to have a voice and data jack on a faceplate. Jacks shall be CAT 5E rated. Provide a CAT 5E cable from each jack to the second floor IDF. Cable shall be terminated and tested. Tenant shall be responsible for their phone and data equipment.

Power for the HVAC Equipment (Based on a VRV system)

<u>Building Exterior</u>

- Provide power from main 400 Amp building common panel to each of (2) two condesning units. Provide weatherproof disconnects for each unit. Provide (1) one WP GFI outlet in close proximity to the condensing units
- Provide power to individual heat pumps (1) one per tenant space. Power shall be routed from tenant panel to tenant space heat pump unit. Provide disconnect at unit.
- Provide common space heat pumps, one per floor. Route power from floor common area panel to respective floor heat pump. Provide disconnect at heat pump.
- Provide power from common area panel to energy recovery system in attic. Provide disconnect at energy recovery unit.
- Provide power from common area panel to heat recovery controller.
- Provide power to boiler in mechanical room
- Provide power to hot water system pumps in mechanical room
- Provide power to dehumidifier in archive storage controlled environment.

The cost for construction of the electrical systems should be between $12 and $15/sq ft. This is a rough estimate and should not be utilized in lieu of a detailed estimate.

INTRODUCTION

CSI Engineering has been contracted by the Menders, Torrey & Spencer Inc to evaluate the mechanical, electrical, plumbing and fire protection systems at the Historic Lancaster School Building located in Lancaster, MA. The town is considering several options for the building and need to know what existing equipment can be re-used and what equipment needs to be replaced. CSI Engineering completed their site investigation of the existing systems on Friday September 16, 2011. The following report details the existing condition of the School Building and our findings.

EXISTING CONDITIONS

General

HVAC

Electrical

Fire Protection

The building at this time does not have a fire protection systems installed.

Plumbing

The existing plumbing systems in the building consisted of water, waste and vent systems. The waste system was a septic system.

Basement: There were two multi fixture bathrooms one for girls and one for boys. There was also an electric water heater within the mechanical room which fed the buildings hot water system. The mechanical room also had a janitors sink.

First Floor: Had two single bathrooms within the classrooms.

Second Floor: Had two multi fixture bathrooms one for girls and one for boys and also a handicap accessible bathroom. There was also a classroom sink with one of the classrooms.

FINDINGS

HVAC

Electrical

Fire Protection

- There is no existing equipment. New systems will be required per code.

Plumbing

The bathroom fixtures and piping were in very rough shape and were inoperable. The existing building plumbing systems including all piping should be removed and replaced.

RECOMMENDATIONS

General

The recommendations for the future use of the space are heavily dependent upon the occupancy classification of the building and the number of occupants that will be within the space. In general, the following systems will be required by code and although the State Building Code may exclude historic building from meeting current codes, including the energy code, we strongly recommend that they follow the code for new construction as closely as possible to maintain safety, security and energy conservation.

HVAC

Electrical

Fire Protection

The building would require a full sprinkler system designed and installed. The type of system to be installed would be dictated by the occupancy of the building, the Massachusetts Building Code and NFPA 13 code requirements.

Plumbing

The building will require a new water service adequately sized for the building along with a new hot water system and a new waste and vent system all to be based on the new occupancy of the building. New bathrooms requirements would be based on the Massachusetts State Plumbing Code minimum facilities for building occupancy.

Plumbing Schematic Narrative

Prescott Building
Lancaster, MA

The following is a brief description of the design intent for the plumbing and fire protection systems. If I missed anything let me know and I will revise it.

Plumbing

Domestic Water Service and Fixtures: The building will require a new water service which will be 2" with flushvalve. The flushvalve toilets are more demanding which will require the 2" service. The advantage to going with flushvalves is less maintenance. Both toilet types come in dual flush but I would suggest going with a lower gallon per flush toilet instead due to the fact that most people do not pay attention and just push down on the handle rather than decide which flow they need. I would suggest a low flow 1.28 GPF toilet.

Hot water Heater: We will generate hot water by means of an instant hot water heater - propane fired. Propane would be the preferred method for the fuel source but we would have to be sure we can vent the heater properly.

Sanitary System: The building will be changing from a septic system to city sewer. This will require a new 4" connection to the city line. Based on the location of the city sewer main we will be looking at two different pipe routings.

Since the sewer connection is the back of the building then the sanitary for the upper floors will collect into a main line that will run under the slab out to the city sewer main. The floor drain in the mechanical room would then be able to make it by gravity which would eliminate any need for a pump.

Propane Gas: Propane gas will be supplied by an existing tank located onsite. The propane company shall supply a main line to the building based on our building load. We would connect to the new main pipe that the propane company brought to the building and size and run the piping to all the demanding equipment.

Storm Water Recovery System: Rain water will be collected to be reused for site irrigation. A system would have to be designed base on the amount of estimated rain water and space available for a collection tank and system.

Fire Protection

The building will require a new 6” fire protection service connected to the city water main. The service will require a double check valve assembly with two alarm valves one for the wet system which will cover the basement, first and second floors and nee for the dry system which will supply the attic.
The basement will be covered by upright sprinklers off of exposed piping which will be installed to provide maximum clearances where required. The basement will be classified as Ordinary Hazard Group 1 due to the storage areas and mechanical space.

The First and second floors will be covered by sidewall heads off of exposed piping which will be installed tight to the ceiling and walls to provide maximum clearances. These floors will be classified as Light Hazard.

The attic will be covered by a dedicated dry system with upright sprinklers off all exposed piping. The attic is a very demanding area and will require larger piping then the lower floors. The attic hazard classification will have to be determined based on what the space will be used for. If it’s unused space then it would be light hazard. If it will be used for storage then it would be an extra hazard space.

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From:	Angel Guarniz
To:	Patrick Guthrie
Cc:	mahoney@csi-engineers.com; jchurches@csi-engineers.com
Subject:	Prescott Building HVAC description
Date:	Wednesday, December 07, 2011 9:02:50 AM

Good morning Patrick,

Per our conversation, here is a description of our HVAC design intent for Prescott Building. Overall, the building will have high efficiency equipment. The building will be heated with hot water, assisted with the VRV system on the first and second floor, and an energy recovery system. The VRV system condensing units (2) will sit outside the building on a 6" poured concrete pad. The VRV system will allow the spaces to be separately zoned and allow for energy recovery. The VRV system will consist of heat pumps (one for each room), condensing units, refrigerant piping, condensate piping, and a heat recovery controller. The heat recovery controller allows us to add units to certain areas in the future if air conditioning is not needed at the time of construction. VRV systems also have the ability to meter the energy used by individual spaces. The hot water will be supplied by one propane fired boiler in the mechanical room that can be easily converted to natural gas in the future. The hot water system will require pumps, expansion tanks, make-up water, chemical shot feeder, valves, boiler, and other hydronic specialties. The boiler will require a vent and combustion air that can be ran up through the existing boiler vent chase or can have a horizontal concentric kit through the wall. All general exhaust and bathroom exhaust will be routed through an energy recovery unit on the attic to temper the outdoor air that is required by the space. The intake and exhaust for the energy recovery unit will use the existing roof openings.

The basement will have heat from the fin tube radiation to maintain the temperature at 60-70 degrees in the winter. Dehumidification for the basement will be achieved through a dedicated dehumidification unit. The energy recovery unit in the attic will also bring tempered outdoor air in to aid the dehumidification of the basement.

First floor will be heated with fin tube radiation and assisted with heat pumps from the VRV systems. The heat pumps will be supplied with required outdoor air from the energy recovery unit and be mounted in the basement and ducted up to the first floor. Each space will be supplied with a heat pump and will have a dedicated thermostat. Each room has the ability to go into heating or cooling mode as needed.

The Second floor will be heated with fin tube radiation assisted with heat pumps. Heat pumps will be supplied with required outdoor air from the energy recovery unit and be mounted in the attic and ducted down to the second floor. Each space will be supplied with a heat pump and will have a dedicated thermostat. Each room has the ability to go into heating or cooling mode as needed.
A dehumidification system will be supplied for the Archives room.

The general breakdown of the cost for the system is as follows:

- Hot water system - $6 per square foot
- VRV system - $12 per square foot

- Energy recovery unit - $2 per square foot
- Duct work - $2 per square foot
- Refrigerant piping - $2 per square foot
- Controls - $2 per square foot
- Testing and balancing - $2 per square foot

If you have any questions or concerns, please let us know.

Thank you,

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HAZARDOUS MATERIALS REPORT
Fuss & O'Neill EnviroScience

HAZARDOUS BUILDING MATERIALS INSPECTION

Prescott Building
Lancaster, MA

September 16, September 29 &
October 14, 2011

MENDERS, TORREY & SPENCER, INC.

Boston, Massachusetts

November 15, 2011

FUSS & O'NEILL
EnviroScience, LLC

50 Redfield Street, Suite 100
Boston, Massachusetts 02122

Project No. 20111069.A1E

November 15, 2011

Ms. Lynne Spencer
Principal, Historic Preservation
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123 North Washington Street
Boston, MA 02114

Re: Hazardous Building Materials Inspection
Prescott Building, Lancaster, Massachusetts
Fuss & O'Neill EnviroScience, LLC No. 20111069.A1E

Dear Ms. Spencer:

Enclosed is the report for the hazardous building materials inspection and limited indoor air quality investigation conducted in response to proposed renovations for the Prescott Building located in Lancaster, Massachusetts.

The services were performed on September 16, September 29, and October 14 (2011) by Fuss & O'Neill EnviroScience, LLC licensed inspector(s) and included a limited asbestos inspection, lead-based paint determination, limited indoor air quality investigation, waste characterization for fly ash material, and an inventory of PCB-containing ballasts and possible mercury-containing equipment. The information summarized in this document is for the above-mentioned materials only. The work was performed in accordance with our written proposal dated September 29, 2011.

If you have any questions regarding the contents of this report, please do not hesitate to contact me at (617) 282-4675, extension 4701. Thank you for this opportunity to have served your environmental needs.

Sincerely,

Robert L. May, Jr.
Vice President

RLM/ asn

Enclosure

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Connecticut
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Hazardous Materials Abatement Cost Estimate

A hazardous materials abatement cost estimate is provided below. Unit costs are based on current industry rates and are inclusive of all contractor costs. They do not include costs for design, monitoring, sampling, and other consultant fees.

Table 9
Estimated Cost for Hazardous Materials Abatement

MATERIAL	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
Interior Boiler Debris, Includes Demolition of Boiler and Removal of All Internal Packing, Gaskets, Rib-Sealant Material, Millboard and Boiler Base; Includes Removal of Fly Ash at Ash Dump	2 Boilers; Each = 4 ½' x 6' x 5 ½' h Fly Ash Material = 2 ½' x 3' x 8" depth	Lump Sum	$10,000
(Square) Gaskets associated with Large Duct Breeching	5 EA (2 ½' x 2')	$25/EA	$125
Grey Penetration Sealant Associated with Duct Breeching	12 SF	Lump Sum	$100
Pipe Gaskets	40 EA	$20/EA	$800
AirCell Pipe Insulation Debris	Note: (4) full containments required for removal of AirCell debris observed on (concrete) floor of mechanical chases including complete decontamination of spaces to meet clearance; approx. areas = 90 SF; 110 SF; 110 SF; 160 SF	Includes (4) Full Containments	$4,800
AirCell Pipe Insulation	175 LF & 50 LF Allowance for Concealed Pipe Insulation = 225 LF Total	$10/LF within containments noted above	$2,250
Brown Residual Lower Wall Mastic	1,000 SF	$7/SF	$7,000
Tan with Brown Streaks 9x9 Floor Tile & Associated Black Mastic/Leveling Compound (on Wood)	Classroom 1 = 850 SF Classroom 2 = 850 SF Classroom 3 = 850 SF Classroom 4 = 850 SF Classroom 9 = 435 SF Classroom 10 = 590 SF Classroom 11 = 810 SF Classroom 12 = 590 SF Total = 5,825 SF	$4/SF	$23,300
9x9 Floor Tile, 12x12 Floor Tile, & Associated Mastics (on Concrete)	Classroom 1B & Closet= 125 SF Classroom 4B & Closet = 1,035 SF 2nd Floor Hallway (Fountain) = 10 SF Total = 1,170 SF	$3/SF	$3,510

FUSS & O'NEILL
EnviroScience, LLC

Table of Contents

Hazardous Building Materials Inspection Report
Prescott Building
Menders, Torrey & Spencer, Inc.

Appendices

1 Introduction

On September 16, September 29, and October 14 (2011), Fuss & O'Neill EnviroScience, LLC (EnviroScience) representatives, Dustin A. Diedricksen and Jonathan Hand, performed a hazardous building materials inspection at the Prescott Building located in Lancaster, Massachusetts. The site inspection included a limited asbestos inspection, lead-based paint determination, limited indoor air quality investigation, waste characterization for fly ash material, and an inventory of PCB-containing ballasts and possible mercury containing equipment. Refer to *Appendix A* for a copy of licenses.

This hazardous building materials inspection was performed in response to proposed renovations. The work was performed for Menders, Torrey & Spencer, Inc. in accordance with the written scope of services dated September 29, 2011.

2 Asbestos Inspection

A property Owner must ensure that performance of a thorough inspection for asbestos-containing materials (ACM) is completed prior to possible disturbance of such materials, which will likely be impacted during purposed renovation or demolition activities. This is a requirement of the U.S. Environmental Protection Agency (USEPA), National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation 40 CFR Part 61, Sub-part M.

This includes friable, non-friable Category I and non-friable Category II ACM.

- A friable material is defined as material that contains greater than 1 percent asbestos, that when dry can be crumbled, pulverized or reduced to powder by hand pressure.
- A Category I Non-friable material refers to material that contains greater than 1 percent asbestos specifically packings, gaskets, resilient floor coverings and asphalt roofing products that when dry can not be crumbled, pulverized or reduced to powder by hand pressure.
- A Category II Non-friable material refers to any non-friable material excluding Category I materials that contains greater than 1 percent asbestos that when dry can not be crumbled, pulverized or reduced to powder by hand pressure.

Massachusetts Department of Environmental Protection (MassDEP) further defines the definition of asbestos containing materials as any material containing 1 percent or more asbestos to be an ACM.

During this inspection, suspect asbestos-containing materials (ACM) were separated into three USEPA categories. These categories are Thermal System Insulation (TSI), surfacing ACM (SURF), and miscellaneous ACM (MISC). TSI includes all materials used to prevent heat loss or gain or water condensation on mechanical systems. Examples of TSI are pipe insulation, boiler insulation, duct insulation, and mudded insulation on pipe fittings. Surfacing ACM includes all ACM that is sprayed, troweled, or otherwise applied to an existing surface. Surfacing ACM is commonly used for fireproofing, decorative, and acoustical applications. Miscellaneous materials include all ACM not listed as thermal or surfacing, such as linoleum, vinyl asbestos flooring, and ceiling tiles.

Samples are recommended to be collected in a manner sufficient to determine asbestos content and include homogenous building materials. The USEPA, NESHAP regulation does not specifically identify a minimum number of samples to be collected; however, recommends the use of sampling protocols included in 40 CFR Part 763, Sub-Part E - Asbestos Containing Materials in Schools.

Samples of suspect asbestos containing materials were collected in accordance with United States Environmental Protection Agency (USEPA) recommendations and Asbestos Hazard Emergency Response Act (AHERA) protocols. The protocols included the following:

1. Surfacing Materials (SURF) such as plaster, spray-on fireproofing, etc. were collected in a randomly distributed manner representing each homogenous area based on the overall quantity represented by the sampling as follows:

    a. Three (3) samples collected from each homogenous area that is less than or equal to 1,000 square feet.
    b. Five (5) samples collected from each homogenous area that is greater than 1,000 square feet, but less than or equal to 5,000 square feet.
    c. Seven (7) samples collected from each homogenous area that is greater than 5,000 square feet.

2. Thermal System Insulation (TSI) such as pipe insulation, tank insulation, etc. were collected in a randomly distributed manner representing each homogenous area; three (3) samples of each TSI were collected. Also, a minimum of one (1) sample of any patching materials applied to TSI, and less than 6 linear or square feet, were collected.

3. Miscellaneous Materials (MISC) such as floor tile, gaskets, construction mastics, etc. had a minimum of two (2) samples of each homogenous material type. Sampling was conducted in a manner sufficient to determine asbestos content of the homogenous material as determined by the asbestos inspector. If materials identified were of significantly minimal quantity, only a single sample was collected.

The Inspector collected samples and prepared proper chain of custody for transmission of samples to an accredited laboratory for analysis by Polarized Light Microscopy (PLM). Samples of all suspects ACM to be impacted by the renovations were collected. The EnviroScience sampling locations, material type, sample identification, and asbestos content are identified by bulk sample analysis in Tables 1 and 2 of the "Results" section. Any materials found at the site, and not listed in the following tables, should be considered suspect ACM until sample results prove otherwise. Refer to *Appendix B* for Asbestos Sample Results.

2.1 Results

Utilizing the USEPA protocol and criteria, the following materials were determined to be ACM:

TABLE 1
Asbestos Containing Materials

SAMPLED LOCATION	MATERIAL TYPE	SAMPLE NO.	ASBESTOS CONTENT
Classroom 4	Tan with Brown Streaks 9x9 Floor Tile	916DD-01 A	5% Chrysotile
Classroom 1 & Classroom 4	Black Paper Mastic	916DD-02 A-B	Presumed Positive
1st Floor Main Hallway	Brown Residual Lower Wall Mastic	1014DD-06 A	5% Chrysotile
Boiler #1 and #2 Interiors & Ash Dump	Boiler Ash/Debris	1014DD-07 A-B	>1% Chrysotile Consider Positive
Boiler Room	Gaskets associated with Large Duct Breeching	1014DD-10 A	70% Chrysotile
Boiler Units	Boiler Rib-Sealant Material	1014DD-11 A	60% Chrysotile
Boiler Room	Grey Penetration Sealant associated with Duct Breeching	1014DD-17 B*	1.5% Chrysotile
Boiler Room	Pipe Gaskets	1014DD-18 A	80% Chrysotile
Mechanical Chase at 1B, 4B, and Girls Bathroom	AirCell Pipe Insulation	1014DD-23 A	70% Chrysotile
Roof	Black Vent Mastic	1014DD-28 A	10% Chrysotile
Classroom 2 and Classroom 4B	Leveling Compound	1014DD-29 A-B	Presumed Positive
Office Exterior and D-Side Entrance	Door Window Glazing Compound	1014DD-34 A	2% Chrysotile
Basement Stairs	Green Stone-Pattern Linoleum Flooring (Stair Treads)	1014DD-37 A	25% Chrysotile
Basement Office	White Speckled 12x12 Floor Tile	1014DD-39 A	Presumed Positive
Basement Office	Grey/Tan 12x12 Floor Tile	1014DD-39 B	Presumed Positive
Basement Office	Light Yellow Speck 12x12 Floor Tile	1014DD-39 C	Presumed Positive
Basement Office	Light Green Speck 12x12 Floor Tile	1014DD-39 D	Presumed Positive
Basement Office	Yellow Mastic associated with Multi-Colored 12x12 Floor Tile	1014DD-40 A-B	Presumed Positive

SAMPLED LOCATION	MATERIAL TYPE	SAMPLE NO.	ASBESTOS CONTENT
Classroom 4B	Brown Mastic associated with 12x12 Floor Tile (Top Layer)	1014DD-41 A-B	Presumed Positive
Classroom 1B, B-Side Stair Landing 1st to 2nd, and 2nd Floor Hallway	Black Mastic	1014DD-43 A	10% Chrysotile
Stair #1 - 1st to 2nd (Landing)	Beige Vinyl Tile (Concealed)	1014DD-44 A-B	Presumed Positive
Classroom 4B	White with Grey Specks 12x12 Floor Tile	1014DD-45 A-B	Presumed Positive
Basement Office	Red 9x9 Floor Tile (Bottom Layer)	1014DD-46 A-B	Presumed Positive
Classroom 4B Closet	Brown with Red Streaks 9x9 Floor Tile (Checkered)	1014DD-47 A	Presumed Positive
Classroom 1B	Green with Beige and Pink 9x9 Floor Tile (Checkered)	1014DD-47 B	Presumed Positive
2nd Floor Hall (Water Fountain)	Tan with Brown Vinyl Floor Tile	1014DD-48 A-B	Presumed Positive
Boiler Room, Classroom 4, and Classroom 11	Exterior Window Glazing Compound	1014DD-52 A	2% Chrysotile

*These samples were recommended for TEM analysis and results confirmed presence of asbestos greater than 1%.
Presumed Positive = Assumed as positive (i.e. asbestos contaminated) due to associated black mastic (Sample 1014DD-43A) being positive. Each material was not analyzed due to the presence of asbestos containing mastic which has contaminated each tile requiring materials to be disposed of as asbestos waste.

Utilizing the USEPA protocol and criteria, the following materials were determined not to contain asbestos.

TABLE 2
Non-Asbestos Containing Materials

SAMPLED LOCATIONS	MATERIAL TYPE	SAMPLE NO.
Main Foyer/ Hallway	White with Brown Streaks 12x12 Floor Tile	916DD-04 A-B*
Main Foyer/ Hallway	Yellow Mastic associated with White with Brown Streaks 12x12 Floor Tile	916DD-05 A-B
Boiler Units	Tan Friable Boiler Jacket	1014DD-08 A-C
Boiler #1	White Rope/Fibrous Gasket at Front Circular Panel	1014DD-09 A-B
Boiler Room	Gasket associated with Small Duct Breeching Split at Each Boiler	1014DD-12 A-B
Boiler #2	Red Seam Sealant at Front Panel	1014DD-13 A-B
Boiler Room Stair Landing	Yellow and Brown Linoleum Flooring	1014DD-14 A-B
Boiler Room Stair Landing	Tan Mastic associated with Yellow and Brown Linoleum Flooring	1014DD-15 A-B*

SAMPLED LOCATIONS	MATERIAL TYPE	SAMPLE NO.
Boiler #1 and #2	Cementitious Troweled Sealant at Front Panel	1014DD-16 A-B
Boiler Room	Grey Penetration Sealant associated with Duct Breeching	1014DD-17 A
Classroom 3	Brown Glue Daubs associated with 16x16 Ceiling Tiles	1014DD-19 A-B*
Classroom 3	16x16 Square on Center Ceiling Tile	1014DD-20 A-B
Classroom 4 and Classroom 10	Lower Wall Cloth	1014DD-21 A-B
Boiler Room	Tan Pipe Thread Sealant	1014DD-22 A-B
Mechanical Chase at 1B, 4B, and Girls Bathroom	AirCell Pipe Insulation	1014DD-23 A-C
Mechanical Chase at 1B	Mudded Fittings associated with AirCell Pipe Insulation	1014DD-24 A-C
Classroom 4 and 2nd Floor Bathroom	Drywall	1014DD-25 A-B
Classroom 1 and 2nd Floor Bathroom	Joint Compound	1014DD-26 A-B
Skylights	Window Glazing Compound	1014DD-27 A-B
Boiler Room	Grey Patched Ceiling Above Boiler – Rough Troweled	1014JH-30 A-C
Mechanical Room	Troweled Beige Ceiling Plaster	1014DD-31 A-C
Classroom 1B and Classroom 9	Yellow Carpet Adhesive (on 9x9)	1014DD-32 A-B
Classroom 1 and Classroom 4	Parge Cement on Brick (concealed)	1014DD-33 A-B
D-Side Entrance	White Exterior Door Caulk	1014DD-35 A-B
Classroom 1B and Classroom 4B	1x1 Pegboard Ceiling Tile	1014DD-36 A-B
Stair #1 & Stair #2 - 1st to 2nd Floors	Grey Mottled 12x12 Floor Tile (Self Stick)	1014DD-38 A-B
Classroom 2 Bathroom	2x2 Texture and Dot Ceiling Tile	1014DD-42 A-B
Classroom 12	Brown Wall Mastic	1014DD-49 A-B
2nd Floor Bathrooms	Grey 12x12 Floor Tile	1014DD-50 A-B
2nd Floor Bathrooms	Yellow Mastic associated with Grey 12x12 Floor Tile	1014DD-51 A-B
Exterior	Residual Exterior Window Caulk	1014DD-53 A-B
Throughout Building	Plaster Skim Coat	1014DD-54 A-G
Throughout Building	Plaster Rough Coat	1014DD-55 A-G
Mechanical Room	Plaster Backer Board	1014DD-56 A-B

*Material type confirmed as non-asbestos by additional TEM analysis

Refer to *Appendix B* for Laboratory Analysis Results.

2.2 Discussion

The USEPA, Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts Department of Labor Standards (DLS) formerly known as the Division of Occupational Safety (DOS) defines any material that contains greater than one percent (>1%) asbestos, utilizing PLM, as being an ACM. The Commonwealth of Massachusetts Department of Environmental Protection (DEP) defines any material that contain equal to or greater than one percent (1%) asbestos as being an ACM. Materials that are identified as "none detected" are specified as not containing asbestos.

Materials that are identified as "none detected" are specified as not containing asbestos. Friable materials that are identified as containing less than ten percent (<10%) asbestos, are recommended to be analyzed further utilizing the EPA 400 point-counting technique to verify asbestos content by the USEPA. A property owner may elect to presume the results are asbestos containing based on the initial PLM results without the additional analysis by the EPA 400 point-counting technique. Additional lab analysis utilizing EPA 400 point-counting procedures were not performed as part of this hazardous building material inspection.

Additionally, the USEPA has suggested that materials that are non-friable organically bound materials such as mastic adhesives, etc are recommended for further confirmatory analysis utilizing Transmission Electron Microscopy (TEM). Four (4) of the collected samples were recommended to be analyzed by TEM. The results of TEM analysis are provided below in Table 3.

TABLE 3
Materials Analyzed By TEM

SAMPLE LOCATION	MATERIAL TYPE	SAMPLE NO.	ASBESTOS CONTENT
Main Foyer/ Hallway	White with Brown Streaks 12x12 Floor Tile	916DD-04A	ND
Boiler Room Stair Landing	Tan Mastic associated with Yellow and Brown Linoleum Flooring	1014DD-15A	ND
Boiler Room	Grey Penetration Sealant a/w Duct Breeching	1014DD-17 B	1.5% Chrysotile*
Classroom 3	Brown Glue Daubs associated with 16x16 Ceiling Tiles	1014DD-19A	ND

ND = No Asbestos Detected

The results of confirmatory analysis by TEM did identify asbestos at 1% or greater for the analyzed materials, with the exception of three samples listed above having no asbestos detected. The materials have been included in Table 1, or as appropriate Table 2, based on the confirmatory analysis; those materials containing asbestos are also included in the following Table 4, and cost estimate. Refer to *Appendix C* for TEM Laboratory Analysis results.

Table 4 identifies the location, materials type and quantity of ACM identified during this inspection. Any suspect material not identified in this inspection should be presumed to contain asbestos.

TABLE 4
Materials Present Containing Asbestos

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY
Boiler #1 and #2 Interiors and Ash Dump	Boiler Ash/Debris (Assume Fly Ash at Ash Dump)	2 Boilers; Each = 4 ½' x 6' x 5 ½' h Fly Ash Material = 2 ½' x 3' x 8" depth
Boiler Room	(Square) Gaskets associated with Large Duct Breeching	5 EA (2 ½' x 2')
Boiler Units	Boiler Rib-Sealant Material	2 Boilers; Each = 4 ½' x 6' x 5 ½' h
Boiler Room	Grey Penetration Sealant associated with Duct Breeching	12 SF
Boiler Room	Pipe Gaskets	40 EA
Basement Mechanical Chases at Classroom 1B, Classroom 4B, Girls Toilet, & Boys Toilet	AirCell Pipe Insulation	175 LF & 50 LF Allowance for Concealed Pipe Insulation = 225 LF Total Note: (4) full containments required for removal of AirCell debris observed on (concrete) floor of mechanical chases; approx. areas = 90 SF; 110 SF; 110 SF; 160 SF
1st & 2nd Floor Hallways	Brown Residual Lower Wall Mastic	1,000 SF
Classrooms 1, 2, 3, 4, 9, 10, 11, & 12	Tan with Brown Streaks 9x9 Floor Tile & Associated Black Mastic (on Wood)	Classroom 1 = 850 SF Classroom 2 = 850 SF Classroom 3 = 850 SF Classroom 4 = 850 SF Classroom 9 = 435 SF Classroom 10 = 590 SF Classroom 11 = 810 SF Classroom 12 = 590 SF Total = 5,825 SF
2nd Floor Hallway, Classroom 5/6, & 2nd Floor Bathrooms	9x9 Floor Tile underneath Carpet and/or Plywood (on Wood)	2nd Floor Hallway = 515 SF Classroom 5/6 = 515 SF 2nd Floor Bathrooms = 300 SF Total = 1,330 SF Note: 12x12 Floor Tile & Associated Mastic at 2nd Floor Bathrooms are Non ACM. Assume 9x9 Floor Tile underneath (Drywall) Wall Partitions

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY
Basement Office	Multi-Colored 12x12 Floor Tile (e.g. White Speckled; Grey/Tan; Light Yellow Speck; Light Green Speck) & Associated Yellow Mastic	130 SF
Basement Office	Red 9x9 Floor Tile & Associated Black Mastic (underneath Multi-Colored 12x12 Floor Tile) Note: Black Mastic is on Concrete	130 SF
Classroom 1B	Residual Black Mastic underneath Carpet (on Concrete) (Assume Carpet as Asbestos-Contaminated-Material)	955 SF
Classroom 1B: Closet & underneath Stairs	9x9 Floor Tile (Checkered) & Associated Black Mastic (on Concrete)	125 SF
Classroom 4B	White with Grey Specks 12x12 Floor Tile & Associated Mastics (Brown Mastic Top Layer & Black Mastic Bottom Layer) on Concrete	955 SF
Classroom 4B Closet	9x9 Floor Tile (Checkered) & Associated Black Mastic (on Concrete)	80 SF
1st Floor Hallway & Entry Foyer/Stairs	Black Mastic underneath Plywood Underlayment (on Wood) Assume Residual 9x9 Floor Tile in Sections Note: 12x12 Floor Tile and Associated Yellow Mastic (on top of Plywood) is Non ACM	1,000 SF
Stair #1 & Stair #2 – Basement to 1st Floor	Green Stone Linoleum Flooring (Stair Treads) & Associated Adhesive/Backing	250 SF
Stair #1 – Basement to 1st Floor (Landing)	Two Layers of 12x12 Floor Tile & Associated Black Mastic	90 SF
Stair #1 & Stair #2 – 1st to 2nd Floor (Stairs & Landings)	Beige Vinyl Tile (Concealed) & Associated Black Mastic Note: Underneath Grey Mottled 12x12 (Non ACM) Floor Tile & Plywood Underlayment	320 SF

LOCATION	MATERIAL TYPE	ESTIMATED QUANTITY
2nd Floor Hallway (Water Fountain)	Tan with Brown Vinyl Floor Tile	10 SF
Classroom 2 & Classroom 4B (Various Locations)	Leveling Compound	Included in All Floor Tile/Mastic Quantities; Observed at Door Thresholds & Damaged Floor Tile
All Windows	Exterior Window Glazing Compound	All Windows (83 EA)
Office Exterior and D-Side Entrance	Door Window Glazing Compound	4 EA
Roof	Black Vent Mastic	150 SF

2.3 Conclusion

The materials determined to contain asbestos that will be impacted by any proposed renovation and/or demolition work must be abated by a licensed asbestos abatement contractor prior to disturbance in building demolition or renovation. This includes both friable and non-friable ACM materials. This is a requirement of the Commonwealth of Massachusetts DLS, MassDEP and US EPA NESHAP standards for asbestos abatement.

EnviroScience recommends that a comprehensive scope of work and technical specification be developed as part of renovation plans for the site. We have provided a cost to develop the specifications for inclusion in the overall renovation plans. We have also developed an opinion of cost for the complete removal of all identified asbestos. Note the total cost is inclusive of removing all asbestos and a more limited scope can be tailored to any specific renovation work as necessary.

Any suspect material encountered during renovation/demolition that is not identified in this report, as being non-ACM should be assumed to be ACM unless sample results prove otherwise.

3 Lead-Based Paint Determination

A lead based paint determination was performed for representative building components by Fuss & O'Neill EnviroScience, LLC (EnviroScience) representatives, Dustin A. Diedricksen and Jonathan Hand, on October 14, 2011. An X-ray fluorescence (XRF) analyzer was used to perform the lead based paint determination. The testing was conducted in accordance with the protocol outlined in the attached document: "Testing Procedures and Equipment" (*Appendix D*).

A RMD X-Ray Fluorescence Analyzer, serial No. 1138, was utilized for the lead-based paint determination. The instrument was checked for proper calibration prior to each use as detailed by the manufacturer and the Performance Characteristic Sheet (PCS) developed for the instruments.

For the purpose of this lead based paint determination, representative building components were tested from the interior and exterior. Of course, individual repainting efforts are not discoverable in such a limited program. Lead based-paint issues involving properties that are not residential are regulated to a limited degree to worker protection involving paint disturbing work activities and waste disposal.

Worker protection is regulated by OSHA regulations as well as DLS regulations. These regulations involve air monitoring of workers to determine exposure levels when disturbing lead containing paint. A lead based paint determination can not determine a safe level of lead but is intended to provide guidance as to the locations of what are considered industry standards for lead in paint. Contractors may then better determine exposure of workers to airborne lead by understanding the different concentrations of lead paint on representative components and surfaces. Air monitoring can then be performed during activities that disturb paint on representative surfaces.

The USEPA Resource Conservation and Recovery Act (RCRA) as well as MassDEP regulate disposal of lead containing waste. Waste materials containing lead that will be impacted during renovation or demolition and result in waste for disposal must be tested using the Toxicity Characteristic Leachate Procedure (TCLP) analysis if lead is determined to be present in non-residential buildings. A TCLP sample is a representative sample of the intended waste stream. The results are compared to the level of greater than 5.0 mg/L that is considered hazardous lead waste. If the result is below the established level the material is not considered hazardous and may be disposed of as normal construction debris.

A level of lead paint exceeding 1.0 milligrams of lead per square centimeter (mg/cm^2) is considered toxic or dangerous for compliance with residential standards. For purpose of this lead based paint determination the level of 1.0 mg/cm^2 has been utilized as a threshold for areas where possible worker exposures may occur. The complete results of lead based paint determination are included in *Appendix E*.

3.1 Results

The lead based paint determination indicated consistent painting trends associated with representative building components. Numerous painted components were determined to contain levels of lead (greater than 1.0 mg/cm^2) including the following:

TABLE 5
Lead Painted Building Components

LOCATION	ITEM	SUBSTRATE	READING (mg/cm^2)
Classroom 1	Lower Walls	Plaster	>9.9
Classroom 1	Window Sash/ Mullions	Wood	>9.9
Classroom 1	Radiator	Metal	-0.1 – 1.0
Classroom 2	Lower Walls	Plaster	>9.9
Classroom 2	Window Sash/ Mullions	Wood	>9.9
Classroom 3	Lower Walls	Plaster	>9.9
Classroom 3	Upper Walls	Plaster	0.6 – 1.1
Classroom 3	Window Sash/ Mullions	Wood	>9.9
Classroom 4	Lower Walls	Plaster	>9.9

LOCATION	ITEM	SUBSTRATE	READING (mg/cm^2)
Classroom 4	Window Sash/ Mullions	Wood	>9.9
1st Floor Hallway	Lower Walls	Plaster	>9.9
1st Floor Hallway	Radiator	Metal	1.2
Stairway	Lower Walls	Plaster	>9.9
Stairway	Window Sash/ Mullions	Wood	8.6
Stairway	Upper Walls	Plaster	2.1 – 3.0
Classroom 5/6	Lower Walls	Plaster	>9.9
Classroom 5/6	Window Sash/ Mullions	Wood	>9.9
Classroom 5/6	Radiator	Metal	1.0
2nd Floor Bathroom	Window Sash/ Mullions	Wood	>9.9
Classroom 9	Lower Walls	Plaster	>9.9
Classroom 9	Window Sash/ Mullions	Wood	>9.9
Classroom 10	Lower Walls	Plaster	>9.9
Classroom 10	Window Sash/ Mullions	Wood	>9.9
Classroom 11/12	Lower Walls	Plaster	>9.9
Classroom 11/12	Window Sash/ Mullions	Wood	>9.9
Classroom 11/12	Upper Walls	Plaster	2.7 – 3.7
2nd Floor Hallway	Lower Walls	Plaster	4.5 - >9.9
Classroom 1B & 4B	Lower Walls	Plaster	0.4-8.5
Classroom 1B & 4B	Metal Columns	Metal	5.6
Classroom 1B & 4B	Window Sashes and Mullions	Wood	>9.9
Classroom 1B & 4B	Window Frames	Wood	>9.9
Classroom 1B & 4B	Door and Frame	Wood	>9.9
Basement Hallway	Brick Walls	Brick	>9.9
Basement Bathroom	Door and Frame	Wood	>9.9
Basement Bathroom	Walls	Brick	>9.9
Basement Bathroom	Window Sashes and Frame	Wood	>9.9
Basement Bathroom	Radiator	Metal	1.0
Basement Office	Door	Wood	>9.9
Basement Office	Window Sashes and Frame	Wood	>9.9
Boiler Room	Double Doors and Frame	Wood	>9.9
Boiler Room	Door Frame	Wood	7.8
Mechanical Room	Door and Frame	Wood	>9.9
Mechanical Room	Window Sashes and Frame	Wood	>9.9
Exterior	Window Sashes and Frame	Wood	5.7 - >9.9
Exterior	Doors and Frames	Wood	>9.9

3.2 Discussion

OSHA published a Lead in Construction Standard (OSHA Lead Standard) 29 CFR 1926.62 in May 1993. The OSHA Lead Standard has no set limit for the content of lead in paint below which the standards do not apply. The OSHA Lead Standards are task-based and are based on airborne exposure and blood lead levels.

The results of this survey are intended to provide guidance to contractors for occupational exposure control to lead. Building components containing lead levels above industry standards may cause exposures to lead above OSHA standards during demolition and renovation activities. A TCLP sample to characterize the expected waste, which may result from possible selective demolition and/or renovation work, was not collected as part of this preliminary feasibility study.

3.3 Conclusion

Contractors must be made aware that OSHA has not established a level of lead in a material below which 29 CFR 1926.62 does not apply. Contractors shall comply with exposure assessment criteria, interim worker protection and other requirements of the regulation as necessary to protect workers during any renovation work which will impact lead paint.

Lead paint was found on numerous building components including, but not limited to, plaster walls, brick walls, metal support columns, radiators, and interior/exterior window and door components. EnviroScience understands that there are no proposed selective demolition or renovation activities scheduled at this time; the lead screening was carried out as part of a preliminary investigation for a project feasibility study. Note that any future work involving surface preparation of the identified painted surfaces shall be performed in accordance with OSHA worker protection requirements.

The building is presently characterized as commercial property, which is not subject to the Department of Public Health Child Lead Poisoning Prevention Program (CLPPP) 105 CMR 460.000 regulations. The property may be renovated using procedures required in accordance with OSHA regulation 29 CFR 1926.62 and DLS Regulation 454 CMR 22.11. In addition, the building is not considered a "child occupied facility" and therefore not subject to lead safe renovation requirements of 454 CMR 22.00.

Disclaimer: The information contained in the survey report concerning the presence or absence of lead paint does not constitute a comprehensive lead inspection in accordance with Commonwealth of Massachusetts regulations 105 CMR 460. The surfaces tested represent only a portion of those surfaces that would be tested to determine whether the premises are in compliance with the aforementioned regulations which are specific to a child occupied residence only and not applicable to a building of this type and use.

4 Limited Indoor Air Sampling

On September 29, 2011, EnviroScience performed limited air sampling of indoor environmental conditions within representative areas of the Prescott Building located in Lancaster, Massachusetts. The sampling was conducted by EnviroScience representative, Dustin A. Diedricksen, and included collection of (3) air samples for mold analysis. Two air samples were collected from representative areas within the building; these areas included the basement classroom 1B and the boiler room. One background air sample was collected for comparison on the first floor in Classroom 4. At the time of the assessment, visible mold was observed within basement classrooms on wall surfaces, with standing water present and musty odor in the boiler room.

Air-dispersed fungal particles are commonly found in indoor and outdoor environments. The particles can include spores (air-disseminated "seeds" of fungi), yeasts, and other particles. The particles of many fungi can produce allergic reactions in susceptible members of the population. More rarely, some fungi have been found to be human pathogens (i.e. organisms capable of producing disease or aggravating existing disease) and to produce mycotoxins. The spores of these fungi may become a respiratory threat to susceptible individuals and/or generate other forms of infection.

Air samples were collected by means of Air-O-Cell™ air sampling cassettes attached to calibrated vacuum pumps and analyzed by method M001 by Massachusetts certified laboratory, EMSL Analytical, Inc of New York, New York. This method of detection enables the rapid collection and analysis of fungal spores. Air enters the cassette, the fungal spores become impacted on the sampling substrate, and the air leaves through the exit orifice. The cassette distributes and deposits fungal spores equally on a glass slide contained within the cassette. The cassette is designed to operate at a recommended flow rate of 15 liters per minute for a total of 10 minutes within an indoor environment with no visible dust.

4.1 Results

Summary of air sample results including mold/fungi type are summarized in Table 6. All analyses were conducted by EMSL Analytical, Inc. of New York, New York, which is an AIHA accredited laboratory for analysis of molds/fungi. Laboratory analytical results are included in *Appendix F.*

Table 6
Air Sample Analytical Results – September 29, 2011

Sample No.	Location	Sample Type	Type of Mold/Fungi	Result Total Count/m³
929DD-01	Basement Classroom 1B	Air-O-Cell	*Ascospores*	506
			Aspergillus/Penicillium	886
			Basidiospores	23,800
			Cladosporium	106
			Ganoderma	42
			Myxomycetes++	42
			Pithomyces	21
			Rust	7
			Cercospora	21
			Paecilomyces	106
			Hyphal Fragment	21
			Pollen	42
			Total Fungi	25,500

Sample No.	Location	Sample Type	Type of Mold/Fungi	Result Total Count/m³
929DD-02	Boiler Room	Air-O-Cell	*Alternaria* *Ascospores* *Aspergillus/Penicillium* ***Basidiospores*** *Cladosporium* *Ganoderma* *Myxomycetes++* *Pithomyces* *Insect Fragments* *Pollen* Total Fungi	42 1,710 20,400 52,300 1,200 253 232 63 253 21 76,200
929DD-03	Control 1st Floor Classroom 4	Air-O-Cell	*Ascospores* *Aspergillus/Penicillium* ***Basidiospores*** *Cladosporium* *Ganoderma* *Myxomycetes++* *Insect Fragments* Total Fungi	1,250 3,230 53,200 823 127 21 7 58,700

Note: Mold/Fungi Type in bold text is dominant specie.

The results indicate that there are elevated mold concentrations in the building at the limited locations that were sampled. Note the control sample was collected interior to the building due to heavy rain at the time of the assessment; an exterior sample could not be collected as representative of normal ambient-air conditions. The control may be higher than (normal) ambient exterior conditions, but was collected in an area where no visible mold was observed. Visible mold was present in the basement, as well as standing water in the boiler room. The air sample results support the visible observations with elevated concentrations of mold in the boiler room.

The present findings can be factored into an overall plan for the building. It is anticipated that any proposed renovation work would address current conditions of water intrusion, and that cleaning of surfaces or replacement would occur as part of any renovations. The building is currently not occupied and planned use is currently not known at this time.

Mold conditions change over time, and with additional water intrusion may worsen over time. The testing conducted was a limited sampling of representative locations only.

5 Bulk Sample Analysis – Polychlorinated Biphenyls (PCBs)

5.1 Background

Sampling of building materials for polychlorinated biphenyls (PCBs) is presently not mandated by the USEPA. However, significant liability risk for improperly disposing of a PCB containing waste material exists. Recent knowledge and awareness of PCBs within matrices such as caulking, glazing compounds, paints, adhesives and ceiling tiles has become more prevalent especially amongst remediation contractors, waste haulers, and disposal facilities.

Many property owners have become subject to large changes in schedule, scope, and costs as a result of failure to identify these possible contaminants prior to renovation or demolition. This information will serve as useful to significant impact and potential requirements for planning required by the USEPA which must be implemented if PCBs are identified at a project site.

The USEPA requirements apply and require removal of PCBs once identified regardless of project intent as an unauthorized use of PCBs. In other words, if buildings are to remain for re-use and PCBs are identified, the USEPA still requires removal of the PCB materials once it is determined that PCBs are present. In addition to identification of source materials containing PCBs, if PCBs are present at certain concentrations, additional testing of adjacent surfaces in contact with PCB sources or which may have been contaminated from a source of PCBs (e.g. soil) must also be performed or remediated.

USEPA requirements apply only if PCBs are present in concentrations above a specified level. Presently materials containing PCBs at concentrations equal to or greater than (≥) 50 parts per million (ppm) or equivalent units of milligrams per kilogram (mg/kg) are regulated. Note materials containing less than (<) 50 ppm may also be regulated unless proven to be an "Excluded PCB Product". The definition of an Excluded PCB Product includes those products or source of the products containing <50 ppm concentration PCBs that were legally manufactured, processed, distributed in commerce, or used before October 1, 1984.

5.2 Sampling

PCB sampling of source materials was not performed as part of this hazardous materials inspection, but can be completed upon request once a specific scope of work is known (e.g. window replacement).

6 Waste Characterization for Ash

6.1 Sampling

On September 29, 2011, EnviroScience's representative, Dustin A. Diedricksen, collected a representative sample of fly ash material from the boiler ash dump accessible from the boiler room.

The sample collected was analyzed by Con-Test Analytical Laboratory of East Longmeadow, MA, which is a certified laboratory in Massachusetts MA0100. The sample was analyzed for waste characterization utilizing TCLP parameters including RCRA 5 metals (SW-846), semi-volatile organic compounds, and PCBs. In addition, Reactivity, Ignitability, and Corrosivity parameters were analyzed.

6.2 Results

In total, one composite fly ash sample was collected and analyzed by the laboratory. The Resource Conservation and Recovery Act (RCRA) and MADEP define toxic concentrations of certain substances or contaminants.

Table 7
Waste Characterization Analysis TCLP

SAMPLED LOCATION	MATERIAL TYPE	SAMPLE NO.	RESULT
Chimney Stack (Ash Dump Door)	Composite Fly Ash	929DD-FA-01	Non-Hazardous Waste

6.3 Conclusion

The analyzed sample was compared to the RCRA regulations for waste disposal and was determined to be non-hazardous waste for disposal purposes based on the analysis criteria. The waste material within the chimney stack should be removed and segregated for proper disposal at a Treatment Storage and/or Disposal Facility. The laboratory results supporting the findings are attached in *Appendix G*.

7 Fluorescent Light Ballasts and Mercury-Containing Equipment

7.1 Fluorescent Light Ballasts

Fluorescent light ballasts manufactured prior to 1979 may contain capacitors that contain PCBs. Ballasts installed as late as 1985 may contain PCB capacitors. Fluorescent light ballasts that are not labeled as "No-PCBs" must be assumed to contain PCBs unless proven otherwise by quantitative analytical testing. Capacitors in fluorescent light ballasts labeled as non-PCB containing may contain diethylhexl phthalate (DEHP). DEHP was the primary substitute to replace PCBs for small capacitors in fluorescent lighting ballasts in use until 1991. DEHP is a toxic substance, a suspected carcinogen and is listed under RCRA and the Superfund law as a hazardous waste. Therefore, Superfund liability exists for land filling both PCB and DEHP containing light ballasts. These listed materials are considered hazardous waste under RCRA and require special handling and disposal requirements.

EnviroScience performed an inspection of representative fluorescent light fixtures to identify possible PCB or DEHP containing ballasts. The inspection was completed on September 16, 2011 and involved visually inspecting labels on representative light ballasts to identify dates of manufacture and labels indicating "No PCB's". Ballasts manufactured after 1991 were not listed as a PCB or DEHP containing ballast and not quantified for disposal. All those ballasts without a label indicating "No PCB's" are presumed to be PCB waste and must be segregated for proper removal, packaging, transport and disposal as PCB waste. All those ballasts with date labels indicating manufacture prior to 1991 which indicate "No PCB's" are presumed to contain DEHP and must be segregated for proper removal, packaging, transport and disposal as non-PCB hazardous waste. The disposal requirements are slightly varied and costs are slightly less for DEHP than PCB containing light ballasts. Quantities of ballasts can be found in Table 8.

Fluorescent lamps are presumed to contain mercury vapor which is a hazardous substance to both human health and the environment. Mercury lamps according to the USEPA are considered a Universal Waste requiring all fluorescent lamps to be recycled or disposed of as hazardous waste. Mercury-containing lamps associated with fluorescent light fixtures were observed in the building. Any suspect mercury, not identified in this survey, discovered during any proposed renovation or demolition should be properly removed for disposal and/or recycling. Table 9 identifies the estimated quantities of mercury containing lamps.

Table 8
Lighting-Fixture Ballast Quantities

BALLAST TYPE	BALLAST QUANTITY
PCB	4
No PCB, Date After 1991	0
No PCB, No Date	91
Total	95

Table 9
Fluorescent Lamp Quantities

FLUORESCENT BULB LENGTH	FLUORESCENT BULB QUANTITY
2'	0
4'	206
8'	0
Total	206

7.2 Mercury-Containing Equipment

Thermostatic controls and electrical switch gear may contain a vial or bulb of mercury associated with the control. Mercury containing equipment is regulated for proper disposal by the USEP, RCRA hazardous waste regulations. On September 16, 2011, EnviroScience representative, Dustin A. Diedricksen, performed an inventory of mercury thermometers and mercury switches. These fixtures were inventoried in-place.

Any suspect mercury, not identified in this survey, discovered during any proposed renovation or demolition should be properly removed for disposal and/or recycling. Table 10 identifies thermostats as determined during the inspection of representative fixtures.

Table 10
Mercury-Containing Equipment Locations and Quantities

LOCATION	TYPE	QUANTITY
Boiler Room	Hg Switch	2
Boiler Room at Burner	Hg Vial	1
1st Floor Hall	Hg Thermostat	1

We have included an estimated cost of probably construction cost for hazardous materials abatement in *Appendix H*.

Report prepared by Project Manager, Dustin A. Diedricksen.

Reviewed by:

Robert L. May, Jr.
Vice President

Stephen W. Connelly
Senior Vice President

Appendix A

Inspector Licenses and Certifications

Commonwealth of Massachusetts

Department of Labor Standards

Heather E. Rowe, Acting Director

Asbestos Inspector

DUSTIN A. DIEDRICKSEN

Eff. Date 04/28/11

Exp. Date 04/26/12

AI041867

Member of C.O.N.E.S.

NB

12

NB-RENEWAL

Commonwealth of Massachusetts

Division of Occupational Safety

Heather E. Rowe, Acting Commissioner

Asbestos Inspector

JONATHAN L. HAND

Eff. Date 03/09/11
Exp. Date 03/07/12
AI041945
Member of C.O.N.E.S.
HV

12

HV - RENEW

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Customer PO:
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EMSL Order: 131105193

EMSL Proj:
Analysis Date: 10/28/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
916DD-01A *131105193-0001*	Classroom #4 - Tan W/Brown Streaks 9x9 Floor Tile	Tan Non-Fibrous Homogeneous			95%	Non-fibrous (other)	**5% Chrysotile**
916DD-01B *131105193-0002*	Classroom #10 - Tan W/Brown Streaks 9x9 Floor Tile						**Stop Positive (Not Analyzed)**
916DD-02A *131105193-0003*	Classroom #4 - Black Paper Mastic	Black Fibrous Heterogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**
916DD-02B *131105193-0004*	Classroom #1 - Black Paper Mastic	Black Fibrous Homogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**
916DD-04A *131105193-0005*	Main Foyer/Hallway - White W/Brown Streaks 12x12 Floor Tile	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
916DD-04B *131105193-0006*	Main Foyer/Hallway - White W/Brown Streaks 12x12 Floor Tile	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

Initial report from 10/28/2011 13:15:28

Analyst(s)

Kevin Pine (49)
Steve Grise (44)

Renaldo Drakes, Laboratory Manager
or other approved signatory

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
916DD-05A *131105193-0007*	Main Foyer/Hallway - Yellow Adhesive A/W White W/Brown Streaks 12x12 FT	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
916DD-05B *131105193-0008*	Main Foyer/Hallway - Yellow Adhesive A/W White W/Brown Streaks 12x12 FT	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-06A *131105193-0009*	1st Floor Main Hall - Brown Residual (Lower) Wall Mastic	Brown Non-Fibrous Homogeneous		95% Non-fibrous (other)	**5% Chrysotile**
1014DD-06B *131105193-0010*	2nd Floor Main Hall - Brown Residual (Lower) Wall Mastic				**Stop Positive (Not Analyzed)**
1014DD-07A *131105193-0011*	oiler #1 Interior - Boiler AJH/Debris	Brown Fibrous Homogeneous		100% Non-fibrous (other)	**<1% Chrysotile**

Numerous fibers were found with refractive indices outside the normal range for regulated asbestos. These fibers possibly altered asbestos fibers and were not included in the sample concentration.

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Analyst(s)

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-07B *131105193-0012*	oiler #2 Interior - Boiler AJH/Debris	Brown Fibrous Homogeneous		100% Non-fibrous (other)	**<1% Chrysotile**
			Numerous fibers were found with refractive indices outside the normal range for regulated asbestos. These fibers : possibly altered asbestos fibers and were not included in the sample concentration.		
1014DD-07C *131105193-0013*	Ash Dump - Boiler AJH/Debris	Brown Non-Fibrous Heterogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-08A *131105193-0014*	Boiler Unit 5 (x2) - Tan Friable TSI Boiler Jacket	Tan Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (other)	**None Detected**
1014DD-08B *131105193-0015*	Boiler Unit 5 (x2) - Tan Friable TSI Boiler Jacket	Tan Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (other)	**None Detected**
1014DD-08C *131105193-0016*	Boiler Unit 5 (x2) - Tan Friable TSI Boiler Jacket	Tan Fibrous Homogeneous	10% Cellulose 10% Min. Wool	80% Non-fibrous (other)	**None Detected**
1014DD-09A *131105193-0017*	Boiler 1 (only) - White Rope/Fibrous Gasket @ Front Circular Panel	Tan Fibrous Homogeneous	95% Glass	5% Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1014DD-09B *131105193-0018*	Boiler 1 (only) - White Rope/Fibrous Gasket @ Front Circular Panel	Tan Fibrous Homogeneous	95%	Glass	5%	Non-fibrous (other)	**None Detected**
1014DD-10A *131105193-0019*	Boiler Room - Gaskets A/W Large Duct Breeching	Brown Fibrous Homogeneous			30%	Non-fibrous (other)	**70% Chrysotile**
1014DD-10B *131105193-0020*	Boiler Room - Gaskets A/W Large Duct Breeching						**Stop Positive (Not Analyzed)**
1014DD-11A *131105193-0021*	Boiler Unit 5 (x2) - Brown Boiler Rib Sealant	Brown Fibrous Homogeneous			40%	Non-fibrous (other)	**60% Chrysotile**
1014DD-11B *131105193-0022*	Boiler Unit 5 (x2) - Brown Boiler Rib Sealant						**Stop Positive (Not Analyzed)**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1014DD-12A *131105193-0023*	Boiler Room - Gaskets Associated With Small Duct Breeching Split @ Each Boiler	Red Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-12B *131105193-0024*	Boiler Room - Gaskets Associated With Small Duct Breeching Split @ Each Boiler	Red Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-13A *131105193-0025*	Boiler #2 - Red Seam Sealant @ Front Panel	Red Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-13B *131105193-0026*	Boiler #2 - Red Seam Sealant @ Front Panel	Red Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-14A *131105193-0027*	Boiler Room Stair Landing - Yellow & Brown Linoleum Flooring	Tan Fibrous Heterogeneous	30%	Cellulose	70%	Non-fibrous (other)	**None Detected**

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Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none dete require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express \ approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Ir and use of test results are the responsibility of the client.Samples received in good condition unless otherwise noted. Estimated accuracy, precision and uncertainty data available a upong request.
Samples analyzed by EMSL Analytical, Inc. Woburn, MA NVLAP Lab Code 101147-0, CT PH-0315, MA AA000188, RI AAL-107T3 and VT AL357102

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1014DD-14B *131105193-0028*	Boiler Room Stair Landing - Yellow & Brown Linoleum Flooring	Tan Fibrous Homogeneous	30%	Cellulose	70%	Non-fibrous (other)	**None Detected**
1014DD-15A *131105193-0029*	Boiler Room Stair Landing - Tan Mastic A/W Yellow & Brown Linoleum Flooring	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-15B *131105193-0030*	Boiler Room Stair Landing - Tan Mastic A/W Yellow & Brown Linoleum Flooring	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-16A *131105193-0031*	Boiler Unit 5 (x2) (#1) - Cementitious Troweled Sealant @ Front Panels	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-16B *131105193-0032*	Boiler Unit 5 (x2) (#2) - Cementitious Troweled Sealant @ Front Panels	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
1014DD-17A *131105193-0033*	Boiler room - Grey Penetration Sealant A/W Duct Breeching	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-17B *131105193-0034*	Boiler room - Grey Penetration Sealant A/W Duct Breeching	Gray Fibrous Heterogeneous	10%	Min. Wool	90%	Non-fibrous (other)	**<1% Chrysotile**
		Result is most likely due to contamination.					
1014DD-18A *131105193-0035*	Boiler room - Pipe Gaskets	Tan Fibrous Homogeneous			20%	Non-fibrous (other)	**80% Chrysotile**
1014DD-18B *131105193-0036*	Boiler room - Pipe Gaskets						**Stop Positive (Not Analyzed)**
1014DD-19A *131105193-0037*	Classroom 3 - Brown Glue Daubs A/W 16x16 Ceiling Tile	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-19B *131105193-0038*	Classroom 3 - Brown Glue Daubs A/W 16x16 Ceiling Tile	Brown Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

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Analyst(s)

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Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
1014DD-20A *131105193-0039*	Classroom 3 - 16x16 Square-On-Center Ceiling Tile	Tan Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
1014DD-20B *131105193-0040*	Classroom 3 - 16x16 Square-On-Center Ceiling Tile	Tan Fibrous Homogeneous	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
1014DD-21A *131105193-0041*	Classroom 4 - Lower-Wall Cloth	Tan/Green Fibrous Heterogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**
1014DD-21B *131105193-0042*	Classroom 10 - Lower-Wall Cloth	Tan Fibrous Homogeneous	60%	Cellulose	40%	Non-fibrous (other)	**None Detected**
1014DD-22A *131105193-0043*	Boiler room - Tan Pipe-Thread Sealant	Tan Non-Fibrous Homogeneous	<1%	Fibrous (other)	100%	Non-fibrous (other)	**None Detected**
			TEM analysis is recommended for this sample.				
1014DD-22B *131105193-0044*	Boiler room - Tan Pipe-Thread Sealant	Tan Non-Fibrous Homogeneous	<1%	Fibrous (other)	100%	Non-fibrous (other)	**None Detected**
			TEM analysis is recommended for this sample.				

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Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
1014DD-23A *131105193-0045*	Mechanical Chase @ 4B - AirCell Pipe Insulation	White Fibrous Homogeneous			30%	Non-fibrous (other)	**70% Chrysotile**
1014DD-23B *131105193-0046*	Mechanical Chase @ 1B - AirCell Pipe Insulation						**Stop Positive (Not Analyzed)**
1014DD-23C *131105193-0047*	Mechanical Chase @ Girl's Bathroom - AirCell Pipe Insulation						**Stop Positive (Not Analyzed)**
1014DD-25A *131105193-0048*	Classroom 4 - Drywall	Tan/White Fibrous Heterogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**
1014DD-25B *131105193-0049*	2nd Floor Bathroom - Drywall	Tan/White Fibrous Heterogeneous	10%	Cellulose	90%	Non-fibrous (other)	**None Detected**
1014DD-26A *131105193-0050*	Classroom 1 - Joint Compound	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-26B *131105193-0051*	2nd Floor Bathroom - Joint Compound	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-27A *131105193-0052*	Skylignts - Skylight Window Glazing Compound	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-27B *131105193-0053*	Skylignts - Skylight Window Glazing Compound	Tan Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-28A *131105193-0054*	Roof - Black Vent Mastic	Black Non-Fibrous Homogeneous		90% Non-fibrous (other)	**10% Chrysotile**
1014DD-28B *131105193-0055*	Roof - Black Vent Mastic				**Stop Positive (Not Analyzed)**
1014DD-29A *131105193-0056*	Classroom 2 - White Leveling Compound				**Stop Positive (Not Analyzed)**
1014DD-29B *131105193-0057*	Classroom 4B - White Leveling Compound				**Stop Positive (Not Analyzed)**

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Appendix B

Asbestos Sample Results and Chain of Custody

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-30A *131105193-0058*	Boiler Room - Grey Patch Ceiling Above Boiler-Troweled Rough	White Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-30B *131105193-0059*	Boiler Room - Grey Patch Ceiling Above Boiler-Troweled Rough	White Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-30C *131105193-0060*	Boiler Room - Grey Patch Ceiling Above Boiler-Troweled Rough	White Non-Fibrous Homogeneous	<1% Hair	100% Non-fibrous (other)	**None Detected**
1014DD-31A *131105193-0061*	Mechanical Room - Troweled Beige Ceiling Plaster	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**
1014DD-31B *131105193-0062*	Mechanical Room - Troweled Beige Ceiling Plaster	Gray Non-Fibrous Homogeneous	2% Cellulose	98% Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	**Description**	**Appearance**	**%**	**Fibrous**	**%**	**Non-Fibrous**	**% Type**
1014DD-31C *131105193-0063*	Mechanical Room - Troweled Beige Ceiling Plaster	Gray Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
1014DD-32A *131105193-0064*	Classroom 1B - Yellow Carpet Adhesive	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-32B *131105193-0065*	Classroom 9 (On 9x9Tile) - Yellow Carpet Adhesive	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-33A *131105193-0066*	Classroom 1 - Parge Cement On Brick(Concealed)	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-33B *131105193-0067*	Classroom 4 - Parge Cement On Brick(Concealed)	White Non-Fibrous Homogeneous	2%	Cellulose	98%	Non-fibrous (other)	**None Detected**
1014DD-34A *131105193-0068*	Office Exterior - Door Window Glazing Compound	White Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2% Chrysotile**
1014DD-34B *131105193-0069*	D-Side Entrance - Door Window Glazing Compound						**Stop Positive (Not Analyzed)**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-35A *131105193-0070*	D-Side Entrance - exterior Door Caulk (White	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-35B *131105193-0071*	D-Side Entrance - exterior Door Caulk (White	White Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-36A *131105193-0072*	Classroom 1B - Pegboard 1x1 Ceiling Tile	Tan/White Fibrous Heterogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
1014DD-36B *131105193-0073*	Classroom 4B - Pegboard 1x1 Ceiling Tile	Tan/White Fibrous Heterogeneous	80% Cellulose	20% Non-fibrous (other)	**None Detected**
1014DD-37A *131105193-0074*	Basement Stairs - Green Stone Linoleum Flooring (StairTread)	Gray/Green Fibrous Heterogeneous		75% Non-fibrous (other)	**25% Chrysotile**
1014DD-37B *131105193-0075*	Basement Stairs - Green Stone Linoleum Flooring (StairTread)				**Stop Positive (Not Analyzed)**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-38A *131105193-0076*	Stairwell 1st To 2nd - Grey Mottled 12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-38B *131105193-0077*	Stairwell 1st To 2nd - Grey Mottled 12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-39A *131105193-0078*	Basement Office - White Speck 12x12 Floor Tile				**Stop Positive (Not Analyzed)**
1014DD-39B *131105193-0079*	Basement Office - Grey/Tan 12x12 Floor Tile				**Stop Positive (Not Analyzed)**
1014DD-39C *131105193-0080*	Basement Office - Light Yellow 12x12 Floor Tile				**Stop Positive (Not Analyzed)**
1014DD-39D *131105193-0081*	Basement Office - Light Green Speck 12x12 Floor Tile				**Stop Positive (Not Analyzed)**

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Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
1014DD-40A *131105193-0082*	Basement Office - Yellow Mastic A/W MultiColored 12x12 Floor Tile						**Stop Positive (Not Analyzed)**
1014DD-40B *131105193-0083*	Basement Office - Yellow Mastic A/W MultiColored 12x12 Floor Tile						**Stop Positive (Not Analyzed)**
1014DD-41A *131105193-0084*	Classroom 4B - Brown Mastic (Top Layer) A/W 12x12 Floor Tile						**Stop Positive (Not Analyzed)**
1014DD-41B *131105193-0085*	Classroom 4B - Brown Mastic (Top Layer) A/W 12x12 Floor Tile						**Stop Positive (Not Analyzed)**
1014DD-42A *131105193-0086*	Classroom 2 Bathroom - 2x2 Textured & Dot Ceiling Tile	Gray/White Fibrous Heterogeneous	40% 40%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**
1014DD-42B *131105193-0087*	Classroom 2 Bathroom - 2x2 Textured & Dot Ceiling Tile	Gray/White Fibrous Heterogeneous	40% 40%	Cellulose Min. Wool	20%	Non-fibrous (other)	**None Detected**

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			Non-Asbestos				Asbestos
Sample	Description	Appearance	%	Fibrous	%	Non-Fibrous	% Type
1014DD-43A *131105193-0088*	Classroom 1B - Black Mastic	Black Non-Fibrous Homogeneous			90%	Non-fibrous (other)	**10% Chrysotile**
1014DD-43B *131105193-0089*	B-Side Stair Landing 1st To 2nd - Black Mastic						**Stop Positive (Not Analyzed)**
1014DD-43C *131105193-0090*	2nd Floor Hallway - Black Mastic						**Stop Positive (Not Analyzed)**
1014DD-44A *131105193-0091*	Stair Landing 1st To 2nd (B Side) - (B Side) Beige Vinyl Tile (Bottom Layer/Concealed)						**Stop Positive (Not Analyzed)**
1014DD-44B *131105193-0092*	Stair Landing 1st To 2nd (B Side) - (B Side) Beige Vinyl Tile (Bottom Layer/Concealed)						**Stop Positive (Not Analyzed)**
1014DD-45A *131105193-0093*	Classroom 4B - White W/Grey Specks 12x12 Floor Tile						**Stop Positive (Not Analyzed)**

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Sample	Description	Appearance	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
1014DD-45B *131105193-0094*	Classroom 4B - White W/Grey Specks 12x12 Floor Tile						**Stop Positive (Not Analyzed)**
1014DD-46A *131105193-0095*	Basement Office - Red 9x9 Floor Tile (Bottom Layer)						**Stop Positive (Not Analyzed)**
1014DD-46B *131105193-0096*	Basement Office - Red 9x9 Floor Tile (Bottom Layer)						**Stop Positive (Not Analyzed)**
1014DD-47A *131105193-0097*	Classroom 4B Closet - Brown With Red Streaks 9x9 Floor Tile (Checkered)						**Stop Positive (Not Analyzed)**
1014DD-47B *131105193-0098*	Classroom 1B - Grey W/Beige & Pink 9x9 Floor Tile (Checkered)						**Stop Positive (Not Analyzed)**
1014DD-48A *131105193-0099*	2nd Floor Hall (Bubbler) - Tan W/Brown Vinyl Floor Tile						**Stop Positive (Not Analyzed)**

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Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-48B *131105193-0100*	2nd Floor Hall (Bubbler) - Tan W/Brown Vinyl Floor Tile				**Stop Positive (Not Analyzed)**
1014DD-49A *131105193-0101*	Classroom 12 - Brown Wall Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-49B *131105193-0102*	Classroom 12 - Brown Wall Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-50A *131105193-0103*	2nd Floor Bathrooms - Grey 12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-50B *131105193-0104*	2nd Floor Bathrooms - Grey 12x12 Floor Tile	Gray Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**
1014DD-51A *131105193-0105*	2nd Floor Bathrooms - Yellow Mastic A/W Grey 12x12 FT	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (other)	**None Detected**

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Sample	Description	Appearance	%	Fibrous	%	Non-Fibrous	% Type
1014DD-51B *131105193-0106*	2nd Floor Bathrooms - Yellow Mastic A/W Grey 12x12 FT	Yellow Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-52A *131105193-0107*	Exterior - Boiler Room	White Non-Fibrous Homogeneous			98%	Non-fibrous (other)	**2% Chrysotile**
1014DD-52B *131105193-0108*	Exterior - Classroom 4						**Stop Positive (Not Analyzed)**
1014DD-52C *131105193-0109*	Exterior - Classroom 11						**Stop Positive (Not Analyzed)**
1014DD-53A *131105193-0110*	Exterior - Residual Window Caulk	Gray/White Non-Fibrous Heterogeneous			100%	Non-fibrous (other)	**None Detected**
1014DD-53B *131105193-0111*	Exterior - Residual Window Caulk	Gray Non-Fibrous Homogeneous			100%	Non-fibrous (other)	**None Detected**

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Customer ID: ENVI54
Customer PO:
Received: 10/25/11 9:41 AM
EMSL Order: 131105193
EMSL Proj:
Analysis Date: 10/28/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
1014DD-54A *131105193-0112*	Boiler Room c - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected
1014DD-54B *131105193-0113*	Classroom 1B c - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected
1014DD-54C *131105193-0114*	Classroom 2 c - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected
1014DD-54D *131105193-0115*	Classroom 4 - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected
1014DD-54E *131105193-0116*	Basement Boy's Bathroom c - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected
1014DD-54F *131105193-0117*	Classroom 9 - Skim Plaster	Gray Fibrous Homogeneous	15%	Hair	85%	Non-fibrous (other)	None Detected
1014DD-54G *131105193-0118*	Boiler Room - Skim Plaster	White Non-Fibrous Homogeneous			100%	Non-fibrous (other)	None Detected

Initial report from 10/28/2011 13:15:28

Analyst(s)

Kevin Pine (49)
Steve Grise (44)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469
Project: **20111069.A1E, Menders, Torrey & Spencer**

Customer ID: ENVI54
Customer PO:
Received: 10/25/11 9:41 AM
EMSL Order: 131105193
EMSL Proj:
Analysis Date: 10/28/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
1014DD-55A *131105193-0119*	Boiler Room - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-55B *131105193-0120*	Classroom 1B - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-55C *131105193-0121*	Classroom 2 - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-55D *131105193-0122*	Classroom 4 - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	2% Hair	98% Non-fibrous (other)	**None Detected**
1014DD-55E *131105193-0123*	Basement Boy's BR - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	5% Hair	95% Non-fibrous (other)	**None Detected**
1014DD-55F *131105193-0124*	Classroom 9 - Rough Horse Hair Plaster	Gray Fibrous Homogeneous	10% Hair	90% Non-fibrous (other)	**None Detected**
1014DD-55G *131105193-0125*	Boiler Room - Rough Horse Hair Plaster	White Fibrous Homogeneous	10% Hair	90% Non-fibrous (other)	**None Detected**

Initial report from 10/28/2011 13:15:28

Analyst(s)

Kevin Pine (49)
Steve Grise (44)

Renaldo Drakes, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469
Project: **20111069.A1E, Menders, Torrey & Spencer**

Customer ID: ENVI54
Customer PO:
Received: 10/25/11 9:41 AM
EMSL Order: 131105193
EMSL Proj:
Analysis Date: 10/28/2011

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
1014DD-56A *131105193-0126*	Mechanical Room - Plaster Backerboard (Concealed Ceiling)	Gray/Tan Fibrous Heterogeneous	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**
1014DD-56B *131105193-0127*	Mechanical Room - Plaster Backerboard (Concealed Ceiling)	Gray/Tan Fibrous Heterogeneous	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**

Initial report from 10/28/2011 13:15:28

Analyst(s)

Kevin Pine (49)
Steve Grise (44)

Renaldo Drakes, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
① 916DD-01A	CLASSROOM #4	TAN W/ BROWN STREAKS 9x9 FLOOR TILE	
② -01B	CLASSROOM 10	↓	
~~	~~~~	~~~~	~~~~
3 916DD-02A	CLASSROOM #4	BLACK PAPER MASTIC	
4 -02B	CLASSROOM 1	↓	
~~	~~~~	~~~~	~~~~
~~916DD-03A~~	~~CLASSROOM #4~~	~~PAPER CEMENT~~	
~~-03B~~			
~~-03C~~			
√5 916DD-04A	MAIN FOYER/HALLWAY	WHITE W/ BROWN STREAKS 12x12 FLOOR TILE	
6 -04B	↓	↓	

Analysis Method: ☒ PLM ☐ Other Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: ★ ~~Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated.~~ NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ] [A.D.] **Date:** [ ] [9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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BY: [signature] @ 9:41 AM

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★ READ SAMPLES -43A -43B & 43C (BLACK MASTIC) BEFORE HIGHLIGHTED SAMPLES. IF BLACK MASTIC IS POSITIVE DO NOT READ HIGHLIGHTED FLOORING SAMPLES.

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 2011069.AIE

Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
7 916DD-05A	~~Yello~~ MAIN FOYER/HALLWAY	YELLOW ADHESIVE A/W WHITE w/ BROWN STREAKS 12x12 FLOOR TILE	
8 -05B	↓		
~~			
~~			
9 1014DD-06A	1ST FLOOR MAIN HALL	BROWN RESIDUAL (LOWER) WALL MASTIC	
10 -06B	2ND FLOOR MAIN HALL	↓	
11 1014DD-07A	BOILER #1 INTERIOR	BOILER ASH/DEBRIS	3
12 -07B	BOILER #2 INTERIOR	↓	
13 -07C	ASH DUMP		
14 1014DD-08A	BOILER UNITS (x2)	TAN FRIABLE TSI BOILER JACKET	9
15 -08B	↓	↓	
16 -08C			

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 3 of 12

Project Name: MENDERS, TORREY & SPENCER — Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA — Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
17	1014DD-09A	BOILER 1 (ONLY)	WHITE ROPE/FIBROUS GASKET AT FRONT CIRCULAR PANEL	3 SF (10)
18	-09B	↓	↓	
19	1014DD-10A	BOILER ROOM	GASKETS A/W LARGE DUCT BREECHING	5 EA (6) (2'x2 1/2')
20	-10B	↓	↓	
21	1014DD-11A	BOILER UNITS (#2)	BROWN BOILER RIB SEALANT	(8)
22	-11B	↓	↓	
23	1014DD-12A	BOILER ROOM	GASKETS ASSOCIATED WITH SMALL DUCT BREECHING SPLIT AT EACH BOILER (16"x16") (4 EA)	(7)
24	-12B	↓	↓	
25	1014DD-13A	BOILER ~~UNIT~~ #2	RED SEAM SEALANT AT FRONT PANEL	5 LF (10 LF ALLOWANCE) (12)
26	-13B	↓	↓	
27	1014DD-14A	BOILER ROOM STAIR LANDING	YELLOW + BROWN LINOLEUM FLOORING	(25 SF)
28	-14B	↓	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ] [A.D.] **Date:** [ ] [9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 4 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
29	1014DD-15A	BOILER ROOM STAIR LANDING	TAN MASTIC A/W YELLOW + BROWN LINO. FLOORING	
30	-15B	↓	↓	
31	1014DD-16A	BOILER UNITS (x2) (#1)	CEMENTITIOUS TROWELED SEALANT AT FRONT PANELS	(6 SF TOTAL)
32	-16B	↓ (#2)		
33	1014DD-17A	BOILER ROOM	GREY PENETRATION SEALANT A/W DUCT BREECHING	(12 SF)
34	-17B	↓		
35	1014DD-18A	BOILER ROOM	PIPE GASKETS	(30-40 EA)
36	-18B	↓	↓	
37	1014DD-19A	CLASSROOM 3	BROWN GLUE DAUBS A/W 16x16 CEILING TILE	
38	-19B	↓	↓	
39	1014DD-20A	CLASSROOM 3	16x16 SQUARE-ON-CENTER CEILING TILE	
40	20B	↓	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 Hour

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd][Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 5 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
41	1014DD-21A	CLASSROOM 4	LOWER-WALL CLOTH	
42	-21B	CLASSROOM 10	LOWER-WALL CLOTH	
43	1014DD-22A	BOILER ROOM	TAN PIPE-THREAD SEALANT (300 LF)	
44	-22B	↓	↓	
45	1014DD-23A	MECHANICAL CHASE @ 4B	AIRCELL PIPE INSULATION	
46	-23B	MECHANICAL CHASE @ 1B		
47	-23C	MECHANICAL CHASE @ GIRL'S BATHROOM	↓	
	~~1014DD-24A~~	~~MECHANICAL CHASE @ 1B~~	~~MUDDED FITTINGS A/W AIRCELL~~	
	~~-24B~~			
	~~-24C~~	↓	↓	
48	1014DD-25A	CLASSROOM 4	DRYWALL	
49	-25B	2ND FLOOR BATHROOM	↓	

Analysis Method: ☒ PLM ☐ Other   Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 6 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

DO NOT RUN SAMPLES IF BLACK MASTIC IS POSITIVE (-43A-C)

Sample ID	Sample Location	Material	Result (%)
50 1014 DD-26A	CLASSROOM 1	JOINT COMPOUND	
51 -26B	2ND FLOOR BATHROOM	↓	
52 1014DD -27A	SKYLIGHTS	SKYLIGHT WINDOW GLAZING	72LF + 77LF
53 -27B	↓	↓ COMPOUND	
54 1014DD-28A	ROOF	BLACK VENT MASTIC	150SF
55 28B	↓	↓	
56 1014DD-29A	CLASSROOM 2	WHITE LEVELING COMPOUND	
57 -29B	CLASSROOM 4B	↓	
58 1014DD-30A	BOILER ROOM	GREY PATCH CEILING ABOVE	
59 -30B		BOILER - TROWELED ROUGH (300SF)	
60 -30C	↓	↓	
61 1014DD-31A	MECHANICAL ROOM	TROWELED BEIGE CEILING PLASTER	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd][Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 7 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
62 -31B	↓	↓	
63 -31C	↓	↓	
64 1014DD-32A	CLASSROOM 1B	YELLOW CARPET ADHESIVE	
65 -32B	CLASSROOM 9 (ON 9x9 TILE)	↓	
66 1014DD-33A	CLASSROOM 1	PARGE CEMENT ON BRICK (CONCEALED)	
67 -33B	CLASSROOM 4	↓	
68 1014DD-34A	OFFICE EXTERIOR	DOOR WINDOW GLAZING	
69 -34B	A-SIDE ENTRANCE	↓ COMPOUND	
70 1014DD-35A	A-SIDE ENTRANCE	EXTERIOR DOOR CAULK (WHITE)	
71 -35B	↓	↓	
72 1014DD-36A	CLASSROOM 1B	PEGBOARD 1x1 CEILING TILE	
73 -36B	CLASSROOM 4B	↓	

Analysis Method: ☒ PLM ☐ Other Turnaround Time 48 Hour

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 8 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
74	1014DD-37A	BASEMENT STAIRS	GREEN STONE LINOLEUM FLOORING (STAIR TREAD)	
75	-37B	↓	↓	
76	1014DD-38A	STAIRWELL 1ST TO 2ND	GREY MOTTLED 12x12 FLOOR TILE	
77	-38B	↓	↓	
78	1014DD-39A	BASEMENT OFFICE	WHITE SPECK 12x12 FLOOR TILE	
79	-39B		GREY/TAN 12x12 FLOOR TILE	
80	-39C		LIGHT YELLOW 12x12 FLOOR TILE	
81	-39D	↓	LIGHT GREEN SPECK 12x12 FLOOR TILE	
82	1014DD-40A	BASEMENT OFFICE	YELLOW MASTIC A/W MULTICOLORED 12x12 FLOOR TILE	
83	-40B	↓	↓	
84	1014DD-41A	CLASSROOM 4B	BROWN MASTIC (TOP LAYER) A/W 12x12 FLOOR TILE	
85	-41B	↓	↓	

Analysis Method: ☒ PLM ☐ Other   Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

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Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 9 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE
Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
86	1014DD-42A	CLASSROOM 2 BATHROOM	2x2 TEXTURED + DOT CEILING TILE	
87	-42B	↓	↓	
88	1014DD-43A	CLASSROOM 1B	BLACK MASTIC	
89	-43B	B-SIDE STAIR LANDING 1ST TO 2ND	↓	
90	-43C	2ND FLOOR HALLWAY	↓	
91	1014DD-44A	STAIR LANDING 1ST TO 2ND (B SIDE)	BEIGE VINYL TILE (BOTTOM LAYER/CONCEALED)	
92	-44B	↓	↓	
93	1014DD-45A	CLASSROOM 4B	WHITE W/ GREY SPECKS 12x12 FLOOR TILE	
94	-45B	↓	↓	
95	1014DD-46A	BASEMENT OFFICE	RED 9x9 FLOOR TILE (BOTTOM LAYER)	
96	-46B	↓	↓	
97	1014DD-47A	~~BASEMENT~~ CLASSROOM 4B CLOSET	BROWN WITH RED STREAKS 9x9 FLOOR TILE CHECKERED	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ] [A.D.] **Date:** [ ] [9/19/11] **Time:**

Samples Received by: **Date:** **Time:**

Shipped To: ☒ EMSL State MA ☐ Other

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 10 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
98 -47B	CLASSROOM 1B	GREY W/ BEIGE + PINK 9X9 FLOOR (CHECKER	
99 1014DD-48A	2ND FLOOR HALL (BUBBLER)	TAN W/ BROWN VINYL FLOOR TILE	
~~99~~ 100 -48B	↓	↓	
101 1014DD-49A	CLASSROOM 12	BROWN WALL MASTIC (50 SF)	
02 -49B	↓	↓	
03 1014DD-50A	2ND FLOOR BATHROOMS	GREY 12X12 FLOOR TILE	
04 -50B	↓	↓	
05 1014DD-51A		YELLOW MASTIC A/W GREY 12X12 FT	
06 -51B	↓	↓	
07 1014DD-52A	EXTERIOR	BOILER ROOM	
08 -52B	↓	CLASSROOM 4	
09 -52C	↓	CLASSROOM 11	

*SEPARATE MASTIC

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228. * SEPARATE MASTIC

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd][Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 11 of 17

Project Name: MENDERS, TORREY & SPENCER   Project No. 20110069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
110	1014DD-53A	EXTERIOR	RESIDUAL WINDOW CAULK	
11	-53B	↓		
12	1014DD-54A	BOILER ROOM (C)	SKIM PLASTER	
13	-54B	CLASSROOM 1B (C)		
14	-54C	CLASSROOM 2 (C)		
15	-54D	CLASSROOM 4		
16	-54E	BASEMENT BOY'S BATHROOM (C)		
17	-54F	CLASSROOM 9		
18	-54G	BOILER ROOM	↓	
19	1014DD-55A	BOILER ROOM	ROUGH HORSE HAIR PLASTER	
20	-55B	CLASSROOM 1B		
21	-55C	CLASSROOM 2	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd][Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 12 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
122 -55D	CLASSROOM 4	↓	
123 -55E	BASEMENT BOY'S BR		
124 -55F	CLASSROOM 9		
125 -55G	BOILER ROOM	↓	
126 101411DD-56A	MECHANICAL ROOM	PLASTER BACKERBOARD (CONCEALED)	CEILING
127 -56B	↓	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

Special Instruction: NO POINT COUNTING. SEE 1ST PAGE.

Samples collected by: A.D. + J.K. **Date:** 10/14/11 **Time:** PM

Samples [Rec'd] [Sent by] [ ][D.D.] **Date:** [ ][~~10/14/11~~ 10/21/11] **Time:** PM

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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130 SAMPLES

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Appendix C

TEM Laboratory Analysis Results

EMSL Analytical, Inc.
7 Constitution Way, Suite 107, Woburn, MA 01801
Phone: (781) 933-8411 Fax: (781) 933-8412 Email: bostonlab@emsl.com

Attn: **Dustin Diedricksen**
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

Fax: (888) 838-1160 Phone: (860) 646-2469
Project: **20111069.A1E, Menders, Torrey & Spencer**

Customer ID: ENVI54
Customer PO:
Received: 10/25/11 9:41 AM
EMSL Order: 131105193
EMSL Proj:
Analysis Date: 11/3/2011

Test Report: Asbestos Analysis of Non-Friable Organically Bound Materials by TEM via EPA/600/R-93/116 Section 2.5.5.1

SAMPLE ID	DESCRIPTION	APPEARANCE	% MATRIX MATERIAL	% NON-ASBESTOS FIBERS	ASBESTOS TYPES
916DD-04A *131105193-0005*	Main Foyer/Hallway - White W/Brown Streaks 12x12 Floor Tile	White Non-Fibrous Homogeneous	100	None	No Asbestos Detected
1014DD-15A *131105193-0029*	Boiler Room Stair Landing - Tan Mastic A/W Yellow & Brown Linoleum Flooring	Yellow Non-Fibrous Homogeneous	100	None	No Asbestos Detected
1014DD-17B *131105193-0034*	Boiler room - Grey Penetration Sealant A/W Duct Breeching	Gray Non-Fibrous Homogeneous	98.5	None	1.5% Chrysotile
1014DD-19A *131105193-0037*	Classroom 3 - Brown Glue Daubs A/W 16x16 Ceiling Tile	Brown Non-Fibrous Homogeneous	100	None	No Asbestos Detected

Initial report from 10/28/2011 13:15:28

Analyst(s)

Renaldo Drakes (4)

Renaldo Drakes, Laboratory Manager
or other approved signatory

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 1 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
(1) 916DD-01A	CLASSROOM #4	TAN w/ BROWN STREAKS 9x9 FLOOR TILE	
(2) -01B	CLASSROOM 10	↓	
3 916DD-02A	CLASSROOM #4	BLACK PAPER MASTIC	
4 -02B	CLASSROOM 1	↓	
~~916DD-03A~~	~~CLASSROOM #4~~	~~PAPER CEMENT~~	
~~-03B~~			
~~-03C~~			
5 916DD-04A	MAIN FOYER/HALLWAY	WHITE w/ BROWN STREAKS 12x12 FLOOR TILE	
6 -04B	↓	↓	

Analysis Method: ☒ PLM ☐ Other   Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN   Date: 9/16/11   Time: AM

Samples [Rec'd][Sent by] [ ][A.D.] Date: [ ][9/19/11] Time: ________

Samples Received by: ________ Date: ________ Time: ________

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Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other FEDEX 7966 8121 0506

BY: [illegible] @ 9:41 AM

★ READ SAMPLES -43A -43B & 43C (BLACK MASTIC) BEFORE HIGHLIGHTED SAMPLES. IF BLACK MASTIC IS POSITIVE DO NOT READ HIGHLIGHTED FLOORING SAMPLES.

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 2 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
7 916DD-05A	~~Yell~~ MAIN FOYER/HALLWAY	YELLOW ADHESIVE A/W WHITE w/ BROWN STREAKS 12x12 FLOOR TILE	
8 -05B	↓		
9 1014DD-06A	1ST FLOOR MAIN HALL	BROWN RESIDUAL (LOWER) WALL MASTIC	
10 -06B	2ND FLOOR MAIN HALL	↓	
11 1014DD-07A	BOILER #1 INTERIOR	BOILER ASH/DEBRIS	3
12 -07B	BOILER #2 INTERIOR		
13 -07C	ASH DUMP	↓	
14 1014DD-08A	BOILER UNITS (x2)	TAN FRIABLE TSI BOILER JACKET	9
15 -08B			
16 -08C	↓	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

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Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ][A.D.] Date: [ ][9/19/11] Time:

Samples Received by: ______ Date: ______ Time: ______

Shipped To: ☒ EMSL State MA ☐ Other

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 3 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)	
17	1014DD-09A	BOILER 1 (ONLY)	WHITE ROPE/FIBROUS GASKET AT FRONT CIRCULAR PANEL		3 SF 10
18	-09B	↓	↓		
19	1014DD-10A	BOILER ROOM	GASKETS A/W LARGE DUCT BREECHING	5 EA (2'x2 1/2')	6
20	-10B	↓	↓		
21	1014DD-11A	BOILER UNITS (#2)	BROWN BOILER RIB SEALANT		5
22	-11B	↓	↓		
23	1014DD-12A	BOILER ROOM	~~GASKETS~~ ASSOCIATED WITH SMALL DUCT BREECHING SPLIT AT EACH BOILER (16"x16") (4 EA)		7
24	-12B	↓	↓		
25	1014DD-13A	BOILER ~~UNIT~~ #2	RED SEAM SEALANT AT FRONT PANEL	5 LF (10 LF ALLOWANCE)	12
26	-13B	↓	↓		
27	1014DD-14A	BOILER ROOM STAIR LANDING	YELLOW + BROWN LINOLEUM FLOORING	(25 SF)	
28	-14B	↓	↓		

Analysis Method: ☒ PLM ☐ Other Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

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Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd][Sent by] [ ][A.D.] Date: [ ][9/19/11] Time:

Samples Received by: ________ Date: ________ Time: ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 4 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
29	1014DD-15A	BOILER ROOM STAIR LANDING	TAN MASTIC A/W YELLOW+BROWN LINO. FLOORING	
30	-15B	↓	↓	
31	1014DD-16A	BOILER UNITS (x2) (#1)	CEMENTITIOUS TROWELED SEALANT AT FRONT PANELS	(6SF TOTAL)
32	-16B	↓ (#2)		
33	1014DD-17A	BOILER ROOM	GREY PENETRATION SEALANT A/W DUCT BREECHING	(12 SF)
34	-17B	↓		
35	1014DD-18A	BOILER ROOM	PIPE GASKETS	(30-40 EA)
36	-18B	↓	↓	
37	1014DD-19A	CLASSROOM 3	BROWN GLUEDAUBS A/W 16x16 CEILING TILE	
38	-19B	↓	↓	
39	1014DD-20A	CLASSROOM 3	16x16 SQUARE-ON-CENTER CEILING TILE	
40	20B	↓	↓	

Analysis Method: ☒ PLM ☐ Other Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

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Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:** ________

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 5 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
41	1014DD-21A	CLASSROOM 4	LOWER-WALL CLOTH	
42	-21B	CLASSROOM 10	LOWER-WALL CLOTH	
43	1014DD-22A	BOILER ROOM	TAN PIPE-THREAD SEALANT (300 LF)	
44	-22B	↓	↓	
45	1014DD-23A	MECHANICAL CHASE @ 4B	AIRCELL PIPE/INSULATION	
46	-23B	MECHANICAL CHASE @ 1B		
47	-23C	MECHANICAL CHASE @ GIRL'S BATHROOM	↓	
	~~1014DD-24A~~	~~MECHANICAL CHASE @ 1B~~	~~MUDDED FITTINGS W/ AIRCELL~~	
	~~-24B~~			
	~~-24C~~	↓	↓	
48	1014DD-25A	CLASSROOM 4	DRYWALL	
49	-25B	2ND FLOOR BATHROOM	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

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Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ][A.D.] Date: [ ][9/19/11] Time:

Samples Received by: ________ Date: ________ Time: ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 6 of 12

Project Name: MENDERS, TORREY & SPENCER
Project No. 20111069.A1E
Building: PRESCOTT BUILDING, LANCASTER MA
Project Manager: AUSTIN DIEDRICKSEN

DO NOT RUN SAMPLED IF BLACK MASTIC IS POSITIVE (-43A-C)

Sample ID	Sample Location	Material	Result (%)
50 1014 DD-26A	CLASSROOM 1	JOINT COMPOUND	
51 -26B	2ND FLOOR BATHROOM	↓	
52 1014DD -27A	SKYLIGHTS	SKYLIGHT WINDOW GLAZING	72LF + 77LF
53 -27B	↓	↓ COMPOUND	
54 1014DD-28A	ROOF	BLACK VENT MASTIC	150SF
55 28B	↓	↓	
56 1014DD-29A	CLASSROOM 2	WHITE LEVELING COMPOUND	
57 -29B	CLASSROOM 4B	↓	
58 1014DD-30A	BOILER ROOM	GREY PATCH CEILING ABOVE	
59 -30B		BOILER - TROWELED ROUGH (300SF)	
60 -30C	↓	↓	
61 1014DD-31A	MECHANICAL ROOM	TROWELED BEIGE CEILING PLASTER	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

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Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ][A.D.] Date: [ ][9/19/11] Time: ________

Samples Received by: ________ Date: ________ Time: ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 7 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER MA Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
62 -31B	↓	↓	
63 -31C	↓	↓	
64 1014DD-32A	CLASSROOM 1B	YELLOW CARPET ADHESIVE	
65 -32B	CLASSROOM 9 (ON 9x9 TILE)	↓	
66 1014DD-33A	CLASSROOM 1	PARGE CEMENT ON BRICK (CONCEALED)	
67 -33B	CLASSROOM 4	↓	
68 1014DD-34A	OFFICE EXTERIOR	DOOR WINDOW GLAZING	
69 -34B	A-SIDE ENTRANCE	↓ COMPOUND	
70 1014DD-35A	A-SIDE ENTRANCE	EXTERIOR DOOR CAULK (WHITE)	
71 -35B	↓	↓	
72 1014DD-36A	CLASSROOM 1B	PEGBOARD 1x1 CEILING TILE	
73 -36B	CLASSROOM 4B	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

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Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ][A.D.] Date: [ ][9/19/11] Time:

Samples Received by: ________ Date: ________ Time: ________

Shipped To: ☒ EMSL State MA ☐ Other

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 8 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
74	1014DD-37A	BASEMENT STAIRS	GREEN STONE LINOLEUM FLOORING	
75	-37B	↓	↓ (STAIR TREAD)	
76	1014DD-38A	STAIRWELL 1ST TO 2ND	GREY MOTTLED 12x12 FLOOR TILE	
77	-38B	↓	↓	
78	1014DD-39A	BASEMENT OFFICE	WHITE SPECK 12x12 FLOOR TILE	
79	-39B	↓	GREY/TAN 12x12 FLOOR TILE	
80	-39C	↓	LIGHT YELLOW 12x12 FLOOR TILE	
81	-39D	↓	LIGHT GREEN SPECK 12x12 FLOOR TILE	
82	1014DD-40A	BASEMENT OFFICE	YELLOW MASTIC A/W MULTICOLORED	
83	-40B	↓	↓ 12x12 FLOOR TILE	
84	1014DD-41A	CLASSROOM 4B	BROWN MASTIC (TOP LAYER) A/W 12x12	
85	-41B	↓	↓ FLOOR TILE	

Analysis Method: ☒ PLM ☐ Other Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:** ________

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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FUSS & O'NEILL
EnviroScience, LLC

50 Redfield St, Suite 100 Boston, MA 02122

www.fando.com

(617)282-4675 Fax (617)0282-8253

SAMPLE LOG FOR ASBESTOS BULKS

Sheet 9 of 12

Project Name: MENDERS, TORREY & SPENCER Project No. 20111069.AIE

Building: PRESCOTT BUILDING, LANCASTER, MA Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
86	1014DD-42A	CLASSROOM 2 BATHROOM	2x2 TEXTURED + DOT CEILING TILE	
87	-42B	↓	↓	
88	1014DD-43A	CLASSROOM 1B	BLACK MASTIC	
89	-43B	B-SIDE STAIR LANDING 1ST TO 2ND		
90	-43C	2ND FLOOR HALLWAY	↓	
91	1014DD-44A	STAIR LANDING 1ST TO 2ND (B SIDE)	BEIGE VINYL TILE (BOTTOM LAYER/CONCEALED)	
92	-44B	↓	↓	
93	1014DD-45A	CLASSROOM 4B	WHITE W/ GREY SPECKS 12x12 FLOOR TILE	
94	-45B	↓	↓	
95	1014DD-46A	BASEMENT OFFICE	RED 9x9 FLOOR TILE (BOTTOM LAYER)	
96	-46B	↓	↓	
97	1014DD-47A	~~BASEMENT~~ CLASSROOM 4B CLOSET	BROWN WITH RED STREAKS 9x9 FLOOR TILE CHECKERED	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ______. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ] [A.D.] Date: [ ] [9/19/11] Time: ______

Samples Received by: ______ Date: ______ Time: ______

Shipped To: ☒ EMSL State MA ☐ Other ______

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 10 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER MA   Project Manager: AUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
98 -47B	CLASSROOM 1B	GREY W/ BEIGE + PINK 9x9 FLOOR (CHECKER	
99 1014DD-48A	2ND FLOOR HALL (BUBBLER)	TAN W/ BROWN VINYL FLOOR TILE	
100 -48B	↓	↓	
101 1014DD-49A	CLASSROOM 12	BROWN WALL MASTIC (50 SF)	
02 -49B	↓	↓	
03 1014DD-50A	2ND FLOOR BATHROOMS	GREY 12x12 FLOOR TILE	
04 -50B	↓	↓	
05 1014DD-51A	↓	YELLOW MASTIC A/W GREY 12x12 FT	
06 -51B	↓	↓	
07 1014DD-52A	EXTERIOR	BOILER ROOM	
08 -52B	↓	CLASSROOM 4	
09 -52C	↓	CLASSROOM 11	

* SEPARATE MASTIC

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ______. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228. * SEPARATE MASTIC

Special Instruction: ______ Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN Date: 9/16/11 Time: AM

Samples [Rec'd] [Sent by] [ ][A.D.] Date: [ ][9/19/11] Time: ______

Samples Received by: ______ Date: ______ Time: ______

Shipped To: ☒ EMSL State MA ☐ Other ______

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Project Name: MENDERS, TORREY & SPENCER

Sheet 11 of 12

Building: PRESCOTT BUILDING, LANCASTER MA

Project No. 20110609.A1E

Project Manager: AUSTIN DIEDRICKSEN

	Sample ID	Sample Location	Material	Result (%)
110	1014DD-53A	EXTERIOR	RESIDUAL WINDOW CAULK	
11	-53B	↓		
12	1014DD-54A	BOILER ROOM (C)	↓ SKIM PLASTER	
13	-54B	CLASSROOM 1B (C)		
14	-54C	CLASSROOM 2 (C)		
15	-54D	CLASSROOM 4		
16	-54E	BASEMENT BOY'S BATHROOM (C)		
17	-54F	CLASSROOM 9		
18	-54G	BOILER ROOM	↓	
19	1014DD-55A	BOILER ROOM	ROUGH HORSE HAIR PLASTER	
20	-55B	CLASSROOM 1B		
21	-55C	CLASSROOM 2	↓	

Analysis Method: ☒ PLM ☐ Other

Turnaround Time 48 HOUR

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 860-812-2228.

Special Instruction: Stop analysis on first positive sample in each homogeneous set of samples unless otherwise noted. Do not layer samples unless indicated. NO POINT COUNTING. HOLD SAMPLES FOR TEM ANALYSIS UPON REQUEST.

Samples collected by: A. DIEDRICKSEN **Date:** 9/16/11 **Time:** AM

Samples [Rec'd] [Sent by] [ ][A.D.] **Date:** [ ][9/19/11] **Time:**

Samples Received by: ________ **Date:** ________ **Time:** ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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SAMPLE LOG FOR ASBESTOS BULKS

Sheet 12 of 12

Project Name: MENDERS, TORREY & SPENCER   Project No. 20111069.A1E

Building: PRESCOTT BUILDING, LANCASTER, MA   Project Manager: DUSTIN DIEDRICKSEN

Sample ID	Sample Location	Material	Result (%)
122 -55D	CLASSROOM 4	↓	
123 -55E	BASEMENT BOY'S BR		
124 -55F	CLASSROOM 9		
125 -55G	BOILER ROOM	↓	
126 101411DD-56A	MECHANICAL ROOM	PLASTER BACKERBOARD (CONCEALED CEILING)	
127 -56B	↓	↓	

Analysis Method: ☒ PLM ☐ Other   Turnaround Time 48 Hour

Based on the turnaround time indicated above, analyses are due to EnviroScience on or before this date: ________. Please call the EnviroScience Laboratory if analyses will be late at (860) 646-2469.

Fax Results to the EnviroScience Laboratory at: 888-838-1160.

Special Instruction: NO POINT COUNTING. SEE 1ST PAGE.

Samples collected by: D.D. + J.H.   Date: 10/14/11   Time: PM

Samples [Rec'd][Sent by] [ ][D.D.] Date: [ ][~~10/14/11~~ 10/21/11] Time: PM

Samples Received by: ________ Date: ________ Time: ________

Shipped To: ☒ EMSL State MA ☐ Other ________

Method of Shipment: ☒ Fed Ex ☐ UPS Overnight ☐ UPS Ground ☐ Other

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Appendix D

Lead Paint Testing Procedures and Equipment

STANDARD OPERATING PROCEDURES
TESTING PROCEDURES AND EQUIPMENT
(Commonwealth of Massachusetts)

Massachusetts General Laws (M.G.L.) c. III, §190-199A 105CMR 460 with reference to lead based paint testing were consulted for this inspection. This regulation is administered by the Massachusetts Department of Public Health's Lead Poisoning Prevention Program. EnviroScience inspectors are licensed by the Commonwealth under this regulation.

This lead evaluation was either comprehensive or a determination. Both the proposed scope of work and the final report will note which type of evaluation was done. A comprehensive inspection means that representative painted surfaces were systematically evaluated on a room by room basis in accordance with the above referenced Massachusetts regulations.

A lead determination, means that only a few surfaces were tested and that conclusions about untested areas cannot be reliably determined based on the limited testing that was done. A disclaimer will be employed in the report to note that the lead evaluation done is not in complete accordance with the testing protocol in the Massachusetts lead regulations.

Lead-based paint surfaces and components were identified by utilizing on-site x-ray fluorescence (XRF) instruments. EnviroScience Consultants, Inc. owns and maintains two different types of XRFs for testing for lead-based paint. These instruments are four (4) Radiation Monitoring Device LPA-1s (RMD) and a Scitec MAP 4 analyzer. Each of these instruments is operated in accordance with state and federal and manufacturer standards on the use of the instruments.

The federal government has developed Performance Characteristic Sheets (PCS) for each of the types of instruments cited above. Each instrument must be calibrated in accordance with these PCSs on a 1.0 milligram lead standard. Each of EnviroScience's instruments has one of these standards assigned to it. Some of the standards were purchased directly from the government and the others from the manufacturers of the instruments.

Readings (corrected for a substrate contribution, if applicable) of 1.0 mg/cm^2 or greater are considered to be dangerous levels of lead which must be abated (or in the case of certain metal components, just rendered intact) if a child under the age of six years has access to them and they are either on a defective surface, a chewable surface or a movable/impact surface on window components.

Prior to the start of any testing, a sketch of the building is drawn, and side designations are given to help identify exactly where readings were taken. Drawings depicting the room numbering scheme are located on the cover page(s) for the building(s) inspected. Each side of the building was labeled A, B, C or D. The "A" side of the unit is the side of primary entrance into a dwelling, and this room is always Room 1. Areas in the units include rooms, hallways and closets. Areas are numbered in a clockwise fashion as building construction allows. This allows the inspector to indicate which substrate surface was tested. The type of hazard (if present) is described by circling the acronym on the testing form.

When more than one surface type was present on a side, the component tested was indicated with a number. If two windows were present on a building side, they were numbered left to right. Closet shelves and shelf supports were numbered top to bottom.

It is understood that the room layouts presented in the report are in conformance with the conditions that exist at the time the testing is performed. EnviroScience avoids labeling a room solely by its current functional use (i.e., living room, bedroom, etc.) since this use can change over time. Similarly, room layouts can change dramatically as dwellings are renovated and additions are built, incorporating existing rooms, or existing interior walls are moved or eliminated altogether.

Appendix E

Lead Testing Field Data Sheets

FUSS & O'NEILL EnviroScience, LLC

Project # 20111069.A1E Address PRESCOTT BUILDING, LANCASTER, MA Date 10/14/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
CLASSROOM 1	ABD	LOWER WALL	>9.9	Y	PLASTER w/CLOTH
	ABCD	UPPER WALL	0.3-0.7		PLASTER
	D1	DOOR CASING	0.4		WOOD
	BC	DRYWALL (BATHROOM)	0.0		DRYWALL
	D1	DOOR	0.1		WOOD
	C	BUILT-IN CABINET	0.3		WOOD
	C	CABINET DOOR	0.1		WOOD
	B2	INT. WINDOW SILL	0.4		WOOD
(x6)	B2	INT. WINDOW FRAME	0.0-0.3		WOOD
	B2	WINDOW SASH/MULLIONS	>9.9	Y	WOOD
	A	RADIATOR	-0.1-1.0	Y	METAL
	ABCD	BASEBOARD	-0.1		WOOD
CLASSROOM 2	ABCD	LOWER WALLS	>9.9	Y	PLASTER/CLOTH
	ABCD	UPPER WALLS	0.6		PLASTER
	A	CABINET COMPONENTS	0.0		WOOD
	B1	DOOR	0.0		METAL
	B1	DOOR FRAME	0.6		WOOD
	B1	DOOR CASING	-0.2		WOOD
	B1	WINDOW SASH OVER DOOR	0.3		WOOD
	A	VENT FRAME	0.3		METAL
	C1	INT. WINDOW SILL	0.4		WOOD
(x5)	C1	WINDOW SASH/MULLIONS	>9.9	Y	WOOD
		CEILING	0.3		PLASTER
	ABCD	BASEBOARD	0.0		WOOD
	D1	DOOR	0.1		WOOD
	D1	DOOR FRAME	0.0		WOOD
CLASSROOM 3	ABCD	LOWER WALLS	>9.9	Y	PL/CLOTH
	ABCD	UPPER WALLS	0.6-1.1	Y	PLASTER
(x7)	CD	WINDOW SASH/MULLIONS	>9.9	Y	WOOD
	CD	INT. WINDOW SILLS	0.3		WOOD
		CEILING	0.2		TIN
		FLOOR	NC		VINYL TILE
	A1	DOOR FRAME	0.0		WOOD
	A1	DOOR	-0.1		WOOD
CLASSROOM 4	ABCD	LOWER WALLS	>9.9	Y	PL/CLOTH
	ABCD	UPPER WALLS	0.4		PLASTER
	C/D	DRYWALL (BATHROOM)	0.0		DRYWALL
	A	RADIATOR	1.0		METAL

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL EnviroScience, LLC

Project # 2011069.A1E Address PRESCOTT BUILDING, LANCASTER, MA Date 10/14/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
CLASSROOM 4 CONT.	AD	WINDOW SASH/MULLIONS (x7)	79.9		WOOD
	D4	WINDOW SILLS (x7)	0.2		WOOD
	D4	WINDOW FRAMES (x7)	0.0		WOOD
1ST FLOOR HALLWAY	ABCD	LOWER WALLS	79.9	Y	PLASTER
	ABCD	UPPER WALLS	0.5		PLASTER
	ABCD	CHAIR RAIL	0.1	STAIN	WOOD
	ABCD	BASEBOARD	0.1	STAIN	WOOD
		FOYER CABINETS	0.1	STAIN	WOOD
	A1	FRONT DOOR FRAME	-0.1	STAIN	WOOD
	A1	DOOR CASING	0.0	STAIN	WOOD
	A1	DOOR	0.0	STAIN	WOOD
		STAIR RISERS	0.0		WOOD
	C	RADIATOR	1.2		METAL
		TYPICAL CLASSROOM DOOR + FRAME	0.0	STAIN	WOOD
		FLOOR VENT GRATE	0.0		METAL
STAIRWAY (x2)		NEWEL POST	-0.1	STAIN	WOOD
		BALUSTER	-0.1	STAIN	WOOD
		HAND RAIL	-0.1	STAIN	WOOD
		STRINGER	0.2	STAIN	WOOD
		RISER	0.2		WOOD
		LOWER WALLS	79.9	Y	PLASTER
		UPPER WALLS	2.1-3.0	Y	PLASTER
		CHAIR RAIL	0.3	STAIN	WOOD
	B1	WINDOW SASH/MULLIONS	8.6	STAIN/SCRAPED	WOOD
	B1	WINDOW FRAME/SILL	0.0-0.5	STAIN	WOOD
CLASSROOM 5/6	ABCD	LOWER WALLS	79.9	Y	PLASTER
		UPPER WALLS	0.5		PLASTER
	ABCD	BASEBOARD	0.0		WOOD
		CEILING	0.2		PLASTER
	D	RADIATOR	1.0		METAL
(x5)	BC	WINDOW SASH/MULLIONS	79.9		WOOD
	A1	DOOR	0.4		WOOD
2ND FLOOR BATHROOMS		DRYWALL	0.1		DRYWALL
	C1	WINDOW SASH/MULLIONS (x2)	79.9	Y	WOOD
	C1	WINDOW SILL	0.2		WOOD
	B	RADIATOR COVER	0.0		METAL
CLASSROOM 9	ABCD	LOWER WALLS	79.9		PLASTER/CLOTH
	ABCD	UPPER WALLS	0.4		PLASTER

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL EnviroScience, LLC

Project # 20111069.A1E Address PRESCOTT BUILDING, LANCASTER, MA Date 10/14/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
CLASSROOM 9	CD (X3)	WINDOW SASHES/MULLIONS	79.9	Y	WOOD
CONT.	ABCD	BASEBOARD	0.3		WOOD
	A	CABINET	0.2		WOOD
	D1	DOOR	0.0		WOOD
	D1	DOOR FRAME	0.2		WOOD
CLASSROOM 10	ABCD	LOWER WALLS	79.9		P/CLOTH
	ABCD	UPPER WALLS	0.1		PLASTER
(X6)	AD	WINDOW SASHES/MULLIONS	79.9		WOOD
	AD	INT. WINDOW SILLS	0.4		WOOD
	B1	DOOR FRAME	0.2		WOOD
	B1	DOOR	0.1		WOOD
CLASSROOMS 11/12	ABCD	LOWER WALLS	79.9		PLASTER/CLOTH
		UPPER WALLS	2.7-3.7		PLASTER
(X8)	CENTER	PARTITION WALL	0.0		DRYWALL
	AB	WINDOW SASHES/MULLIONS	79.9		WOOD
		INT. WINDOW SILL	0.4		WOOD
2ND FLOOR HALLWAY	ABCD	LOWER WALLS	4.5-79.9		PLASTER
	ABCD	UPPER WALLS	0.6		PLASTER
		CEILING	0.0		PLASTER
		ATTIC ACCESS OPENING	0.3		WOOD
1B CLASSROOM	ABCD	LOWER WALLS	0.4-8.5	Y	WOOD
+ CLASSROOM 4B	ABCD	UPPER WALLS	0.2-0.5		BRICK
	ABC	BASEBOARD	0.4		WOOD
	BD	STAIR WALL	0.2		WOOD
	B	NEWEL POST	0.1		WOOD
	B	STAIR TREAD/RISER	0.0		WOOD
	—	METAL COLUMNS (X2)	5.6	Y	METAL
	B	METAL DUCT	0.1		METAL
		OVERHEAD (SILVER) PIPE	0.4		METAL
(X4) + (X4)	AB	WINDOW SASHES/MULLIONS	79.9		WOOD
(X4) + (X4)	AB	WINDOW FRAMES	79.9		WOOD
		CEILING	0.4		PLASTER
(X2)	C1	DOOR + FRAME	79.9		WOOD
BASEMENT HALL		CONC. BLOCK WALLS	0.3		CONC. BLOCK
		BRICK WALLS	79.9		BRICK
		FLOOR	0.0		CONCRETE

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

FUSS & O'NEILL EnviroScience, LLC

Project # 20111069.A1E Address PRESCOTT BUILDING, LANCASTER, MA Date 10/14/11

Room	Side	Surface	Pb by XRF	Defective	Substrate*
BASEMENT BATHROOM	B1	DOOR + FRAME	79.9	Y	WOOD
	ABCD	WALLS	79.9	Y	BRICK
		WINDOW SASH + FRAME	79.9	Y	WOOD
	A	RADIATOR	1.0	Y	METAL
		CEILING	0.0		PLASTER
OFFICE +	D1	DOOR	79.9	Y	WOOD
4 total BOILER (x3)	C1	WINDOW SASH/FRAME (x1)	79.9	Y	WOOD
BOILER ROOM	ABCD	BRICK WALLS	0.3 - 0.5		
	B1	DOUBLE DOORS + FRAME	79.9	Y	WOOD
		BOILERS (x2) - SIDES	0.4		METAL
		FLOOR	0.3		CONC.
		CEILING	0.5		PLASTER
		BOILER FRONT (x2) BLACK	0.0		METAL
	C1	DOOR FRAME	7.8	Y	WOOD
MECHANICAL ROOM	ABCD	BRICK WALLS	0.2		BRICK
	D1	DOOR + FRAME	79.9		WOOD
		FLOOR	0.5		CONC.
	(x3)	WINDOW SASH/FRAME	79.9		WOOD
EXTERIOR	ABCD	WINDOW SASHES/FRAMES	5.7 - 79.9	Y	WOOD
	ABD	DOORS + FRAMES	79.9	Y	WOOD
	C1	DOOR FRAME	79.9	Y	WOOD
	B	FIRE ESCAPE	0.0		METAL
	D	FIRE ESCAPE	0.0		METAL

*P=Plaster S=Gypsum Wallboard (sheetrock) L=Lead Containing Alloy (No Coating) M=Metal A=Alumimum W=Wood V=Vinyl

Appendix F

Indoor Air Sampling Results and Chain of Custody

Surveyor: Dustin Diedricksen
Date: 9/29/11
Instrument: TSI IAQ CALC
Calibration:

Project Name: Menders Torrey & Spencer
Location: Prescott Building / Lancaster, MA

EnviroScience Project No.:

LOCATION/ TIME	NO. OF OCCUPANTS	CO_2 (ppm)	CO (ppm)	Temperature (°F)	RH (%)
Classroom 1B		333	0	64.8	93.3
Classroom 4B		327	0	65.8	98.1
Basement Hall		325	0	66.4	98.3
Basement Bathroom		385	0	66.3	99.2
Boiler Room		313	0	66.9	99.7
Mechanical Room		311	0	66.6	98.6
Classroom 4		320	0	70.3	81.2
Classroom 3		322	0	70.2	80.6
Classroom 2		318	0	70.0	81.7
Classroom 1		312	0	69.8	81.4
1st Floor Hallway		326	0	69.8	81.7
Classroom 5/6		298	0	70.3	81.0
Classroom 9		308	0	70.7	83.5 (OPEN WINDOW)
Classroom 10		310	0	70.9	81.6
Classroom 11		320	0	71.1	79.4
Classroom 12		322	0	71.2	77.5
2nd Floor Hallway		314	0	71.2	78.5
Attic		350	0	72.0	77.8
Boiler Room (AFTER RAIN)		309	0	68.4	82.3

Asbestos • Lead • Environmental • Materials & Indoor Air Analysis

EMSL Analytical, Inc.
307 West 38th Street New York, NY 10018
Phone: (212) 290-0051 Fax: (212) 290-0058 Web: http://www.emsl.com Email:manhattanlab@emsl.com

Attn: Bob May
Fuss & O'Neill EnviroScience, LLC
146 Hartford Road
Manchester, CT 06040

EMSL Order: 031132326
Customer ID: ENVI54
Collected: 9/29/2011
Received: 10/03/2011
Analyzed: 10/03/2011

Proj: 20111069.A1E / MENDERS, TORREY & SPENCER / PRESCOTT BUILDING, LANCASTER, MA

Test Report: Air-O - Cell(™) Analysis of Fungal Spores & Particulates by Optical Microscopy (EMSL Method 05-TP-003)

Lab Sample Number:	031132326-0001			031132326-0002			031132326-0003		
Client Sample ID:	01			02			03		
Volume (L):	150			150			150		
Sample Location:	BASEMENT CLASSROOM 1B			BOILER ROOM			CONTROL - CLASSROOM 4(FIRST		
Spore Types	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total	Raw Count	Count/m³	% of Total
Alternaria	-	-	-	2	42	0.1	-	-	-
Ascospores	24	506	2	81	1710	2.2	59	1250	2.1
Aspergillus/Penicillium	42	886	3.5	969	20400	26.8	153	3230	5.5
Basidiospores	1130	23800	93.3	2480	52300	68.6	2520	53200	90.6
Bipolaris++	-	-	-	-	-	-	-	-	-
Chaetomium	-	-	-	-	-	-	-	-	-
Cladosporium	5	106	0.4	57	1200	1.6	39	823	1.4
Curvularia	-	-	-	-	-	-	-	-	-
Epicoccum	-	-	-	-	-	-	-	-	-
Fusarium	-	-	-	-	-	-	-	-	-
Ganoderma	2	42	0.2	12	253	0.3	6	127	0.2
Myxomycetes++	2	42	0.2	11	232	0.3	1	21	0
Pithomyces	1	21	0.1	3	63	0.1	-	-	-
Rust	1*	7*	0	-	-	-	-	-	-
Scopulariopsis	-	-	-	-	-	-	-	-	-
Stachybotrys	-	-	-	-	-	-	-	-	-
Torula	-	-	-	-	-	-	-	-	-
Ulocladium	-	-	-	-	-	-	-	-	-
Unidentifiable Spores	-	-	-	-	-	-	-	-	-
Zygomycetes	-	-	-	-	-	-	-	-	-
Cercospora	1	21	0.1	-	-	-	-	-	-
Paecilomyces	5	106	0.4	-	-	-	-	-	-
Total Fungi	**1213**	**25500**	**100**	**3615**	**76200**	**100**	**2778**	**58700**	**100**
Hyphal Fragment	1	21	-	-	-	-	-	-	-
Insect Fragment	-	-	-	12	253	-	1*	7*	-
Pollen	2	42	-	1	21	-	-	-	-
Analyt. Sensitivity 600x	-	21	-	-	21	-	-	21	-
Analyt. Sensitivity 300x	-	7*	-	-	7*	-	-	7*	-
Skin Fragments (1-4)	-	2	-	-	1	-	-	1	-
Fibrous Particulate (1-4)	-	1	-	-	1	-	-	1	-
Background (1-5)	-	2	-	-	4	-	-	2	-

Bipolaris++ = Bipolaris/Dreschlera/Exserohilum Myxomycetes++ = Myxomycetes/Periconia/Smut

No discernable field blank was submitted with this group of samples.

Samples analyzed by EMSL Analytical, Inc. New York, NY AIHA-LAP, LLC--EMLAP Lab 102581

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 othewise 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 300 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.

John McCauley

John McCauley, Laboratory Manager
or Other Approved Signatory

For Information on the fungi listed in this report please visit the Resources section at www.emsl.com

Chain of Custody

Environmental Microbiology Lab Services

EMSL Analytical, Inc.
107 Haddon Avenue
Westmont, NJ 08108

Phone: (856) 858-4800
Fax: (856) 858-4960
(856) 427-1608
http://www.emsl.com

Please print all information legibly.

Company:	Fuss & O'Neill EnviroScience, LLC	***Bill To:***	Fuss & O'Neill EnviroScience, LLC
Address1:	50 Redfield Street	*Address1:*	50 Redfield Street
Address2:	Suite 100	*Address2:*	Suite 100
City, State:	Boston, MA	*City, State:*	Boston, MA
Zip/Post Code:	02122	*Zip/Post Code:*	02122
Country:		*Country:*	
Contact Name:	Bob May	***Attn:***	Bob May
Phone:	617-282-4675	*Phone:*	617-282-4675
Fax:	413-647-0018	*Fax:*	413-647-0018
Email:	rmay@fando.com	*Email:*	rmay@fando.com
EMSL Rep:		***P.O. Number:***	
Project Name/Number:	20111069.A1E		

Project Name MENDERS, TORREY & SPENCER **Date Collected** 9/29/11 **Date Sent** 9/29/11

Other Information: PRESCOTT BUILDING, LANCASTER, MA

For EMSL use only
EMSL Order No. ____________
Sample(s) received in good condition? [Y] [N]
Discernable field blank submitted? [Y] [N]

Sample ID	Sample Location	Sample Type	Volume (liters), Area (sq. cm), or Weight (grams)	Analysis Code*	Turn-around Time*	Comments
	BASEMENT CLASSROOM 1B	AIR-O-CELL	150L	M001	24 HOUR	
	BOILER ROOM	↓	150L	↓	↓	
	CONTROL - CLASSROOM 4 (FIRST FLOOR)	↓	150L	↓	↓	

*See attached schedule

Relinquished by: DUSTIN NIEDRICKSEN **Date:** 9/29/11 **Time:** PM.

Received by: ____________ **Date:** ______ **Time:** ______

Page: 1 **of** 1

Appendix G

Waste Characterization Results for Fly Ash

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ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 20, 2011

Bob May
Fuss & O'Neill EnviroScience, LLC - MA
50 Redfield Street, Suite 100
Boston, MA 02122

Project Location: Prescott Building, Lancaster, MA
Client Job Number:
Project Number: 20111069.A1E
Laboratory Work Order Number: 11J0477

Enclosed are results of analyses for samples received by the laboratory on October 13, 2011. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Holly L. Folsom

Holly L. Folsom
Project Manager

con-test®
ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Fuss & O'Neill EnviroScience, LLC - MA
50 Redfield Street, Suite 100
Boston, MA 02122
ATTN: Bob May

REPORT DATE: 10/20/2011

PURCHASE ORDER NUMBER: 20111069.A1E

PROJECT NUMBER: 20111069.A1E

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 11J0477

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Prescott Building, Lancaster, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
929DD-FA-01	11J0477-01	Soil		SM 2540G	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010C	
				SW-846 7470A	
				SW-846 8082A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8270D

Qualifications:

Elevated detection limit due to matrix.

Analyte & Samples(s) Qualified:

4-Chloroaniline, Butylbenzylphthalate, Dimethylphthalate, Di-n-octylphthalate
11J0477-01[929DD-FA-01]

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

4-Nitrophenol, Pyrene
B039140-BSD1

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

2,4,6-Tribromophenol, Terphenyl-d14
B039140-BSD1

Surrogate recovery is outside of control limits. Data validation is not affected since all results are less than the reporting limit and bias is on the high side.

Analyte & Samples(s) Qualified:

2,4,6-Tribromophenol, Terphenyl-d14
B039140-BLK1

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.

Analyte & Samples(s) Qualified:

Terphenyl-d14
B039140-BS1

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

4-Nitrophenol, Pyrene
B039140-BS1, B039140-BSD1

Initial calibration did not meet method specifications. Compound was calibrated using linear regression with correlation coefficient <0.99.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol
11J0477-01[929DD-FA-01], B039140-BLK1, B039140-BS1, B039140-BSD1

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Benzo(g,h,i)perylene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene
11J0477-01[929DD-FA-01]

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Prescott Building, Lancaster, MA   Sample Description: Work Order: 11J0477

Date Received: 10/13/2011

Field Sample #: 929DD-FA-01   Sampled: 10/13/2011 13:00

Sample ID: 11J0477-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Acenaphthylene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Acetophenone	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Aniline	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Anthracene	0.46	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Benzo(a)anthracene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Benzo(a)pyrene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Benzo(b)fluoranthene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Benzo(g,h,i)perylene	ND	0.41	mg/Kg dry	1	V-20	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Benzo(k)fluoranthene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Bis(2-chloroethoxy)methane	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Bis(2-chloroethyl)ether	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Bis(2-chloroisopropyl)ether	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Bis(2-Ethylhexyl)phthalate	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
4-Bromophenylphenylether	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Butylbenzylphthalate	ND	1.6	mg/Kg dry	1	DL-03	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
4-Chloroaniline	ND	1.6	mg/Kg dry	1	DL-03	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2-Chloronaphthalene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2-Chlorophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Chrysene	1.3	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Dibenz(a,h)anthracene	ND	0.41	mg/Kg dry	1	V-20	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Dibenzofuran	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Di-n-butylphthalate	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
1,2-Dichlorobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
1,3-Dichlorobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
1,4-Dichlorobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
3,3-Dichlorobenzidine	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4-Dichlorophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Diethylphthalate	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4-Dimethylphenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Dimethylphthalate	ND	1.6	mg/Kg dry	1	DL-03	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4-Dinitrophenol	ND	1.6	mg/Kg dry	1	V-19	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4-Dinitrotoluene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,6-Dinitrotoluene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Di-n-octylphthalate	ND	1.6	mg/Kg dry	1	DL-03	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Fluoranthene	1.7	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Fluorene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Hexachlorobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Hexachlorobutadiene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Hexachloroethane	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Indeno(1,2,3-cd)pyrene	ND	0.41	mg/Kg dry	1	V-20	SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Isophorone	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Prescott Building, Lancaster, MA   Sample Description: Work Order: 11J0477

Date Received: 10/13/2011

Field Sample #: 929DD-FA-01   Sampled: 10/13/2011 13:00

Sample ID: 11J0477-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylnaphthalene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2-Methylphenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
3/4-Methylphenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Naphthalene	ND	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Nitrobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2-Nitrophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
4-Nitrophenol	ND	1.6	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Pentachlorophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Phenanthrene	0.87	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Phenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
Pyrene	0.69	0.41	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
1,2,4-Trichlorobenzene	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4,5-Trichlorophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC
2,4,6-Trichlorophenol	ND	0.83	mg/Kg dry	1		SW-846 8270D	10/14/11	10/17/11 17:14	MJC

Surrogates	% Recovery	Recovery Limits	Flag	Date/Time Analyzed
2-Fluorophenol	66.8	30-130		10/17/11 17:14
Phenol-d6	63.9	30-130		10/17/11 17:14
Nitrobenzene-d5	67.6	30-130		10/17/11 17:14
2-Fluorobiphenyl	65.1	30-130		10/17/11 17:14
2,4,6-Tribromophenol	66.4	30-130		10/17/11 17:14
Terphenyl-d14	76.4	30-130		10/17/11 17:14

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Project Location: Prescott Building, Lancaster, MA   Sample Description: Work Order: 11J0477

Date Received: 10/13/2011

Field Sample #: 929DD-FA-01   Sampled: 10/13/2011 13:00

Sample ID: 11J0477-01

Sample Matrix: Soil

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1254 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	1		SW-846 8082A	10/13/11	10/14/11 16:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag	Date/Time Analyzed
Decachlorobiphenyl [1]	81.8	30-150		10/14/11 16:49
Decachlorobiphenyl [2]	89.9	30-150		10/14/11 16:49
Tetrachloro-m-xylene [1]	97.9	30-150		10/14/11 16:49
Tetrachloro-m-xylene [2]	106	30-150		10/14/11 16:49

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Project Location: Prescott Building, Lancaster, MA   Sample Description: Work Order: 11J0477

Date Received: 10/13/2011

Field Sample #: 929DD-FA-01   Sampled: 10/13/2011 13:00

Sample ID: 11J0477-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Absent		present/absent	1		SW-846 1030	10/14/11	10/14/11 13:04	VAK
pH @22.2°C	4.5		pH Units	1		SW-846 9045C	10/14/11	10/14/11 9:00	LL
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	10/14/11	10/17/11 12:30	SBP
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	10/14/11	10/14/11 16:08	DEF
% Solids	81.3		% Wt	1		SM 2540G	10/16/11	10/17/11 13:42	WAL

ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Prescott Building, Lancaster, MA
Sample Description:
Work Order: 11J0477

Date Received: 10/13/2011

Field Sample #: 929DD-FA-01

Sampled: 10/13/2011 13:00

Sample ID: 11J0477-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	0.083	0.010	mg/L	1		SW-846 6010C	10/17/11	10/17/11 18:50	OP
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	10/18/11	10/18/11 15:23	AMP
Cadmium	ND	0.0040	mg/L	1		SW-846 6010C	10/17/11	10/17/11 18:50	OP
Chromium	ND	0.010	mg/L	1		SW-846 6010C	10/17/11	10/17/11 18:50	OP
Lead	ND	0.010	mg/L	1		SW-846 6010C	10/17/11	10/18/11 10:17	OP

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
11J0477-01 [929DD-FA-01]	B039219	10/16/11

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039184	50.0	50.0	10/14/11

Prep Method: SW-846 3010A-SW-846 6010C **Leachates were extracted on 10/14/2011 per SW-846 1311 in Batch B039154**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039234	50.0	50.0	10/17/11

Prep Method: SW-846 7470A Prep-SW-846 7470A **Leachates were extracted on 10/14/2011 per SW-846 1311 in Batch B039154**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039334	6.00	6.00	10/18/11

Prep Method: SW-846 3546-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039061	10.0	50.0	10/13/11

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039140	30.3	2.00	10/14/11

SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039185	25.3	250	10/14/11

SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
11J0477-01 [929DD-FA-01]	B039186	25.3	250	10/14/11

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
11J0477-01 [929DD-FA-01]	B039199	20.0	10/14/11

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039140 - SW-846 3546										
Blank (B039140-BLK1)				Prepared: 10/14/11 Analyzed: 10/15/11						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.66	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.66	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							V-19
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.66	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039140 - SW-846 3546										
Blank (B039140-BLK1)				Prepared: 10/14/11 Analyzed: 10/15/11						
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	*6.62*		mg/Kg wet	6.67		99.3	30-130			
Surrogate: Phenol-d6	*6.33*		mg/Kg wet	6.67		94.9	30-130			
Surrogate: Nitrobenzene-d5	*3.24*		mg/Kg wet	3.33		97.2	30-130			
Surrogate: 2-Fluorobiphenyl	*3.41*		mg/Kg wet	3.33		102	30-130			
Surrogate: 2,4,6-Tribromophenol	*9.02*		mg/Kg wet	6.67		**135** *	30-130			S-17
Surrogate: Terphenyl-d14	*4.53*		mg/Kg wet	3.33		**136** *	30-130			S-17
LCS (B039140-BS1)				Prepared: 10/14/11 Analyzed: 10/15/11						
Acenaphthene	1.60	0.17	mg/Kg wet	1.67		95.9	40-140			
Acenaphthylene	1.59	0.17	mg/Kg wet	1.67		95.2	40-140			
Acetophenone	1.39	0.34	mg/Kg wet	1.67		83.2	40-140			
Aniline	1.11	0.34	mg/Kg wet	1.67		66.9	40-140			
Anthracene	1.70	0.17	mg/Kg wet	1.67		102	40-140			
Benzo(a)anthracene	1.68	0.17	mg/Kg wet	1.67		101	40-140			
Benzo(a)pyrene	1.45	0.17	mg/Kg wet	1.67		87.0	40-140			
Benzo(b)fluoranthene	1.32	0.17	mg/Kg wet	1.67		79.2	40-140			
Benzo(g,h,i)perylene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140			
Benzo(k)fluoranthene	1.25	0.17	mg/Kg wet	1.67		74.8	40-140			
Bis(2-chloroethoxy)methane	1.60	0.34	mg/Kg wet	1.67		96.1	40-140			
Bis(2-chloroethyl)ether	1.40	0.34	mg/Kg wet	1.67		83.8	40-140			
Bis(2-chloroisopropyl)ether	1.42	0.34	mg/Kg wet	1.67		85.0	40-140			
Bis(2-Ethylhexyl)phthalate	2.10	0.34	mg/Kg wet	1.67		126	40-140			
4-Bromophenylphenylether	1.57	0.34	mg/Kg wet	1.67		94.4	40-140			
Butylbenzylphthalate	2.03	0.66	mg/Kg wet	1.67		122	40-140			
4-Chloroaniline	0.977	0.66	mg/Kg wet	1.67		58.6	15-140			†
2-Chloronaphthalene	1.31	0.34	mg/Kg wet	1.67		78.6	40-140			
2-Chlorophenol	1.39	0.34	mg/Kg wet	1.67		83.5	30-130			
Chrysene	1.74	0.17	mg/Kg wet	1.67		104	40-140			
Dibenz(a,h)anthracene	1.60	0.17	mg/Kg wet	1.67		95.7	40-140			
Dibenzofuran	1.57	0.34	mg/Kg wet	1.67		94.2	40-140			
Di-n-butylphthalate	1.73	0.34	mg/Kg wet	1.67		104	40-140			
1,2-Dichlorobenzene	1.35	0.34	mg/Kg wet	1.67		81.2	40-140			
1,3-Dichlorobenzene	1.31	0.34	mg/Kg wet	1.67		78.4	40-140			
1,4-Dichlorobenzene	1.32	0.34	mg/Kg wet	1.67		79.0	40-140			
3,3-Dichlorobenzidine	1.34	0.17	mg/Kg wet	1.67		80.5	40-140			
2,4-Dichlorophenol	1.50	0.34	mg/Kg wet	1.67		90.3	30-130			
Diethylphthalate	1.65	0.34	mg/Kg wet	1.67		99.0	40-140			
2,4-Dimethylphenol	1.51	0.34	mg/Kg wet	1.67		90.7	30-130			
Dimethylphthalate	1.62	0.66	mg/Kg wet	1.67		97.1	40-140			
2,4-Dinitrophenol	1.57	0.66	mg/Kg wet	1.67		94.1	15-140			V-19 †
2,4-Dinitrotoluene	1.61	0.34	mg/Kg wet	1.67		96.3	40-140			
2,6-Dinitrotoluene	1.60	0.34	mg/Kg wet	1.67		96.2	40-140			
Di-n-octylphthalate	1.20	0.66	mg/Kg wet	1.67		72.0	40-140			
1,2-Diphenylhydrazine (as Azobenzene)	1.62	0.34	mg/Kg wet	1.67		97.2	40-140			
Fluoranthene	1.64	0.17	mg/Kg wet	1.67		98.7	40-140			
Fluorene	1.61	0.17	mg/Kg wet	1.67		96.7	40-140			
Hexachlorobenzene	1.49	0.34	mg/Kg wet	1.67		89.4	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B039140 - SW-846 3546											
LCS (B039140-BS1)				Prepared: 10/14/11 Analyzed: 10/15/11							
Hexachlorobutadiene	1.48	0.34	mg/Kg wet	1.67		89.0	40-140				
Hexachloroethane	1.34	0.34	mg/Kg wet	1.67		80.4	40-140				
Indeno(1,2,3-cd)pyrene	1.57	0.17	mg/Kg wet	1.67		94.2	40-140				
Isophorone	1.55	0.34	mg/Kg wet	1.67		93.1	40-140				
2-Methylnaphthalene	1.40	0.17	mg/Kg wet	1.67		84.0	40-140				
2-Methylphenol	1.38	0.34	mg/Kg wet	1.67		82.6	30-130				
3/4-Methylphenol	1.22	0.34	mg/Kg wet	1.67		73.1	30-130				
Naphthalene	1.43	0.17	mg/Kg wet	1.67		85.8	40-140				
Nitrobenzene	1.44	0.34	mg/Kg wet	1.67		86.6	40-140				
2-Nitrophenol	1.48	0.34	mg/Kg wet	1.67		88.9	30-130				
4-Nitrophenol	1.96	0.66	mg/Kg wet	1.67		118	15-140			V-06	†
Pentachlorophenol	1.66	0.34	mg/Kg wet	1.67		99.4	30-130				
Phenanthrene	1.69	0.17	mg/Kg wet	1.67		101	40-140				
Phenol	1.46	0.34	mg/Kg wet	1.67		87.9	15-140				†
Pyrene	2.25	0.17	mg/Kg wet	1.67		135	40-140			V-06	
1,2,4-Trichlorobenzene	1.47	0.34	mg/Kg wet	1.67		88.0	40-140				
2,4,5-Trichlorophenol	1.69	0.34	mg/Kg wet	1.67		101	30-130				
2,4,6-Trichlorophenol	1.59	0.34	mg/Kg wet	1.67		95.3	30-130				
Surrogate: 2-Fluorophenol	*5.71*		mg/Kg wet	6.67		85.7	30-130				
Surrogate: Phenol-d6	*5.69*		mg/Kg wet	6.67		85.3	30-130				
Surrogate: Nitrobenzene-d5	*3.12*		mg/Kg wet	3.33		93.7	30-130				
Surrogate: 2-Fluorobiphenyl	*3.31*		mg/Kg wet	3.33		99.4	30-130				
Surrogate: 2,4,6-Tribromophenol	*7.65*		mg/Kg wet	6.67		115	30-130				
Surrogate: Terphenyl-d14	*4.81*		mg/Kg wet	3.33		**144** *	30-130			S-23	
LCS Dup (B039140-BSD1)				Prepared: 10/14/11 Analyzed: 10/15/11							
Acenaphthene	1.61	0.17	mg/Kg wet	1.67		96.9	40-140	1.02	30		
Acenaphthylene	1.59	0.17	mg/Kg wet	1.67		95.6	40-140	0.419	30		
Acetophenone	1.52	0.34	mg/Kg wet	1.67		91.5	40-140	9.53	30		
Aniline	1.08	0.34	mg/Kg wet	1.67		64.9	40-140	2.98	30		
Anthracene	1.69	0.17	mg/Kg wet	1.67		102	40-140	0.295	30		
Benzo(a)anthracene	1.64	0.17	mg/Kg wet	1.67		98.4	40-140	2.47	30		
Benzo(a)pyrene	1.43	0.17	mg/Kg wet	1.67		85.9	40-140	1.32	30		
Benzo(b)fluoranthene	1.31	0.17	mg/Kg wet	1.67		78.4	40-140	1.04	30		
Benzo(g,h,i)perylene	1.66	0.17	mg/Kg wet	1.67		99.6	40-140	8.67	30		
Benzo(k)fluoranthene	1.29	0.17	mg/Kg wet	1.67		77.4	40-140	3.36	30		
Bis(2-chloroethoxy)methane	1.69	0.34	mg/Kg wet	1.67		101	40-140	5.25	30		
Bis(2-chloroethyl)ether	1.47	0.34	mg/Kg wet	1.67		88.1	40-140	5.05	30		
Bis(2-chloroisopropyl)ether	1.52	0.34	mg/Kg wet	1.67		90.9	40-140	6.73	30		
Bis(2-Ethylhexyl)phthalate	2.29	0.34	mg/Kg wet	1.67		138	40-140	8.99	30		
4-Bromophenylphenylether	1.38	0.34	mg/Kg wet	1.67		82.7	40-140	13.2	30		
Butylbenzylphthalate	2.25	0.66	mg/Kg wet	1.67		135	40-140	10.5	30		
4-Chloroaniline	0.991	0.66	mg/Kg wet	1.67		59.4	15-140	1.36	30		†
2-Chloronaphthalene	1.24	0.34	mg/Kg wet	1.67		74.1	40-140	5.87	30		
2-Chlorophenol	1.59	0.34	mg/Kg wet	1.67		95.3	30-130	13.1	30		
Chrysene	1.71	0.17	mg/Kg wet	1.67		103	40-140	1.49	30		
Dibenz(a,h)anthracene	1.70	0.17	mg/Kg wet	1.67		102	40-140	6.08	30		
Dibenzofuran	1.62	0.34	mg/Kg wet	1.67		97.4	40-140	3.30	30		
Di-n-butylphthalate	1.88	0.34	mg/Kg wet	1.67		113	40-140	8.37	30		
1,2-Dichlorobenzene	1.34	0.34	mg/Kg wet	1.67		80.5	40-140	0.841	30		
1,3-Dichlorobenzene	1.30	0.34	mg/Kg wet	1.67		78.2	40-140	0.255	30		
1,4-Dichlorobenzene	1.33	0.34	mg/Kg wet	1.67		79.5	40-140	0.681	30		

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B039140 - SW-846 3546												
LCS Dup (B039140-BSD1)				Prepared: 10/14/11 Analyzed: 10/15/11								
3,3-Dichlorobenzidine	1.19	0.17	mg/Kg wet	1.67		71.2		40-140	12.2	30		
2,4-Dichlorophenol	1.62	0.34	mg/Kg wet	1.67		97.4		30-130	7.61	30		
Diethylphthalate	1.85	0.34	mg/Kg wet	1.67		111		40-140	11.4	30		
2,4-Dimethylphenol	1.62	0.34	mg/Kg wet	1.67		97.3		30-130	7.02	30		
Dimethylphthalate	1.71	0.66	mg/Kg wet	1.67		103		40-140	5.49	30		
2,4-Dinitrophenol	1.80	0.66	mg/Kg wet	1.67		108		15-140	13.5	30	V-19	†
2,4-Dinitrotoluene	1.93	0.34	mg/Kg wet	1.67		116		40-140	18.4	30		
2,6-Dinitrotoluene	1.70	0.34	mg/Kg wet	1.67		102		40-140	5.66	30		
Di-n-octylphthalate	1.37	0.66	mg/Kg wet	1.67		82.0		40-140	13.0	30		
1,2-Diphenylhydrazine (as Azobenzene)	1.39	0.34	mg/Kg wet	1.67		83.6		40-140	15.0	30		
Fluoranthene	1.77	0.17	mg/Kg wet	1.67		106		40-140	7.40	30		
Fluorene	1.74	0.17	mg/Kg wet	1.67		105		40-140	7.99	30		
Hexachlorobenzene	1.36	0.34	mg/Kg wet	1.67		81.5		40-140	9.25	30		
Hexachlorobutadiene	1.45	0.34	mg/Kg wet	1.67		86.9		40-140	2.46	30		
Hexachloroethane	1.32	0.34	mg/Kg wet	1.67		79.4		40-140	1.35	30		
Indeno(1,2,3-cd)pyrene	1.72	0.17	mg/Kg wet	1.67		103		40-140	9.29	30		
Isophorone	1.64	0.34	mg/Kg wet	1.67		98.4		40-140	5.47	30		
2-Methylnaphthalene	1.47	0.17	mg/Kg wet	1.67		88.2		40-140	4.85	30		
2-Methylphenol	1.55	0.34	mg/Kg wet	1.67		93.3		30-130	12.2	30		
3/4-Methylphenol	1.44	0.34	mg/Kg wet	1.67		86.3		30-130	16.6	30		
Naphthalene	1.48	0.17	mg/Kg wet	1.67		88.7		40-140	3.39	30		
Nitrobenzene	1.48	0.34	mg/Kg wet	1.67		88.9		40-140	2.58	30		
2-Nitrophenol	1.50	0.34	mg/Kg wet	1.67		90.1		30-130	1.36	30		
4-Nitrophenol	2.45	0.66	mg/Kg wet	1.67		**147**	*	15-140	22.1	30	L-07, V-06	†
Pentachlorophenol	1.73	0.34	mg/Kg wet	1.67		104		30-130	4.45	30		
Phenanthrene	1.68	0.17	mg/Kg wet	1.67		101		40-140	0.119	30		
Phenol	1.64	0.34	mg/Kg wet	1.67		98.4		15-140	11.3	30		†
Pyrene	2.51	0.17	mg/Kg wet	1.67		**151**	*	40-140	11.0	30	L-07, V-06	
1,2,4-Trichlorobenzene	1.49	0.34	mg/Kg wet	1.67		89.5		40-140	1.67	30		
2,4,5-Trichlorophenol	1.70	0.34	mg/Kg wet	1.67		102		30-130	0.572	30		
2,4,6-Trichlorophenol	1.58	0.34	mg/Kg wet	1.67		94.5		30-130	0.801	30		
Surrogate: 2-Fluorophenol	*6.25*		mg/Kg wet	6.67		93.7		30-130				
Surrogate: Phenol-d6	*6.31*		mg/Kg wet	6.67		94.6		30-130				
Surrogate: Nitrobenzene-d5	*3.23*		mg/Kg wet	3.33		97.0		30-130				
Surrogate: 2-Fluorobiphenyl	*3.16*		mg/Kg wet	3.33		94.9		30-130				
Surrogate: 2,4,6-Tribromophenol	*9.05*		mg/Kg wet	6.67		**136**	*	30-130			S-07	
Surrogate: Terphenyl-d14	*5.48*		mg/Kg wet	3.33		**164**	*	30-130			S-07	

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039061 - SW-846 3546										
Blank (B039061-BLK1)				Prepared & Analyzed: 10/13/11						
Aroclor-1016	ND	0.10	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1221	ND	0.10	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1232	ND	0.10	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1242	ND	0.10	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1248	ND	0.10	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1254	ND	0.10	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1260	ND	0.10	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1262	ND	0.10	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.10	mg/Kg wet							
Aroclor-1268	ND	0.10	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.10	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.206*		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.213*		mg/Kg wet	0.200		106	30-150			
Surrogate: Tetrachloro-m-xylene	*0.215*		mg/Kg wet	0.200		108	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.233*		mg/Kg wet	0.200		116	30-150			
LCS (B039061-BS1)				Prepared & Analyzed: 10/13/11						
Aroclor-1016	0.20	0.10	mg/Kg wet	0.200		98.3	40-140			
Aroclor-1016 [2C]	0.24	0.10	mg/Kg wet	0.200		121	40-140			
Aroclor-1260	0.22	0.10	mg/Kg wet	0.200		110	40-140			
Aroclor-1260 [2C]	0.23	0.10	mg/Kg wet	0.200		115	40-140			
Surrogate: Decachlorobiphenyl	*0.215*		mg/Kg wet	0.200		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.222*		mg/Kg wet	0.200		111	30-150			
Surrogate: Tetrachloro-m-xylene	*0.214*		mg/Kg wet	0.200		107	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.246*		mg/Kg wet	0.200		123	30-150			
LCS Dup (B039061-BSD1)				Prepared & Analyzed: 10/13/11						
Aroclor-1016	0.19	0.10	mg/Kg wet	0.200		93.7	40-140	4.80	30	
Aroclor-1016 [2C]	0.23	0.10	mg/Kg wet	0.200		117	40-140	3.63	30	
Aroclor-1260	0.21	0.10	mg/Kg wet	0.200		105	40-140	4.29	30	
Aroclor-1260 [2C]	0.23	0.10	mg/Kg wet	0.200		113	40-140	2.37	30	
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.211*		mg/Kg wet	0.200		105	30-150			
Surrogate: Tetrachloro-m-xylene	*0.206*		mg/Kg wet	0.200		103	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.239*		mg/Kg wet	0.200		119	30-150			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039185 - SW-846 9014										
Blank (B039185-BLK1)				Prepared: 10/14/11 Analyzed: 10/17/11						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B039185-BS1)				Prepared: 10/14/11 Analyzed: 10/17/11						
Reactive Cyanide	10	0.40	mg/Kg	10.0		100	0-200			
Batch B039186 - SW-846 9030A										
Blank (B039186-BLK1)				Prepared & Analyzed: 10/14/11						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B039186-BS1)				Prepared & Analyzed: 10/14/11						
Reactive Sulfide	11	2.0	mg/Kg	15.2		73.7	0-200			

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QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B039234 - SW-846 3010A										
Blank (B039234-BLK1)				Prepared & Analyzed: 10/17/11						
Arsenic	ND	0.010	mg/L							
Cadmium	ND	0.0040	mg/L							
Chromium	ND	0.010	mg/L							
Lead	ND	0.010	mg/L							
LCS (B039234-BS1)				Prepared & Analyzed: 10/17/11						
Arsenic	0.552	0.010	mg/L	0.500		110	80-120			
Cadmium	0.508	0.0040	mg/L	0.500		102	80-120			
Chromium	0.483	0.010	mg/L	0.500		96.6	80-120			
Lead	0.456	0.010	mg/L	0.500		91.3	80-120			
LCS Dup (B039234-BSD1)				Prepared & Analyzed: 10/17/11						
Arsenic	0.541	0.010	mg/L	0.500		108	80-120	2.05	20	
Cadmium	0.502	0.0040	mg/L	0.500		100	80-120	1.04	20	
Chromium	0.478	0.010	mg/L	0.500		95.7	80-120	0.932	20	
Lead	0.449	0.010	mg/L	0.500		89.8	80-120	1.69	20	
Batch B039334 - SW-846 7470A Prep										
Blank (B039334-BLK1)				Prepared & Analyzed: 10/18/11						
Mercury	ND	0.00010	mg/L							
LCS (B039334-BS1)				Prepared & Analyzed: 10/18/11						
Mercury	0.00195	0.00010	mg/L	0.00200		97.5	80-120			
LCS Dup (B039334-BSD1)				Prepared & Analyzed: 10/18/11						
Mercury	0.00198	0.00010	mg/L	0.00200		99.1	80-120	1.69	20	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
DL-03	Elevated detection limit due to matrix.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
S-17	Surrogate recovery is outside of control limits. Data validation is not affected since all results are less than the reporting limit and bias is on the high side.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-19	Initial calibration did not meet method specifications. Compound was calibrated using linear regression with correlation coefficient <0.99.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME
SW-846 6010C in Water	
Arsenic	NY,CT,NC,ME,NH
Cadmium	NY,CT,ME,NC,NH
Chromium	NY,CT,ME,NC,NH
Lead	NY,CT,ME,NC,NH
SW-846 7470A in Water	
Mercury	CT,ME,NC,NH,NY
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,NC,ME
Aroclor-1016 [2C]	CT,NH,NY,NC,ME
Aroclor-1221	CT,NH,NY,NC,ME
Aroclor-1221 [2C]	CT,NH,NY,NC,ME
Aroclor-1232	CT,NH,NY,NC,ME
Aroclor-1232 [2C]	CT,NH,NY,NC,ME
Aroclor-1242	CT,NH,NY,NC,ME
Aroclor-1242 [2C]	CT,NH,NY,NC,ME
Aroclor-1248	CT,NH,NY,NC,ME
Aroclor-1248 [2C]	CT,NH,NY,NC,ME
Aroclor-1254	CT,NH,NY,NC,ME
Aroclor-1254 [2C]	CT,NH,NY,NC,ME
Aroclor-1260	CT,NH,NY,NC,ME
Aroclor-1260 [2C]	CT,NH,NY,NC,ME
Aroclor-1262	NC
Aroclor-1262 [2C]	NC
Aroclor-1268	NC
Aroclor-1268 [2C]	NC
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH
SW-846 9014 in Soil	
Reactive Cyanide	NY,CT,NH
SW-846 9030A in Soil	
Reactive Sulfide	CT,NY,NH

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	01/1/2012
MA	Massachusetts DEP	M-MA100	06/30/2012
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2013
NY	New York State Department of Health	10899 NELAP	04/1/2012
NH	New Hampshire Environmental Lab	2516 NELAP	02/5/2012
RI	Rhode Island Department of Health	LAO00112	12/30/2011
NC	North Carolina Div. of Water Quality	652	12/31/2011
NJ	New Jersey DEP	MA007 NELAP	06/30/2012
FL	Florida Department of Health	E871027 NELAP	06/30/2012
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2012
WA	State of Washington Department of Ecology	C2065	02/23/2012
ME	State of Maine	2011028	06/9/2013

11J0477

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CHAIN-OF-CUSTODY RECORD 19488

Turnaround
☐ 1 Day* ☐ 2 Days* ☐ 3 Days* ☒ Standard (5 days) ☐ Other ______ (days) *Surcharge Applies

PROJECT NAME	PROJECT LOCATION	PROJECT NUMBER	LABORATORY
MENDERS, TORREY & SPENCER	PRESCOTT BUILDING, LANCASTER, MA	20111069.AIE	CON-TEST LABS

REPORT TO: DUSTIN DIEDRICKSEN
INVOICE TO: DUSTIN DIEDRICKSEN
P.O. NO.: 20111069.AIE
Sampler's Signature: [signature] Date: 9/29/11

Source Codes:
MW=Monitoring Well PW=Potable Water S=Soil W=Waste
SW=Surface Water T=Treatment Facility B=Sediment A=Air
X=Other FLY ASH

Analysis Request: RCRA 8 METALS W/TCLP; TOTAL PCBS; TOTAL SVOCS; REACTIVITY; IGNITABILITY; CORROSIVITY

Containers: Soil VOA Vial, [ ] methanol; Soil VOA Vial, [ ] water [ ] $Na(SO_4)_2$; Glass Soil Container ( ) oz; Glass Soil Container (8) oz; Other:; Water VOA Vial, [ ] As is [ ] HCl; Glass Amber ( ) ml, [ ] As is [ ] H_2SO_4; Plastic - As is, [ ] 250 ml [ ] 500 [ ] 1000 ml; Plastic - H_2SO_4, [ ] 250 ml [ ] 500 ml; Plastic - HNO_3, 250 ml [ ] Filtered [ ] Unfiltered; Plastic - NaOH, 250 ml

Item No.	Transfer Check 1	2	3	4	Sample Number	Source Code	Date Sampled	Time Sampled	RCRA 8 Metals w/TCLP	Total PCBs	Total SVOCs	Reactivity	Ignitability	Corrosivity	Glass Soil Container (8) oz	Comments
1	✓	✓			929DD-FA-01	X	9/29/11	1300	X	X	X	X	X	X	2	COMPOSITE (2) JARS

Transfer Number	Relinquished By	Accepted By	Date	Time
1	[signature]	F+O FRIDGE	9/29/11	1700
2	F+O FRIDGE			
3	[signature]	[signature]	9/30/11	334
4	[signature]	[signature]	10/1/11	1744

Reporting and Detection Limit Requirements: FOR WASTE CHARACTERIZATION

Additional Comments: COMPOSITE (2) JARS

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Sample Receipt Checklist

CLIENT NAME: Fuss & O'Neill RECEIVED BY: SD DATE: 10/13/11

1) Was the chain(s) of custody relinquished and signed? Yes No No CoC Included
2) Does the chain agree with the samples? Yes No
If not, explain:
3) Are all the samples in good condition? Yes No
If not, explain:
4) How were the samples received:
On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑
Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A
Temperature °C by Temp blank ______ Temperature °C by Temp gun 4.1
5) Are there Dissolved samples for the lab to filter? Yes No
Who was notified ______ Date ______ Time ______
6) Are there any RUSH or SHORT HOLDING TIME samples? Yes No
Who was notified ______ Date ______ Time ______
7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature:

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	2
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Air Cassette	
500 mL Plastic		Hg/Hopcalite Tube	
250 mL plastic		Plastic Bag / Ziploc	
40 mL Vial - type listed below		PM 2.5 / PM 10	
Colisure / bacteria bottle		PUF Cartridge	
Dissolved Oxygen bottle		SOC Kit	
Encore		TO-17 Tubes	
Flashpoint bottle		Non-ConTest Container	
Perchlorate Kit		Other glass jar	
Other		Other	

Laboratory Comments:

40 mL vials: # HCl ______ # Methanol ______
Bisulfate ______ # DI Water ______
Thiosulfate ______ Unpreserved ______

Time and Date Frozen:

Do all samples have the proper Acid pH: Yes No N/A ______
Do all samples have the proper Base pH: Yes No N/A ______

Doc# 277
Rev. 1 May

Appendix H

Hazardous Materials Abatement Cost Estimate

Hazardous Materials Abatement Cost Estimate

A hazardous materials abatement cost estimate is provided below. Unit costs are based on current industry rates and are inclusive of all contractor costs. They do not include costs for design, monitoring, sampling, and other consultant fees.

Table 9
Estimated Cost for Hazardous Materials Abatement

MATERIAL	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
Interior Boiler Debris, Includes Demolition of Boiler and Removal of All Internal Packing, Gaskets, Rib-Sealant Material, Millboard and Boiler Base; Includes Removal of Fly Ash at Ash Dump	2 Boilers; Each = 4 ½' x 6' x 5 ½' h Fly Ash Material = 2 ½' x 3' x 8" depth	Lump Sum	$10,000
(Square) Gaskets associated with Large Duct Breeching	5 EA (2 ½' x 2')	$25/EA	$125
Grey Penetration Sealant Associated with Duct Breeching	12 SF	Lump Sum	$100
Pipe Gaskets	40 EA	$20/EA	$800
AirCell Pipe Insulation Debris	Note: (4) full containments required for removal of AirCell debris observed on (concrete) floor of mechanical chases including complete decontamination of spaces to meet clearance; approx. areas = 90 SF; 110 SF; 110 SF; 160 SF	Includes (4) Full Containments	$4,800
AirCell Pipe Insulation	175 LF & 50 LF Allowance for Concealed Pipe Insulation = **225 LF Total**	$10/LF within containments noted above	$2,250
Brown Residual Lower Wall Mastic	1,000 SF	$7/SF	$7,000
Tan with Brown Streaks 9x9 Floor Tile & Associated Black Mastic/Leveling Compound (on Wood)	Classroom 1 = 850 SF Classroom 2 = 850 SF Classroom 3 = 850 SF Classroom 4 = 850 SF Classroom 9 = 435 SF Classroom 10 = 590 SF Classroom 11 = 810 SF Classroom 12 = 590 SF **Total = 5,825 SF**	$4/SF	$23,300
9x9 Floor Tile, 12x12 Floor Tile, & Associated Mastics (on Concrete)	Classroom 1B & Closet= 125 SF Classroom 4B & Closet = 1,035 SF 2nd Floor Hallway (Fountain) = 10 SF **Total = 1,170 SF**	$3/SF	$3,510

MATERIAL	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
9x9 Floor Tile underneath Carpet and/or Plywood & Associated Mastics(on Wood)	2nd Floor Hallway = 515 SF Classroom 5/6 = 515 SF 2nd Floor Bathrooms = 300 SF **Total = 1,330 SF** Note: 12x12 Floor Tile & Associated Mastic at 2nd Floor Bathrooms are Non ACM. Assume 9x9 Floor Tile underneath (Drywall) Wall Partitions	$4/SF	$5,320
Multi-Colored 12x12 Floor Tile (Top Layer), Red 9x9 Floor Tile (Bottom Layer), & Associated Mastics (on Concrete)	130 SF	$5/SF	$650
Residual Black Mastic underneath Carpet (on Concrete) (Assume Carpet as Asbestos-Contaminated-Material)	955 SF	$3/SF	$2,865
Black Mastic underneath Plywood Underlayment (on Wood) Assume Residual 9x9 Floor Tile in Sections Note: 12x12 Floor Tile and Associated Yellow Mastic (on top of Plywood) is Non ACM	1,000 SF	$4/SF	$4,000
Green Stone Linoleum Flooring (Stair Treads) & Associated Adhesive/Backing	250 SF	$4/SF	$1,000
Two Layers of 12x12 Floor Tile & Associated Black Mastic	90 SF	$4/SF	$360
Beige Vinyl Tile (Concealed) & Associated Black Mastic Note: Underneath Grey Mottled 12x12 (Non ACM) Floor Tile & Plywood Underlayment	320 SF	$4/SF	$1,280
Exterior Window Glazing Compound	All Windows (83 EA)	$250/EA	$20,750
Door Window Glazing Compound	4 EA	$300/EA	$1,200
Black Vent Mastic	150 SF	$5/SF	$750

MATERIAL	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
Allowance for cleaning and disposal of mold contaminated materials		Lump Sum	$5,000
OSHA Lead Compliance during renovation and demolition work		Lump Sum	$2,000
Potential disposal of lead waste from demolition and disposal of removed components and surfaces		Lump Sum	$15,000
		SUBTOTAL	**$112,060.00**
		(~10%) CONTINGENCY	**$11,200.00**
		TOTAL	**$123,260.00**

SUMMARY OF PROBABLE COST
A.M. Fogarty

A.M. Fogarty
& Assoc., Inc.

175 Derby St., Suite 5, Hingham, MA 02043
TEL: (781) 749-7272 • FAX: (781) 740-2652
ptim@amfogarty.com

"Construction Cost Consultants"

Prescott Building
Lancaster, MA

February 15, 2012

GRAND SUMMARY

RENOVATION		$2,299,435

TOTAL DIRECT COST		$2,299,435
GENERAL CONDITIONS	7%	$160,960
GENERAL ADMINISTRATIVE O&P	8%	$196,832
P&P BOND	1.5%	$39,858
PERMITS	3%	$80,913
CONTINGENCY	10%	$277,800
ESCALATION (WINTER 2013)	5%	$152,790

TOTAL CONSTRUCTION COST		$3,208,588

ALTERNATES:

NO. 1 ADD GREY WATER SYSTEM	$57,468

PROJECT:	Prescott Building	NO. OF SQ. FT.:	13,580
LOCATION:	Lancaster, MA	COST PER SQ. FT.:	169.33
CLIENT:	Menders, Torrey & Spencer, Inc.		
DATE:	15-Feb-12	*GSF excludes exterior wall and includes porch	

No.: 12001

RENOVATION

SUMMARY	DIVISION TOTAL	PERCENT OF PROJECT	COST PER SF
DIVISION 02 - EXISTING CONDITIONS	120,807	5%	8.90
DIVISION 03 - CONCRETE	28,526	1%	2.10
DIVISION 04 - MASONRY	138,465	6%	10.20
DIVISION 05 - METALS	57,422	2%	4.23
055000 METAL FABRICATIONS	34,002	1%	2.50
DIVISION 06 - WOOD, PLASTICS & COMPOSITES	61,240	3%	4.51
DIVISION 07 - THERMAL & MOISTURE PROTECTION			
071000 DAMPPROOFING & WATERPROOFING	9,075	0%	0.67
072000 THERMAL PROTECTION	29,650	1%	2.18
075000 ROOFING & FLASHING	13,700	1%	1.01
078000 FIRE AND SMOKE PROTECTION	2,716	0%	0.20
079000 JOINT PROTECTION	4,074	0%	0.30
DIVISION 08 - OPENINGS	53,775	2%	3.96
085000 WINDOWS	168,000	7%	12.37
088000 GLAZING	2,344	0%	0.17
089000 LOUVERS AND VENTS	2,000	0%	0.15
DIVISION 09 - FINISHES			
092000 PLASTER & GYPSUM BOARD	201,694	9%	14.85
093000 TILING	36,354	2%	2.68
095100 ACOUSTICAL CEILINGS	0	0%	0.00
096400 WOOD FLOORING	16,950	1%	1.25
096500 RESILIENT FLOORING	15,795	1%	1.16
096800 CARPETING	33,609	1%	2.47
099000 PAINTING	62,530	3%	4.60
DIVISION 10 - SPECIALTIES	25,027	1%	1.84
DIVISION 11 - EQUIPMENT	900	0%	0.07
DIVISION 12 - FURNISHINGS	79,331	3%	5.84
DIVISION 13 - SPECIAL CONSTRUCTION	0	0%	0.00
DIVISION 14 - CONVEYING EQUIPMENT	140,000	6%	10.31
DIVISION 21 - FIRE SUPPRESSION	81,540	4%	6.00
DIVISION 22 - PLUMBING	90,350	4%	6.65
DIVISION 23 - HVAC	368,870	16%	27.16
DIVISION 26 - ELECTRICAL	344,880	15%	25.40
DIVISION 31 - EARTHWORK	13,675	1%	1.01
DIVISION 32 - EXTERIOR IMPROVEMENTS	14,730	1%	1.08
DIVISION 33 - UTILITIES	47,405	2%	3.49

TOTAL	2,299,435	100%	169.33

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
DIVISION 02 - EXISTING CONDITIONS				
022600 HAZARDOUS MATERIAL ASSESSMENT				
Hazardous materials abatement - allow	1	LS	51,885.00	51,885
024100 DEMOLITION				
Exterior - Remove Existing:				
Fire escape	4	FLT	1,100.00	4,400
Window salvage	3	EA	75.00	225
Window /fire escape door	4	EA	120.00	480
Storm window -allow	65	EA	45.00	2,925
Door & frame - sgl	3	EA	60.00	180
Door & frame - dbl	1	EA	120.00	120
N. elev. granite step - salvage	1	LS	750.00	750
Brick wall core @ utilities - allow	6	LOC	250.00	1,500
Interior - Remove Existing:				
Saw cut slab	60	LF	12.00	720
Basement slab	210	SF	4.00	840
Lower level basement slab	Existing to remain			
Basement clg	4,500	SF	1.20	5,400
1st flr ceiling - partial	1,200	SF	1.20	1,440
2nd flr ceiling		Remains		
1st Flr struct. - elev. & vest	130	SF	20.00	2,600
2nd Flr struct - elev.	84	SF	20.00	1,680
Basement slab @ col. ftg	3	EA	150.00	450
Door & frame - sgl	26	EA	48.00	1,248
Door & frame - dbl	2	EA	75.00	150
Basement stair w/platform - 6 risers	2	FLT	750.00	1,500
Basement stair w/platform - 3 risers	1	FLT	300.00	300
Basement platform w/stair	95	SF	5.00	475
6" Basement masonry partition	544	SF	2.70	1,469
8" Basement masonry partition	1,800	SF	3.25	5,850
12" Basement masonry partition	280	SF	4.00	1,120
Upper flr wd frame partition	2,850	SF	2.00	5,700
Wd frame partition - recept. win	1	LOC	100.00	100
Wd frame partition - new dr open	2	LOC	125.00	250
Toilet rm fixtures & finishes (5 rm)	280	GSF	6.00	1,680
Mechanical	13,580	GSF	0.75	10,185
Electrical	13,580	GSF	0.75	10,185
Misc. interior demolition	1	LS	5,000.00	5,000

				120,807

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
DIVISION 03 - CONCRETE				
033000 CAST IN PLACE CONCRETE				
North Entry:				
Entry foundation	12	CY	900.00	10,800
Entry stair	36	LFT	70.00	2,520
Entry landing	82	SF	6.00	492
Porch:				
4" Conc. slab	245	SF	6.00	1,470
Basement:				
12" Elev. mat	4	CY	350.00	1,400
Elev. pit wall	5	CY	750.00	3,750
Conc. deck fill @ elev. shaft	84	SF	8.00	672
Slab patch @ elevator	128	SF	10.00	1,280
Slab patch @ col. ftg	3	EA	150.00	450
New slab @ raised area (nic PORCH)	532	SF	6.00	3,192
Underpinning		NIC		
Foundation repairs		NIC		
Misc. concrete	1	LS	2,500.00	2,500

				28,526
DIVISION 04 - MASONRY				
042000 UNIT MASONRY				
North Entry Stair (Reuse Salvage Granite):				
Stair tread	36	LFT	50.00	1,800
Landing	20	SF	20.00	400
Cheek wall cap	18	LF	250.00	4,500
Cheek wall facing	60	SF	60.00	3,600
North Entry Stair (New Granite)				
Landing	82	SF	75.00	6,150
Misc. trim & flashing	1	LS	2,000.00	2,000
New Exterior Wall - Porch:				
Brick veneer - to match	150	SF	30.00	4,500
Repair wall pass thru opening	3	EA	5,000.00	15,000
Misc. masonry & repairs	1	LS	2,500.00	2,500
Existing Exterior Wall:				
New limestone wind. sill (6 EA)	24	LF	80.00	1,920
Brick infill area (6 EA)	75	SF	150.00	11,250
Repoint granite step/cheek wall w-entry	1	LS	1,500.00	1,500
Repoint granite step/cheek wall e-entry	1	LS	1,500.00	1,500
Brick repair @ fire escape reml	1	LS	2,000.00	2,000

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Clean brick exterior 100%	5,700	SF	1.25	7,125
Repoint brick exterior 20%	1,141	SF	24.00	27,384
Repoint brick - areas noted (4 EA)	178	SF	24.00	4,272
Repoint brick watertable	184	LF	26.00	4,784
Chimney cap & repairs-allow	1	LS	2,500.00	2,500
Interior:				
8" CMU elev shaft wall	1,360	SF	23.00	31,280
Clean & repair exist. masonry partitions	1	LS	2,500.00	2,500
*Excludes new CMU partitions				

				138,465

DIVISION 05 - METALS

051000 STRUCTURAL METAL FRAMING

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
4" TS col. B-1st flr	6	EA	300.00	1,800
9" CH bolted to truss (8 loc)	132	LF	175.00	23,100
8" CH bolted to roof beam (2 loc)	58	LF	175.00	10,150
14" Stl beam (3 loc)	71	LF	200.00	14,200
Misc. structural framing-allow	1	LS	5,000.00	5,000

053000 METAL DECKING

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Elev. shaft cap	84	SF	8.00	672

054000 COLD FORMED METAL FRAMING

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Mech/elec. panel supports	1	LS	2,500.00	2,500

				57,422

055000 METAL FABRICATIONS

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Stair Upgrades:				
N. staircase	2	FLT	3,000.00	6,000
S. staircase	2	FLT	3,000.00	6,000
West vestibule (4 risers)	1	FLT	2,000.00	2,000
Attic ladder	1	LS	2,300.00	2,300
Galv. lintel - new wall open	16	LF	32.00	512
Repair replace galv. lintel		NIC		

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Bollards @ transformer pad	6	EA	650.00	3,900
Elev. frame & ladder	1	LS	3,500.00	3,500
Bronze rail - n. entry stair	8	LF	375.00	3,000
Sloped walkway rails		NIC		
Misc. metals	13,580	GSF	0.50	6,790

				34,002

DIVISION 06 - WOOD, PLASTICS & COMPOSITES

061000 ROUGH CARPENTRY

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Reinforce Existing:				
2x8 Vestibule flr frame	60	SF	15.00	900
Remove/replace subfloor 1st/2nd		NIC		
Rail @ attic lay light	1	LS	700.00	700
Reinforce framing @ skylight open	1	LS	1,000.00	1,000
2x Partitions	Incl. W/ 09250			
New Entry:				
Ext. wall frame	200	SF	5.00	1,000
Wall sheathing	200	SF	3.00	600
Misc. rough carpentry	13,580	GSF	1.00	13,580

062000 FINISH CARPENTRY

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Interior:				
Wd casing @ lobby col (2 EA)	20	VLF	150.00	3,000
Refinish built-in cabinets (4 EA)	1	LS	2,000.00	2,000
New window - wd sill	32	LF	25.00	800
New window - wd trim	160	LF	25.00	4,000
Misc. interior trim	13,580	GSF	2.00	27,160

*Interior wood trim includes wainscot, chair rail, picture wall & wall base

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Exterior:				
ADA adjustment & n. entry casing	1	LS	1,000.00	1,000
Brick mold. @ new windows	160	LF	10.00	1,600
Repair exist. wd trim		NIC		

064000 ARCHITECTURAL WOODWORK

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
SS lav ctr (4 EA)	15	LF	260.00	3,900

*Casework also included in 120000

				61,240

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
DIVISION 07 - THERMAL & MOISTURE PROTECTION				
071000 DAMPPROOFING & WATERPROOFING				
Elev. pit wpg	1	EA	3,500.00	3,500
Porch deck wpg	245	SF	15.00	3,675
Fluid applied air barrier-porch & infills	350	SF	4.00	1,400
Dpg @ exp. n.entry	1	LS	500.00	500

				9,075
072000 THERMAL PROTECTION				
Rigid porch slab insul	245	SF	4.00	980
Exist. ext. wall - 3 1/2" blown in	8,000	SF	2.30	18,400
Attic - 12" cellulose	4,540	SF	2.00	9,080
New ext. wall insul.-porch & infills	350	SF	2.00	700
Porch clg insul	245	SF	2.00	490

				29,650
075000 ROOFING & FLASHING				
Replace mtl downspout (4 EA)	140	LF	30.00	4,200
Downspout boot - conn to gray wtr tank	1	LOC	1,500.00	1,500
Misc. dr & window copper flashing	1	LS	3,000.00	3,000
Roof patch/flash @ MEP - allow	1	LS	5,000.00	5,000
*Excludes general roof repairs				

				13,700
078000 FIRE AND SMOKE PROTECTION				
Firestopping	13,580	GSF	0.20	2,716

				2,716
079000 JOINT PROTECTION				
Misc. joint sealants	13,580	GSF	0.30	4,074
*Includes exterior window sealants				

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL

				4,074
DIVISION 08 - OPENINGS				
081700 INTEGRATED DOOR OPENING ASSEMBLIES				
Refurbish Existing Exterior Door - Historic Treatment:				
Entry - dbl	3	EA	2,500.00	7,500
New Exterior Door, Frame, Hdw, Glass & Glazing:				
Porch entry - sgl	1	EA	3,600.00	3,600
New Interior Door, Frame, Hdw, Glass & Glazing:				
Stair hall - sgl	2	EA	2,500.00	5,000
Mech/elec rm - sgl	3	EA	650.00	1,950
Mech/elec rm - dbl	1	EA	1,100.00	1,100
Storage rm - sgl	4	EA	650.00	2,600
Program work rm - dbl	1	EA	1,800.00	1,800
Archive & research - sgl	3	EA	950.00	2,850
Lobby - sgl	1	EA	1,500.00	1,500
Leasable space - sgl	3	EA	775.00	2,325
Toilet rm - multi user	4	EA	775.00	3,100
Misc. sidelites, clerestory & windows	1	LS	2,000.00	2,000
Replace Hdw - Door & Frame Remain:				
Storage - sgl	5	EA	300.00	1,500
Leasable space - sgl	5	EA	400.00	2,000
Storage - dbl	3	EA	550.00	1,650
Program space - sgl	3	EA	400.00	1,200
Vestibule - dbl	1	EA	2,000.00	2,000
*Excludes fire rated glass & glazing				
083000 SPECIALTY DOORS AND FRAMES				
Coiling ctr dr @ archive reading rm	1	EA	5,000.00	5,000
*Lightproof & vapor sealed				
Access panels - allow	1	LS	1,500.00	1,500
087000 HARDWARE				
Auto open - allow	1	EA	3,600.00	3,600
*Excludes card access system				
*Balance of finish hardware included in 081700				

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
				53,775
085000 WINDOWS				
Historic treatment wd window (75 EA)	2,100	SF	30.00	63,000
Mtl storm wind. - ext. w/low E (81 EA)	2,230	SF	36.00	80,280
New wind. historic prof. to match (3 EA)	96	SF	150.00	14,400
Reinstall historic wd window (3 EA)	48	SF	95.00	4,560
Replace top sash historic wd wind. (2 EA)	32	SF	180.00	5,760

				168,000
088000 GLAZING				
Window solar control film - archival rm (6 EA)	192	SF	7.00	1,344
Misc. glass & glazing	1	LS	1,000.00	1,000
*Glass & glazing also include din 081700 & 085000				

				2,344
089000 LOUVERS AND VENTS				
Mech rm - fresh air louver	1	EA	750.00	750
Energy recovery sys. exh. louver	1	EA	750.00	750
Elev. louver	1	EA	500.00	500

				2,000
DIVISION 09 - FINISHES				
092000 PLASTER & GYPSUM BOARD				
Partitions(Incl. Wd Frame w/Veneer Plaster):				
Ext. wall plaster patch	8,000	SF	1.00	8,000
Exist. Partition - cut in sgl dr open	2	EA	250.00	500
Exist. Partition - cut in recpt. wind open	1	EA	250.00	250
Exist. Partition - infill sgl dr open	2	EA	300.00	600
Stair hall part w/l lyr 5/8" gyp 2 sides	315	SF	14.50	4,568
Typ part. w/1 lyr 5/8"gyp 2 sides	3,283	SF	10.00	32,830
2 Hr.part. - w/2 lyr 5/8" gyp 2 sides	350	SF	14.50	5,075
Furr w/lyr 5/8 gyp. @ elev. CMU	720	SF	6.50	4,680
Mech shaft wall - allow	500	SF	14.50	7,250
Tile backer board premium	743	SF	1.75	1,300

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Gyp Ceilings:				
Stucco porch ceiling	245	SF	23.00	5,635
New plaster ceiling - 1st flr	3,436	SF	12.00	41,232
Restore plaster ceiling - 2nd flr	4,453	SF	5.00	22,265
New suspended gyp ceiling	4,581	SF	9.00	41,229
Elec/mech rm 2 hr. gyp ceiling	400	SF	13.00	5,200
Gyp soffits - allow	1	LS	7,500.00	7,500
Misc. GWB assemblies	13,580	GSF	1.00	13,580
*GWB wallboard includes sound attenuation, level 5 finish				

				201,694
093000 TILING				
Janitor Closet (2 EA)				
Marble threshold	2	EA	50.00	100
Floor tile	52	SF	18.00	936
Wall base	42	LF	7.00	294
Wainscot - 42"	148	SF	18.00	2,664
Toilet Rm (4 EA):				
Marble threshold	4	EA	50.00	200
Floor tile	445	SF	18.00	8,010
Wall base	170	LF	7.00	1,190
Wainscot - 42"	595	SF	18.00	10,710
Porch:				
Ext. glazed paver tile	245	SF	50.00	12,250

				36,354
095100 ACOUSTICAL CEILINGS		N/A		

				0
096400 WOOD FLOORING				
Wood composite flr	1,130	SF	15.00	16,950

				16,950
096500 RESILIENT FLOORING				
Resilient stair hall finish	4	FLT	1,200.00	4,800

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Floor prep	1,910	SF	0.50	955
VCT	1,800	SF	3.25	5,850
Sheet vinyl	14	SY	85.00	1,190
Resilient wall base	1	LS	3,000.00	3,000

				15,795
096800 CARPETING				
Floor prep	5,970	SF	0.50	2,985
Carpet tile	696	SY	44.00	30,624

				33,609
099000 PAINTING				
Exterior painting	1	LS	15,000.00	15,000
Interior painting	13,580	GSF	3.50	47,530
*Exterior painting includes all existing wood trim at eave/frieze and entries				
*Window painting is included in 08500				

				62,530
DIVISION 10 - SPECIALTIES				
101400 SIGNAGE				
ADA signage	13,580	GSF	0.15	2,037
Lobby directory	3	EA	2,000.00	6,000
Ext. signage	1	LS	2,500.00	2,500
102100 COMPARTMENTS AND CUBICLES				
Fiberglass Toilet Partition:				
Std partition	2	EA	1,200.00	2,400
ADA partition	4	EA	1,400.00	5,600
Urinal screen	2	EA	275.00	550
102800 TOILET ACCESSORIES				
Lav mirror	4	EA	180.00	720
Towel disp/waste receptacle	4	EA	200.00	800
Toilet tissue dispenser	6	EA	50.00	300
Toilet grab bars	8	EA	95.00	760
Soap dispenser	4	EA	55.00	220

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Coat hooks	6	EA	15.00	90
Auto hand dryer		NIC		
104400 FIRE PROTECTION SPECIALTIES				
Fire extinguisher & cab - allow	3	EA	350.00	1,050
109000 MISCELLANEOUS SPECIALTIES				
Misc. specialties	1	LS	2,000.00	2,000

				25,027
DIVISION 11 - EQUIPMENT				
110000 EQUIPMENT				
Projection screen - 10'h - manual	1	EA	900.00	900
Kitchen appliances		NIC		
AV equipment		NIC		

				900
DIVISION 12 - FURNISHINGS				
120000 FURNISHINGS				
Window Treatments:				
Black out blinds (4 EA)	128	SF	6.00	768
Roll down blinds (81 EA)	2,230	SF	3.75	8,363
Casework:				
Display cases (84" high)	9	EA	4,500.00	40,500
P.lam kitchen base/wall cab (3 loc)	58	LF	375.00	21,750
P. lam reception desk (rm 201)	32	LF	225.00	7,200
Entrance floor mats & frame (3'x4')	3	EA	250.00	750
Furniture		NIC		
Multiple seating		NIC		

				79,331

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
DIVISION 13 - SPECIAL CONSTRUCTION				
130000 SPECIAL CONSTRUCTION		N/A		

				0
DIVISION 14 - CONVEYING EQUIPMENT				
142000 ELEVATORS				
Passenger elevator (2 door)	4	STOP	35,000.00	140,000
*Machine room - less electric traction elevator				

				140,000
DIVISION 21 - FIRE SUPPRESSION				
210000 FIRE SUPPRESSION				
Sprinkler sys - wet (B-2nd)	13,580	GSF	4.50	61,110
Sprinkler sys - dry (attic)	4,540	GSF	4.50	20,430
*Excludes fire pump				

				81,540
DIVISION 22 - PLUMBING				
220000 PLUMBING				
Demolition & disconnects	1	LS	1,500.00	1,500
Fixtures:				
Water closet	6	EA	1,850.00	11,100
Urinal	2	EA	1,300.00	2,600
Lavatory - ctr mtd	4	EA	1,450.00	5,800
Mop receptor - allow	3	EA	1,550.00	4,650
Water cooler - allow	2	EA	3,100.00	6,200
Kitchen sink	2	EA	1,700.00	3,400
Fixture connection	19	EA	2,000.00	38,000
Wall hydrant - allow	4	EA	200.00	800
Water heater	1	EA	5,000.00	5,000
Porch drain	1	EA	1,000.00	1,000
Drain under basement slab		NIC		
Basement floor drain - allow	2	EA	1,000.00	2,000

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Toilet rm floor drain	4	EA	1,000.00	4,000
Roof drainage		w/Roofing		
Sump pump - allow	1	EA	500.00	500
Sewer ejector pump		N/A		
Water service	1	LS	1,200.00	1,200
Sanitary service	1	LS	600.00	600
Misc. plumbing	1	LS	2,000.00	2,000

				90,350
DIVISION 23 - HVAC				
230000 HVAC				
Demolition & disconnects	1	LS	1,500.00	1,500
HVAC - VRV	13,580	GSF	26.50	359,870
Archives climate controlled rm	1	LS	7,500.00	7,500

				368,870
DIVISION 26 - ELECTRICAL				
260000 ELECTRICAL				
Demolition & disconnects	1	LS	1,500.00	1,500
Electrical (B-2nd)	13,580	GSF	21.00	285,180
Generator - 60 kw	1	LS	42,000.00	42,000
Attic lighting - allow	1	LS	5,000.00	5,000
Site Lighting:				
Light pole w/ conc. base	4	EA	2,800.00	11,200
*Wall lights and time clock included w/building				

				344,880
DIVISION 31 - EARTHWORK				
310000 EARTHWORK				
Site:				
Regrade n. entry	1	LS	1,000.00	1,000
8" Gravel base @ paving	14	CY	100.00	1,400
N. entry stair excavation	1	LS	1,000.00	1,000

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
Basement:				
Col. ftg excavation	3	EA	125.00	375
Elev. pit excavation	1	LS	3,000.00	3,000
Basement fill - geofoam 30"	1,600	CF	1.50	2,400
Misc. earthwork	1	LS	2,500.00	2,500
311000 SITE CLEARING				
Site Preparation @:				
N. entry stair	1	LS	500.00	500
New hardscape/landscape	1	LS	500.00	500
Misc. site preparation	1	LS	1,000.00	1,000

				13,675
DIVISION 32 - EXTERIOR IMPROVEMENTS				
321000 PAVING AND CURBING				
Sloped bituminous walkway	146	SF	5.00	730
Pavement patch @ utilities	1	LS	1,000.00	1,000
New hardscape	410	SF	10.00	4,100
323000 SITE IMPROVEMENTS				
Site sign		NIC		
Parking signage	1	LS	500.00	500
Replant stockpiled sod (580 SF)	1	LS	2,500.00	2,500
Hydroseed disturbed area	1	LS	1,500.00	1,500
Flowering shrub	12	EA	75.00	900
Drip irrigation sys.	1	LS	1,500.00	1,500
Misc. site improvements	1	LS	2,000.00	2,000

				14,730
DIVISION 33 - UTILITIES				
330000 UTILITIES				
Water - Allow:				
Bmt. water utility storage tank (10,000 gal)		See Concrete		
Street connection	1	LS	4,500.00	4,500
6" Fire service	90	LF	78.00	7,020

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
2" Dom. service	90	LF	42.00	3,780
6" Gate valve	1	EA	980.00	980
2" Gate valve	1	EA	675.00	675
*Thayer Memorial Drive street connection				
Electrical Service - Allow:				
Handhole - allow	4	EA	1,200.00	4,800
Elec. duct bank (conc. & excav.)	200	LF	44.00	8,800
Transformer pad	1	EA	1,200.00	1,200
Emergency generator pad		N/A		
Sanitary:				
Sanitary line	48	LF	75.00	3,600
Existing manhole connection	1	EA	3,500.00	3,500
Storm Drainage - Allow:				
4" Perf pipe	70	LF	28.00	1,960
6" PVC pipe - to storm water tank	70	LF	32.00	2,240
Parking drain line - 12"		N/A		
Area drain		N/A		
Catch basin		N/A		
Drain manhole		N/A		
Gas (Existing Underground Propane Tank):				
New gas line	45	LF	30.00	1,350
Mechanical:				
Small condenser pad	2	EA	1,500.00	3,000
*Site Utilities include excavation and backfill				

				47,405

PROJECT: Prescott Building
LOCATION: Lancaster, MA
CLIENT: Menders, Torrey & Spencer, Inc.
DATE: 15-Feb-12

No.: 12001

Prescott Building 2/15/2012

DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
ALTERNATE NO. 1 ADD GREY WATER SYSTEM				
Add:				
Cast grey water tank and foundation	1	LS	30,000.00	30,000
Grey water pump and filters	1	LS	12,000.00	12,000
SUBTOTAL				42,000
GENERAL CONDITIONS		7 %		2,940
SUBTOTAL				44,940
GENERAL ADMINISTRATIVE O&P		8 %		3,595
SUBTOTAL				48,535
P&P BOND		1.5 %		728
SUBTOTAL				49,263
PERMITS		1 %		493
SUBTOTAL				49,756
CONTINGENCY		10 %		4,976
SUBTOTAL				54,731
ESCALATION		5 %		2,737
TOTAL ALTERNATE NO. 1				57,468

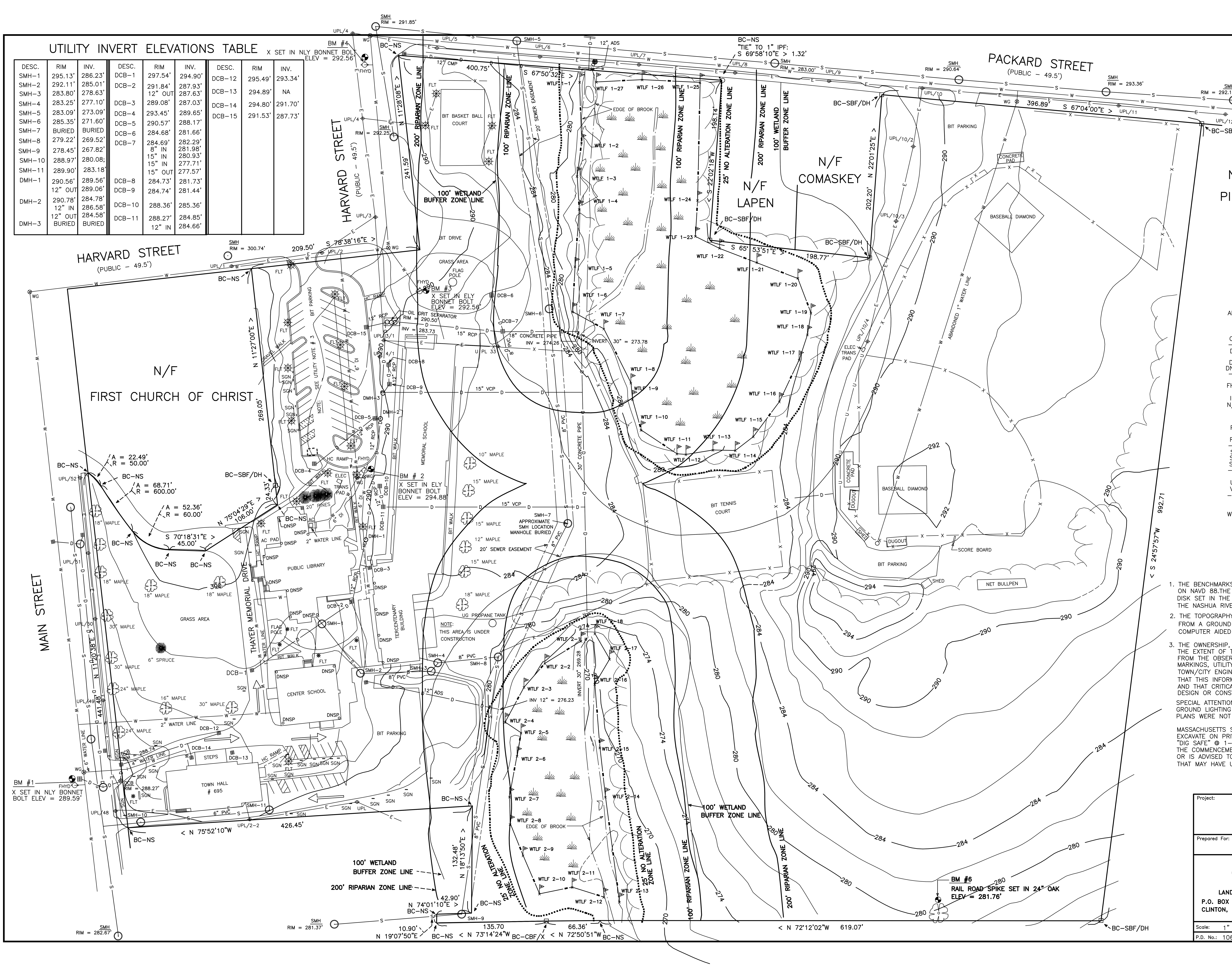
SITE PLAN

UTILITY INVERT ELEVATIONS TABLE

DESC.	RIM	INV.
SMH–1	295.13'	286.23'
SMH–2	292.11'	285.01'
SMH–3	283.80'	278.63'
SMH–4	283.25'	277.10'
SMH–5	283.09'	273.09'
SMH–6	285.35'	271.60'
SMH–7	BURIED	BURIED
SMH–8	279.22'	269.52'
SMH–9	278.45'	267.82'
SMH–10	288.97'	280.08;
SMH–11	289.90'	283.18'
DMH–1	290.56'	289.56'
	12" OUT	289.06'
DMH–2	290.78'	284.78'
	12" IN	286.58'
	12" OUT	284.58'
DMH–3	BURIED	BURIED

DESC.	RIM	INV.
DCB–1	297.54'	294.90'
DCB–2	291.84'	287.93'
	12" OUT	287.63'
DCB–3	289.08'	287.03'
DCB–4	293.45'	289.65'
DCB–5	290.57'	288.17'
DCB–6	284.68'	281.66'
DCB–7	284.69'	282.29'
	8" IN	281.98'
	15" IN	280.93'
	15" IN	277.71'
	15" OUT	277.57'
DCB–8	284.73'	281.73'
DCB–9	284.74'	281.44'
DCB–10	288.36'	285.36'
DCB–11	288.27'	284.85'
	12" IN	284.66'

DESC.	RIM	INV.
DCB–12	295.49'	293.34'
DCB–13	294.89'	NA
DCB–14	294.80'	291.70'
DCB–15	291.53'	287.73'



SCALE: 1" = 50'

– LEGEND –

A DENOTES: A CURVE ARC LENGTH
ADS DENOTES: CORRUGATED PLASTIC PIPE
BC DENOTES: BOUNDARY CORNER
BIT DENOTES: BITUMINOUS
BM DENOTES: BENCH MARK
CMP DENOTES: CORRUGATED METAL PIPE
–D– DENOTES: DRAIN LINE
DCB DENOTES: DRAIN CATCH BASIN
DI DENOTES: DUCTILE IRON PIPE
DMH DENOTES: DRAIN MANHOLE
DNSP DENOTES: DOWNSPOUT
–E– DENOTES: OVERHEAD ELECTIC
FLT DENOTES: FLOOD LIGHT
FHYD DENOTES: FIRE HYDRANT
HC DENOTES: HANDICAP
IPF DENOTES: IRON PIPE FOUND
N/F DENOTES: NOW OR FORMERLY
NS DENOTES: NOT SET
PB DENOTES: PLAN BOOK
PL DENOTES: PLAN
PVC DENOTES: POLYVINYL CHLORIDE PIPE
R DENOTES: A CURVE RADIUS LENGTH
RCP DENOTES: REINFORCED CONCRETE PIPE
–S– DENOTES: SEWER LINE
SBF DENOTES: STONE BOUND FOUND
SGN DENOTES: SIGN
SMH DENOTES: SEWER MANHOLE
–U– DENOTES: UNDERGROUND ELECTRIC
UG DENOTES: UNDERGROUND
UPL DENOTES: UTILITY POLE
VCP DENOTES: VETRIFIED CLAY PIPE
–W– DENOTES: WATER LINE
WG DENOTES: WATER GATE
WL DENOTES: WATER LINE
WTLF DENOTES: WETLAND FLAG

– NOTES –

1. THE BENCHMARKS AND ELEVATIONS SHOWN HEREON ARE BASED ON NAVD 88.THE ORIGIN OF DATUM IS A MASS. GEODETIC SURVEY DISK SET IN THE NW WINGWALL OF THE MAIN ST. BRIDGE OVER THE NASHUA RIVER.ELEVATION 245.626 FT.
2. THE TOPOGRAPHY AND CONTOURS SHOWN HEREON WERE DEVELOPED FROM A GROUND SURVEY USING A TOTAL STATION INSTRUMENT AND COMPUTER AIDED DRAFTING METHODS.
3. THE OWNERSHIP, LOCATION, SIZE, DEPTH, TYPE OF MATERIAL, AND THE EXTENT OF THE UTILITIES SHOWN HEREON HAVE BEEN DERIVED FROM THE OBSERVATION OF SURFACE EVIDENCE, UTILITY CO. PAINT MARKINGS, UTILITY CO. MAPS, AND UTILITY MAPS OBTAINED FROM TOWN/CITY ENGINEER AND/OR DPW OFFICES. IT SHOULD BE NOTED THAT THIS INFORMATION IS TO BE CONSIDERED APPROXIMATE ONLY AND THAT CRITICAL DATA SHOULD BE FIELD VERIFIED BEFORE FINAL DESIGN OR CONSTRUCTION IS UNDERTAKEN.

SPECIAL ATTENTION IS TO BE MADE AS TO THE LOCATION OF UNDERGROUND LIGHTING IN THE VICINITY OF THE LIBRARY, WHERE AS-BUILT PLANS WERE NOT AVAILABLE.

MASSACHUSETTS STATE LAW REQUIRES ANYONE PROPOSING TO EXCAVATE ON PRIVATE OR PUBLIC PROPERTY TO REGISTER WITH "DIG SAFE" @ 1-888-344-7233, AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IN ADDITION, THE CONTRACTOR IS ADVISED TO CONTACT ALL MUNICIPAL AND STATE AGENCIES THAT MAY HAVE UTILITIES IN THE AREA.

TOPOGRAPHIC SITE SURVEY

Project:
THAYER FIELD RECREATION CENTER
695 MAIN STREET
LANCASTER, MA.

Prepared For:
TOWN OF LANCASTER

CABCO CONSULT
LAND AND ENVIRONMENTAL CONSULTING SERVICES
P.O. BOX 14
CLINTON, MA 01510
TEL. 800-675-1591
FAX. 978-365-7419

Scale: 1" = 50'	Date: 08/23/11	By: JA
P.O. No.: 10651051[0	File No.: WOR147.20	Sheet 1 of 1

MEETING MATERIALS

Prescott Building
Program of Needs
(From meeting on 9.15.11)

<u>Historical Commission:</u> (square footages based on provided layout plan)

Archive Storage – 600 SF

Re-use existing storage units

Regular Four Drawer:	7 units at 2'-0" x 5'-0"
Fireproof Four Drawer:	10 units at 2'-0" x 5'-0"
Wire Rack:	8 units at 3'-0" x 4'-0"
Map Cabinet:	3 units at 3'-0" x 3'-6"

Climate Controlled Storage – 130 SF (MTS recommendation, subtracted from storage shown on plan)

Research Room – 520 SF

Tables and chairs
Computer stations
WIFI and electrical plug availability
Access to Commission staff
Occupancy: Up to 8

Collections Processing – 100 SF

Occupancy: 2-4

Orientation, Presentation, Meeting Room – 730 SF

Occupancy: 25-30
Used to project videos, give lectures and presentations
Audio visual system?

Exhibit Space – 820 SF

Casework to display special collections, possible rotating displays

Office – 120 SF

Occupancy: 1

<u>Leasable Office Space:</u>

One Floor – 3,500 to 4,500 SF

Secure doors
Ability to have multiple lease holders

Town Storage:

Storage Rooms – 3,000 to 4,000 SF (All remaining lower level space)

Secure doors
Well lit
Layout tables and storage units

General:

Restrooms – 250 – 300 SF

Four accessible toilet rooms
2 male, 2 female.
1 of each per floor

Kitchenette – 200 SF

One per floor at 100 SF ea

Utility Closet – 50 SF

One per floor at 25 SF ea

Mechanical Room - 600 SF

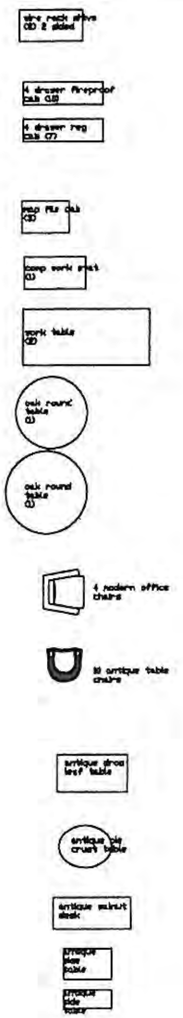
Sprinkler room
Mechanical room
Elevator machine room

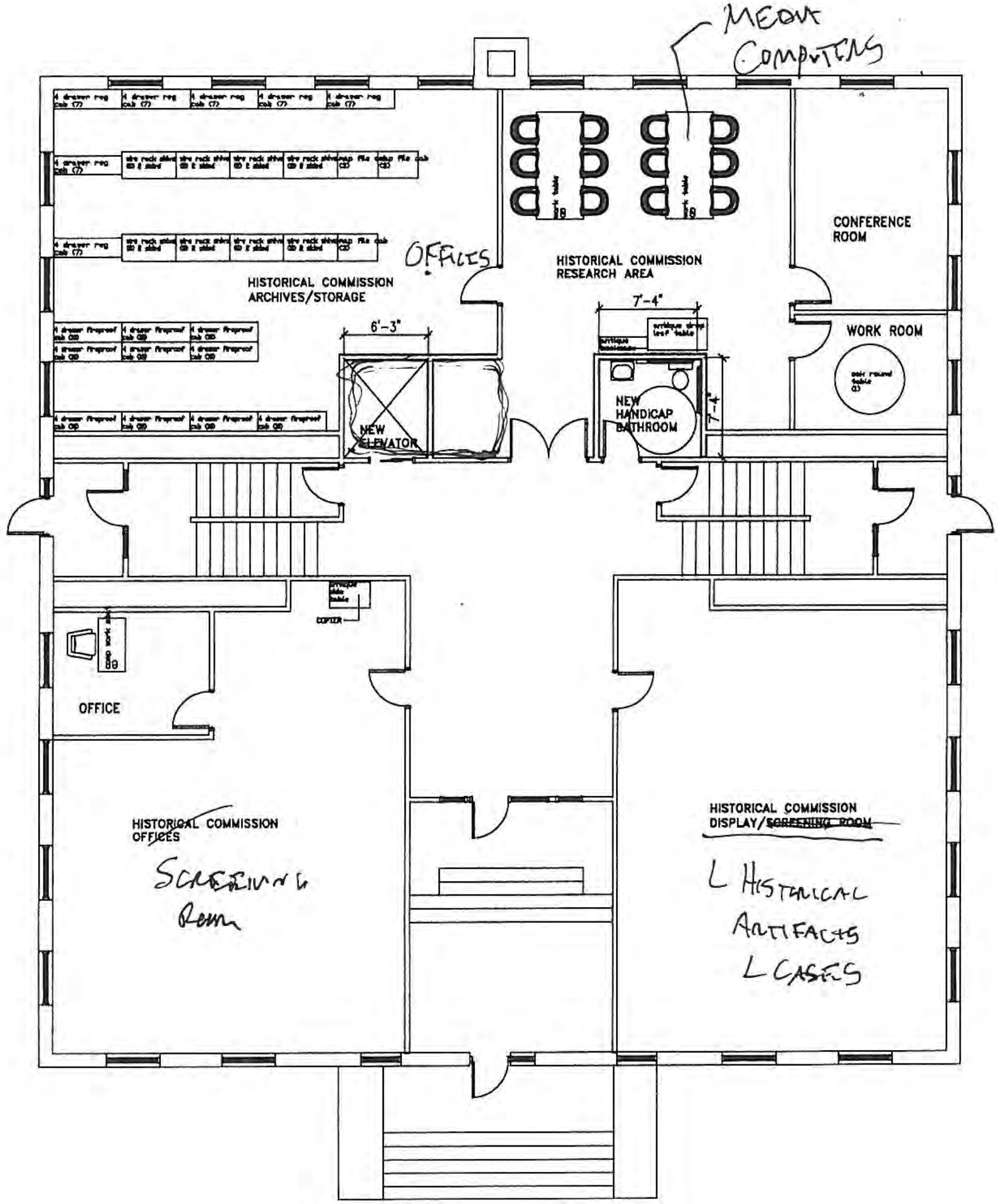
Project Timeline: Prescott Building, Lancaster, MA

Task	Responsibility	Aug 2011	Sept 2011	Oct 2011	Nov 2011	Dec 2011	Jan 2012
Start Up							
Architect selection & contract	Town of Lancaster						
Review MPPF Round 17 application prepared by the Town	Architect (MTS)						
Phase 1: Start up, Document Review, Stakeholder Meetings							
Meet with Town representatives to discuss project objectives & define next steps	Town Architect (MTS)						
Meet with Historical Commission to discuss collections storage needs	Historical Commission Architect (MTS)						
Obtain available historic documentation and repair reports	Town Architect (MTS)						
Develop program of needs & confirm with Town	Town Architect (MTS)						
Phase 2: Existing Conditions Assessment & Recommendations							
Review available documentation	Architect (MTS)						
Measure & prepare plan and elevation drawings on CAD	Architect (MTS)						
Identify character defining features	Architect (MTS)						
Perform architectural conditions assessment & develop treatment recommendations	Architect (MTS)						
Perform structural assessment	Structures North						
Evaluate mechanical and life safety systems	CSI Engineering						
Recommendations for site utilities, grades & drainage	Whitman & Bingham						
Identify & evaluate hazardous materials	Fuss & O'Neill						
Perform regulatory analysis - building code, zoning, etc.	Architect (MTS)						
Develop prioritized treatment recommendations	Architect (MTS)						
Prepare cost estimates for treatment recommendations	A.M. Fogarty						
Prepare cyclical maintenance plan	Architect (MTS)						
Synthesize conditions assessment findings	Architect (MTS)						
Meet with Town to review findings	Town Architect (MTS)						
Phase 3: Feasibility Study for Adaptive Use							
Develop conceptual design for stabilization & adaptive reuse based on priorities established by the Town	Architect (MTS)						
Meet with Town to discuss conceptual design & refine direction; select 2 preferred rehabilition options. Assume 2 meetings	Town Architect (MTS)						
Meet with Building Inspector & Fire Chief to review conceptual design recommendations.	Town Architect (MTS)						
Prepare cost estimates for the 2 design options	A.M. Fogarty						
Develop a phased construction schedule	Architect (MTS)						
Meet to review cost estimates & schedule. Ideally, a single option will be selected	Town Architect (MTS)						
Holidays							
Public presentation of final report draft	Architect (MTS)						
Incorporate public input and deliver finalized report	Architect (MTS)						

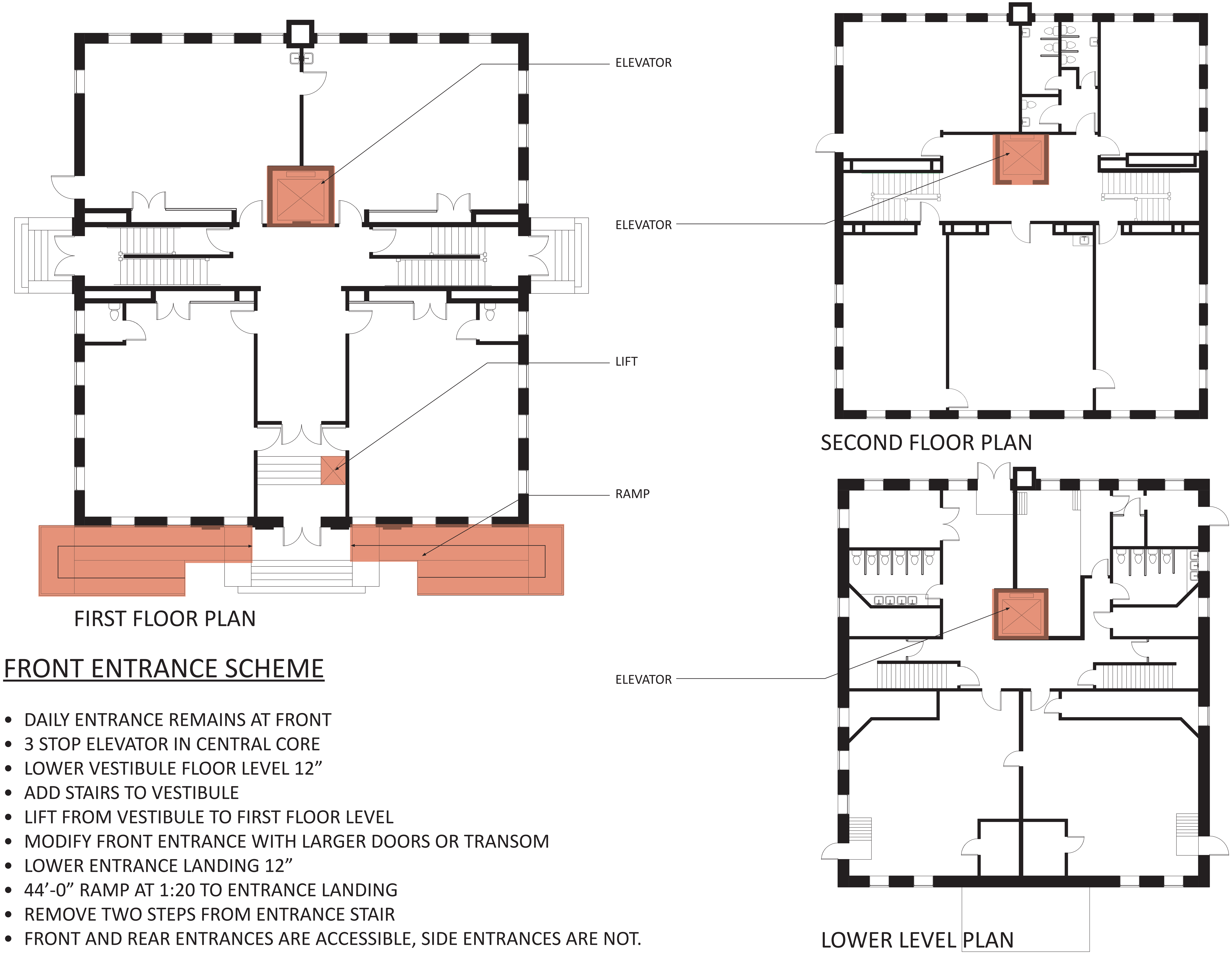
FURNITURE INDEX

Media-Digital
Media Room





October 27th @ 3:00 PM
November 10th @ 3:00 PM
December 1st @ 3P
January 8th @ 3PM



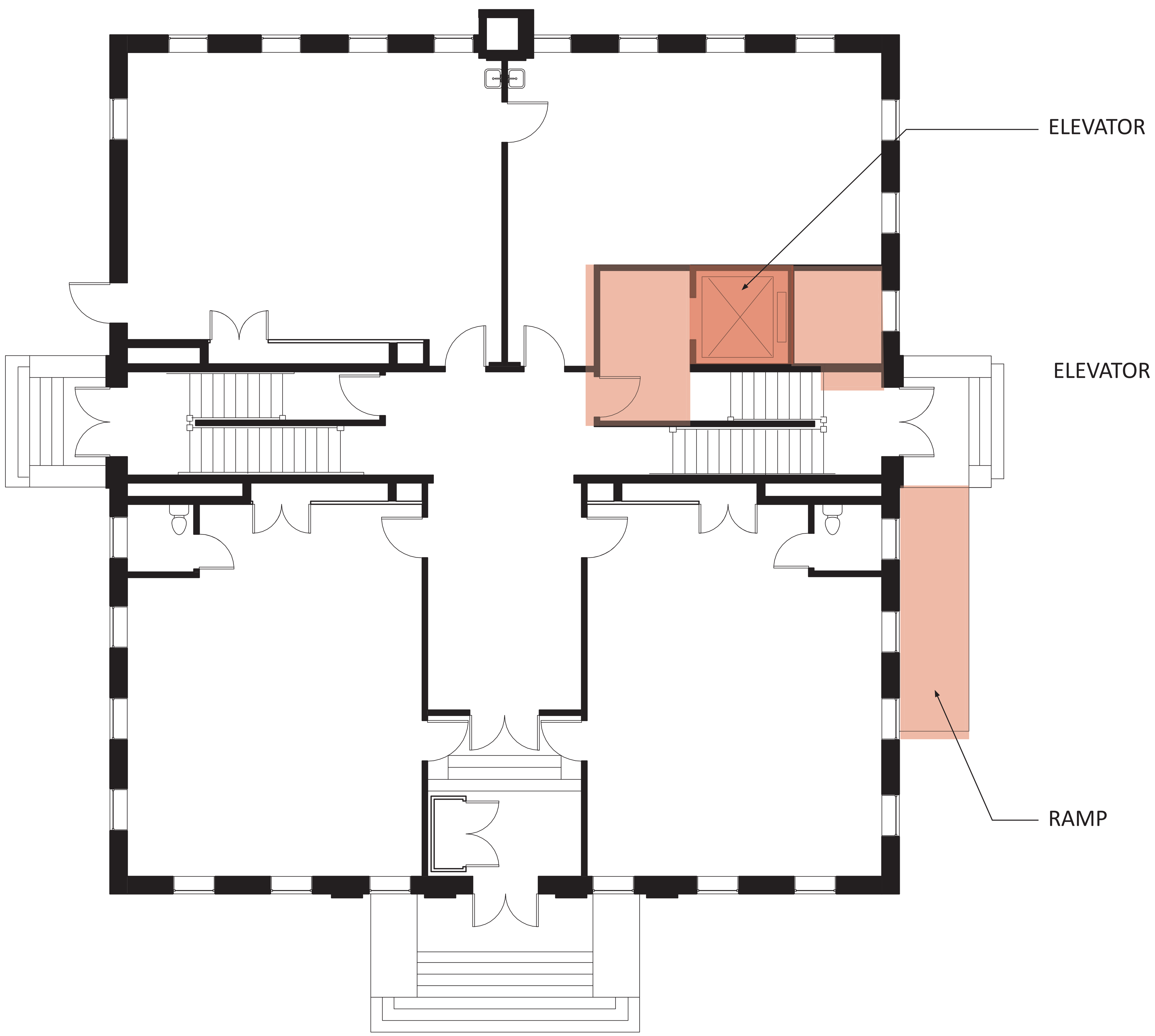
FIRST FLOOR PLAN

SECOND FLOOR PLAN

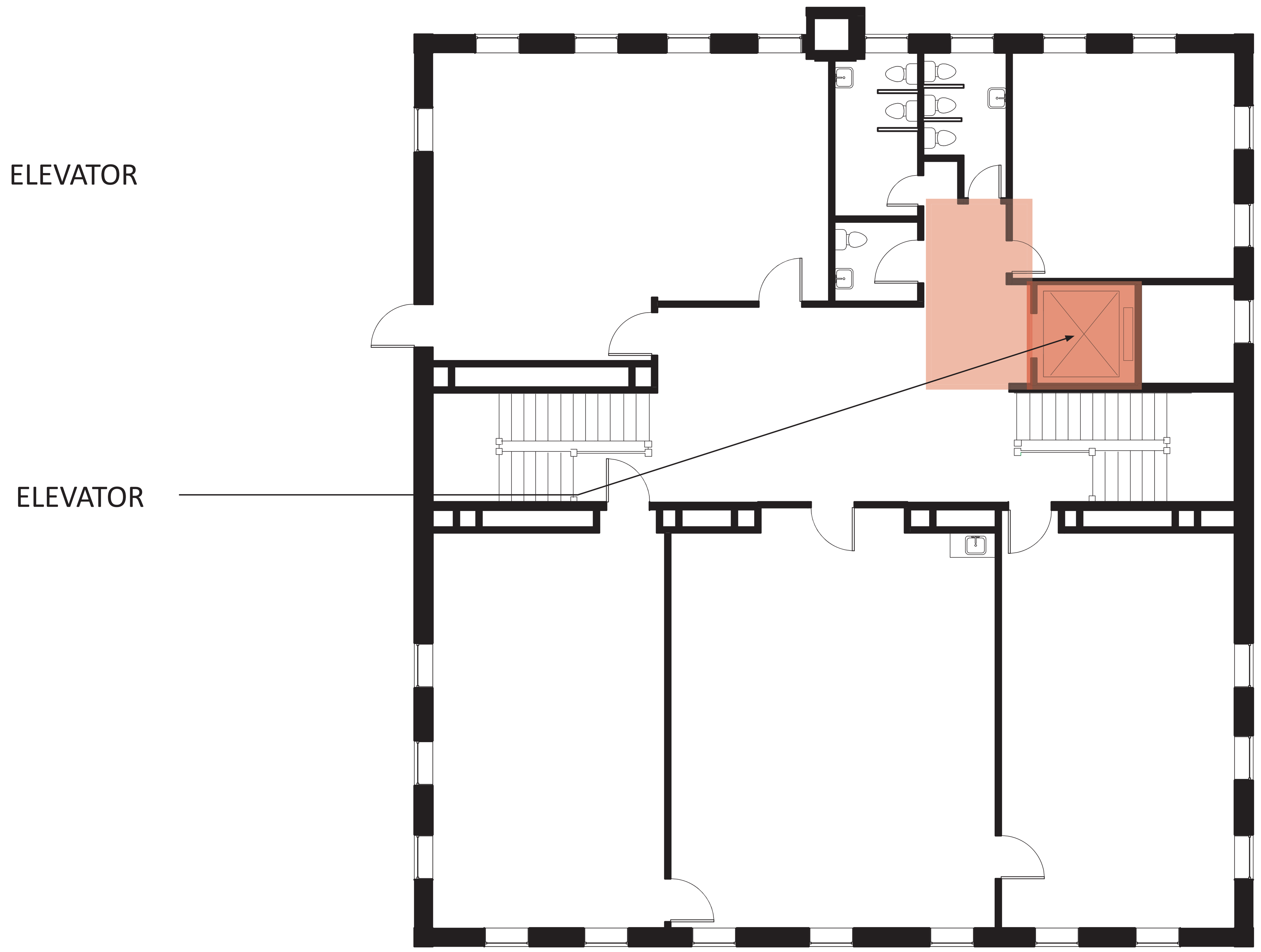
LOWER LEVEL PLAN

FRONT ENTRANCE SCHEME

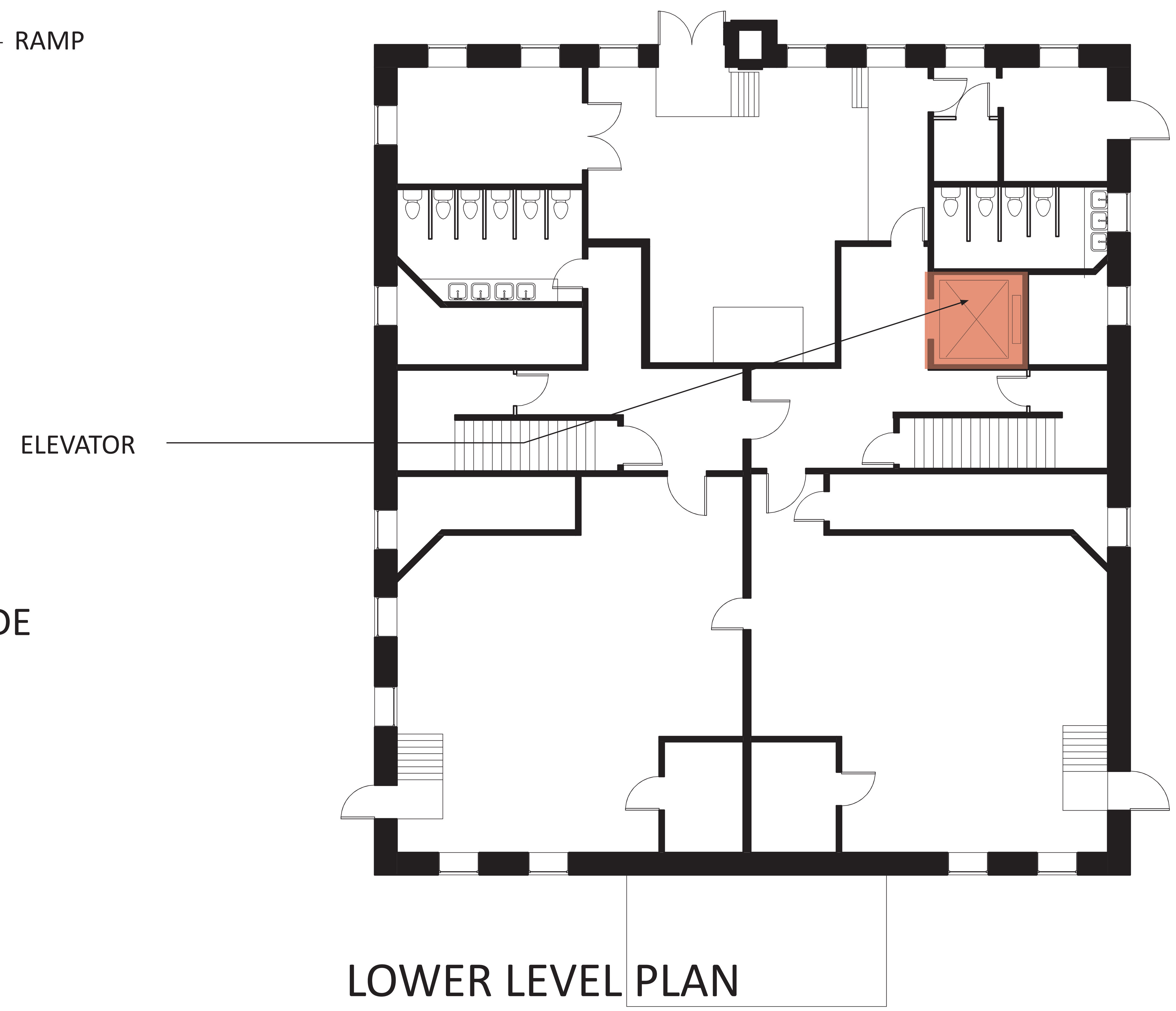
- DAILY ENTRANCE REMAINS AT FRONT
- 3 STOP ELEVATOR IN CENTRAL CORE
- LOWER VESTIBULE FLOOR LEVEL 12”
- ADD STAIRS TO VESTIBULE
- LIFT FROM VESTIBULE TO FIRST FLOOR LEVEL
- MODIFY FRONT ENTRANCE WITH LARGER DOORS OR TRANSOM
- LOWER ENTRANCE LANDING 12”
- 44’-0” RAMP AT 1:20 TO ENTRANCE LANDING
- REMOVE TWO STEPS FROM ENTRANCE STAIR
- FRONT AND REAR ENTRANCES ARE ACCESSIBLE, SIDE ENTRANCES ARE NOT.



FIRST FLOOR PLAN



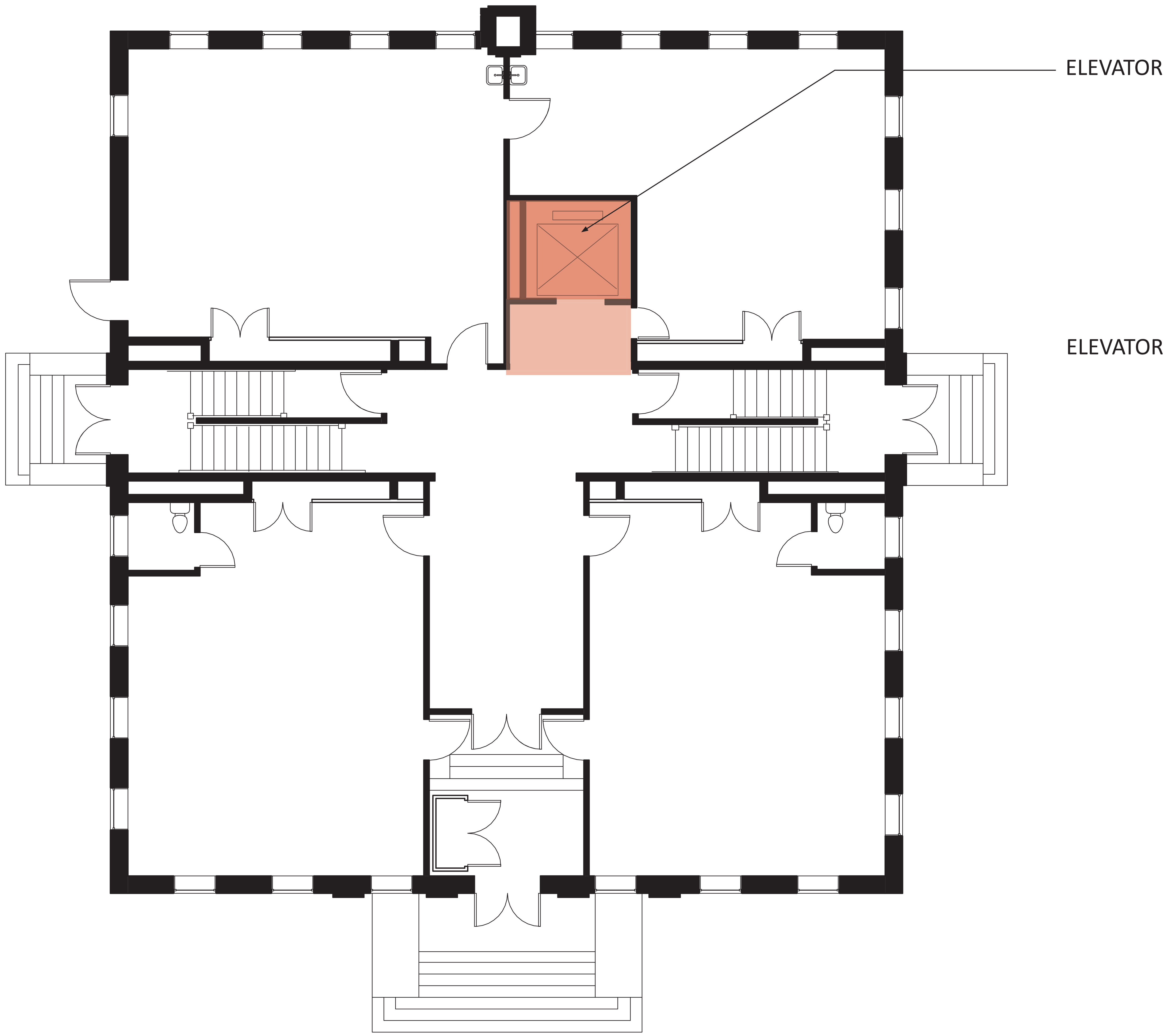
SECOND FLOOR PLAN



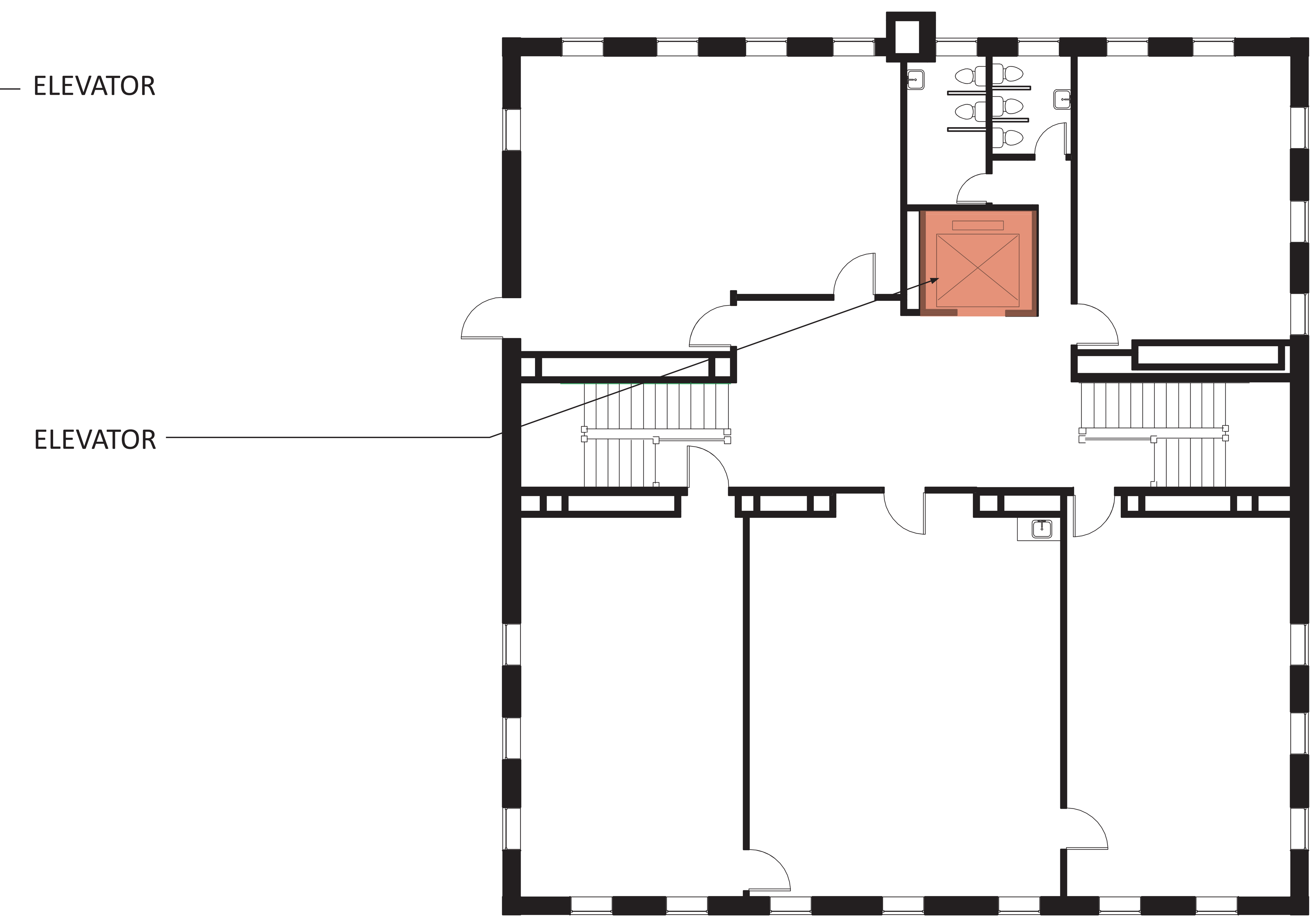
LOWER LEVEL PLAN

SIDE ENTRANCE SCHEME

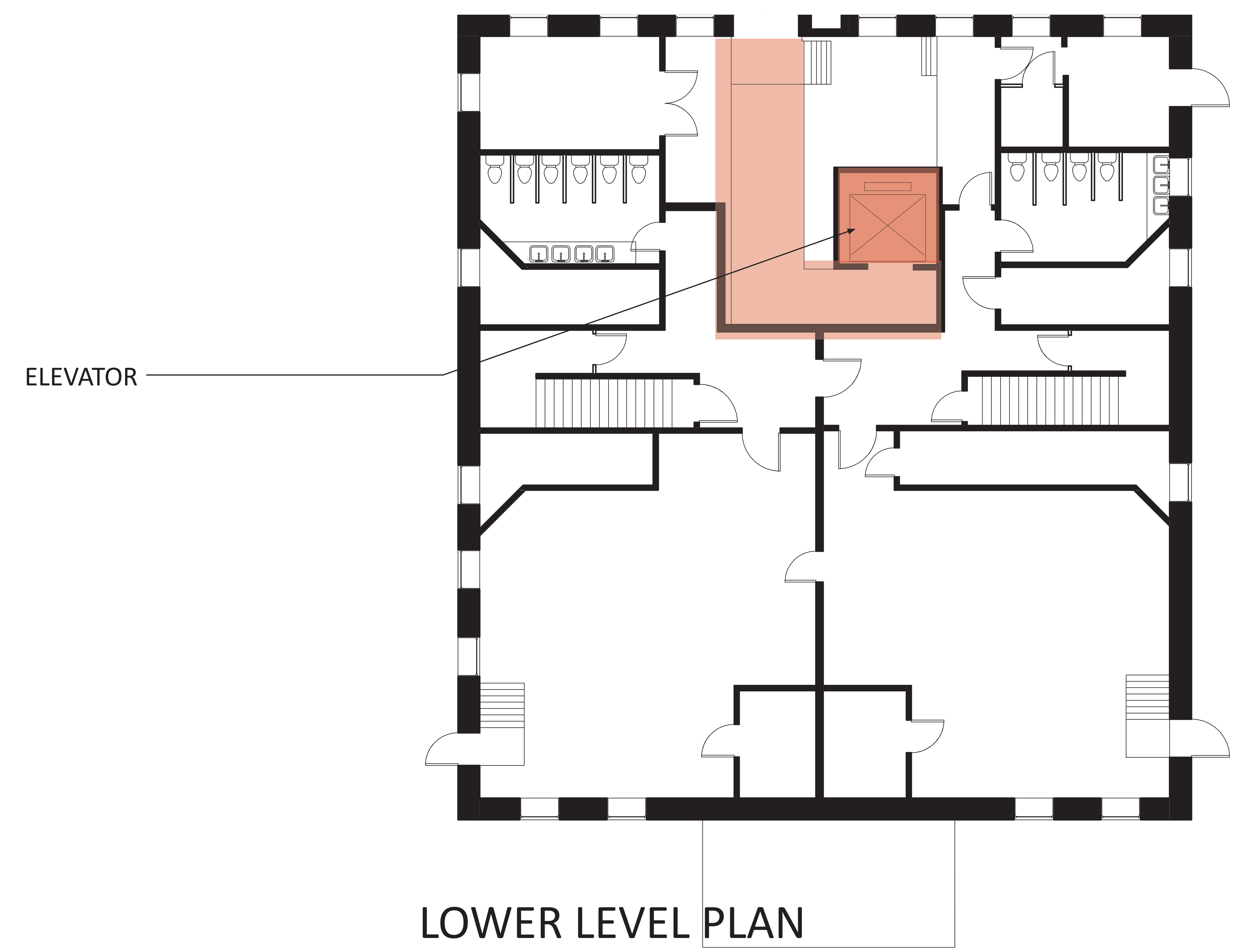
- DAILY ENTRANCE MOVED STAIR LANDING HEIGHT AT SIDE OF BUILDING
- 4 STOP, TWO ENTRANCE ELEVATOR IN CENTRAL CORE
- FIRST FLOOR FRAMING MODIFIED TO CREATE VESTIBULE AT LEVEL OF SIDE ENTRANCE
- ENTRANCE LANDING RAISED TO STAIR LANDING HEIGHT
- 21’-0” RAMP AT 1:12 TO ENTRANCE LANDING
- ONE SIDE ENTRANCE AND REAR ENTRANCE ARE ACCESSIBLE



FIRST FLOOR PLAN



SECOND FLOOR PLAN

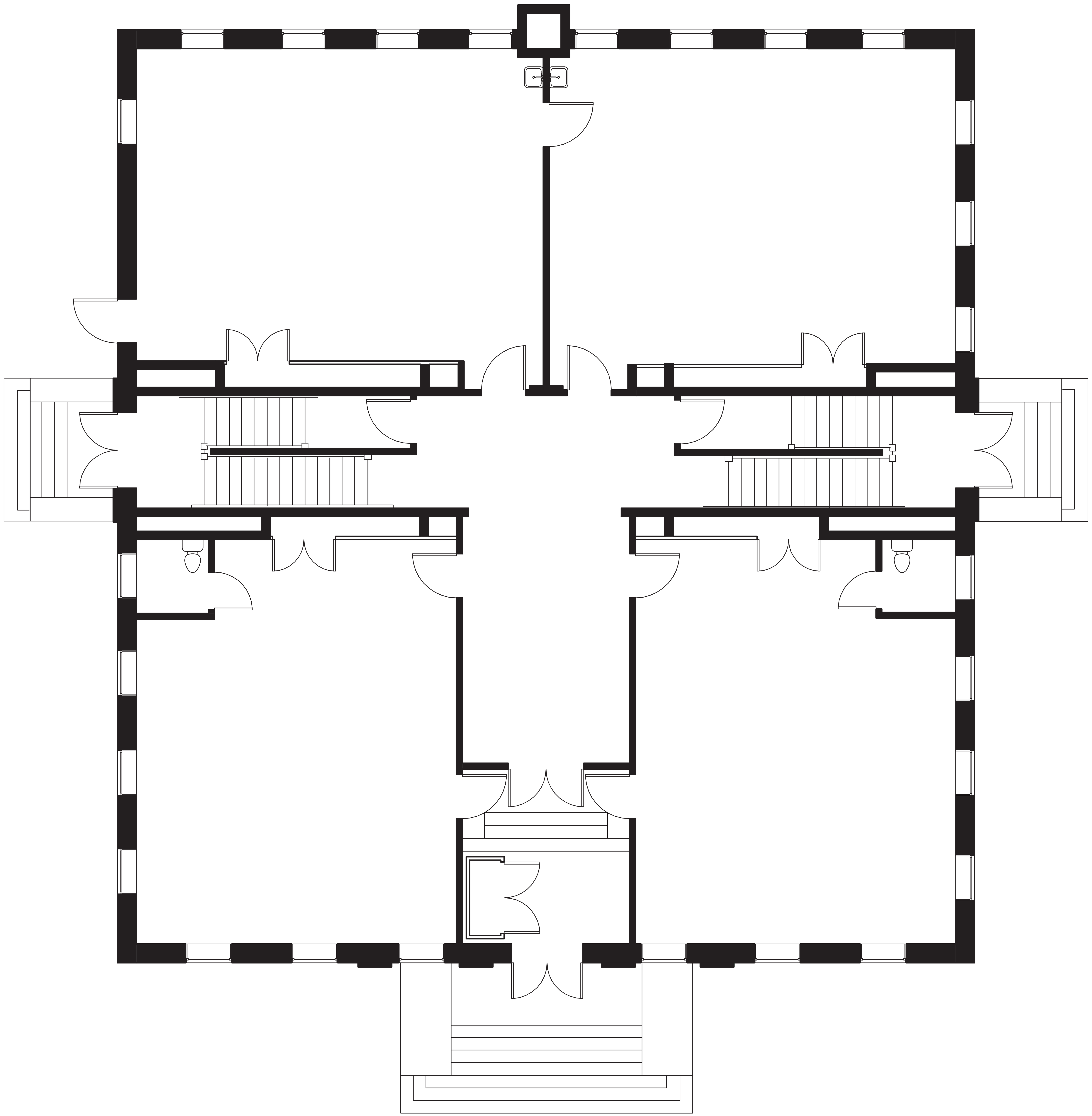


LOWER LEVEL PLAN

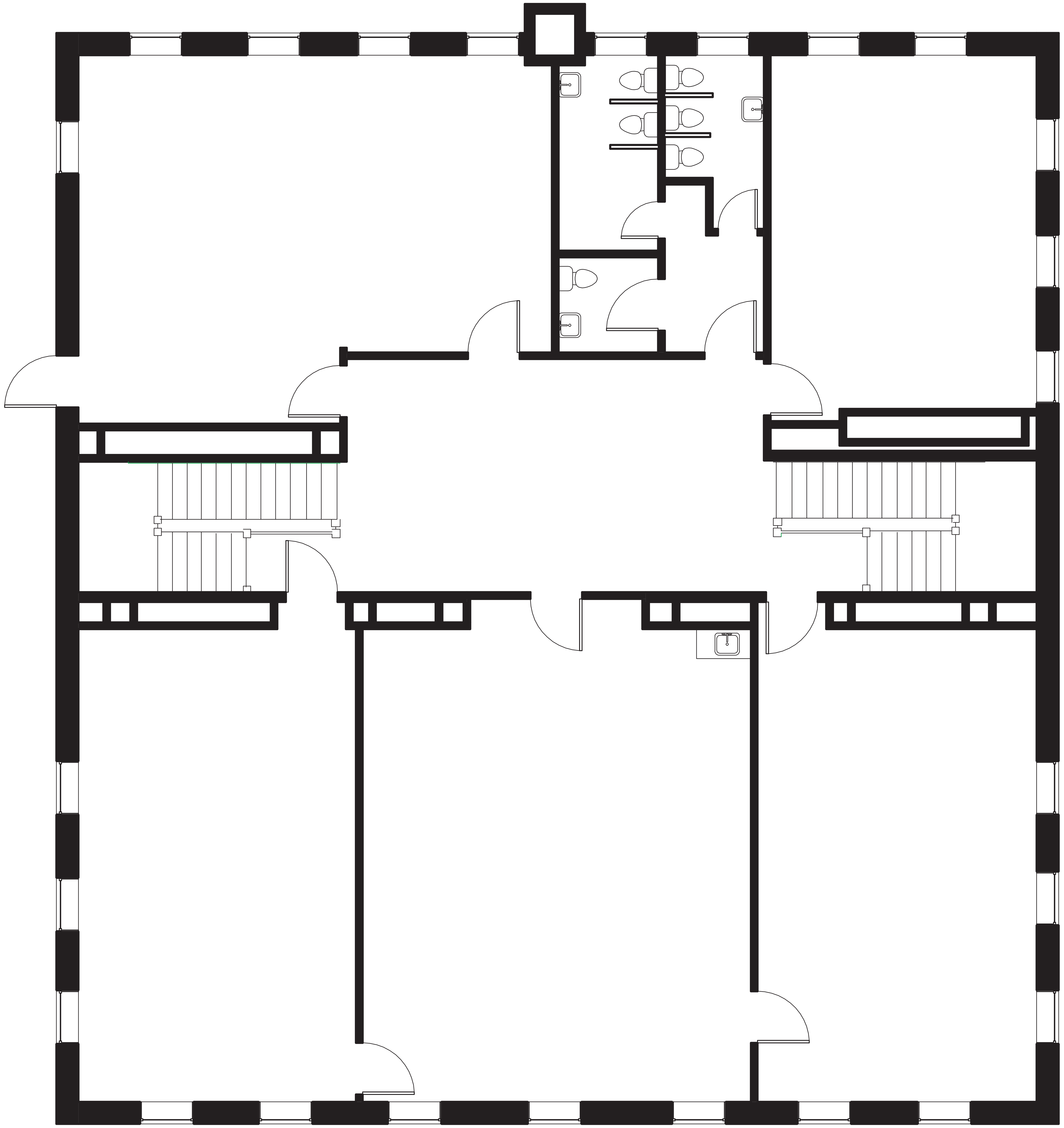
REAR ENTRANCE SCHEME

- DAILY ENTRANCE MOVED TO LOWER LEVEL AT REAR OF BUILDING
- 3 STOP ELEVATOR IN CENTRAL CORE
- ONLY REAR ENTRANCE IS ACCESSIBLE

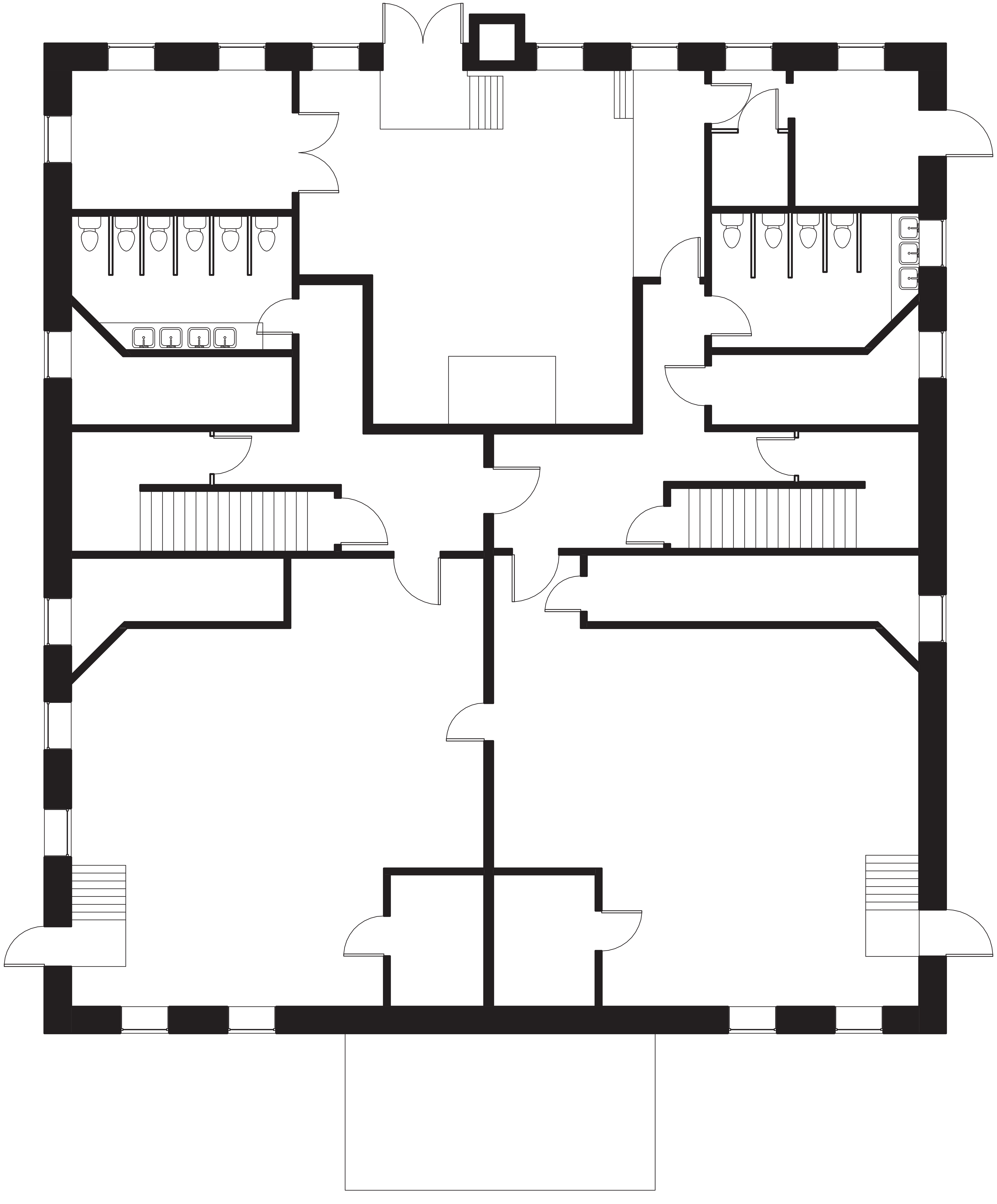
EXISTING FIRST FLOOR



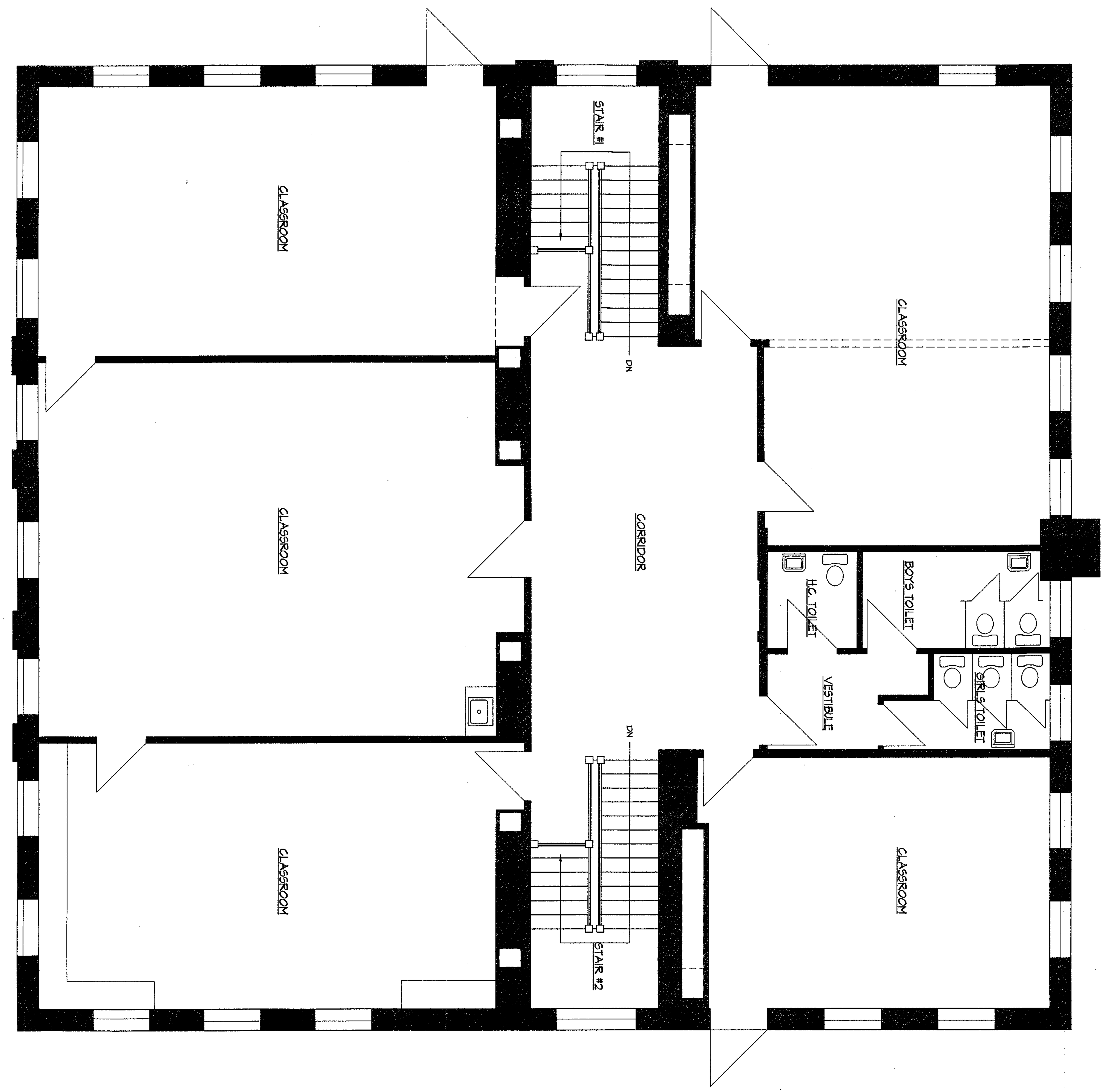
EXISTING SECOND FLOOR



EXISTING LOWER LEVEL

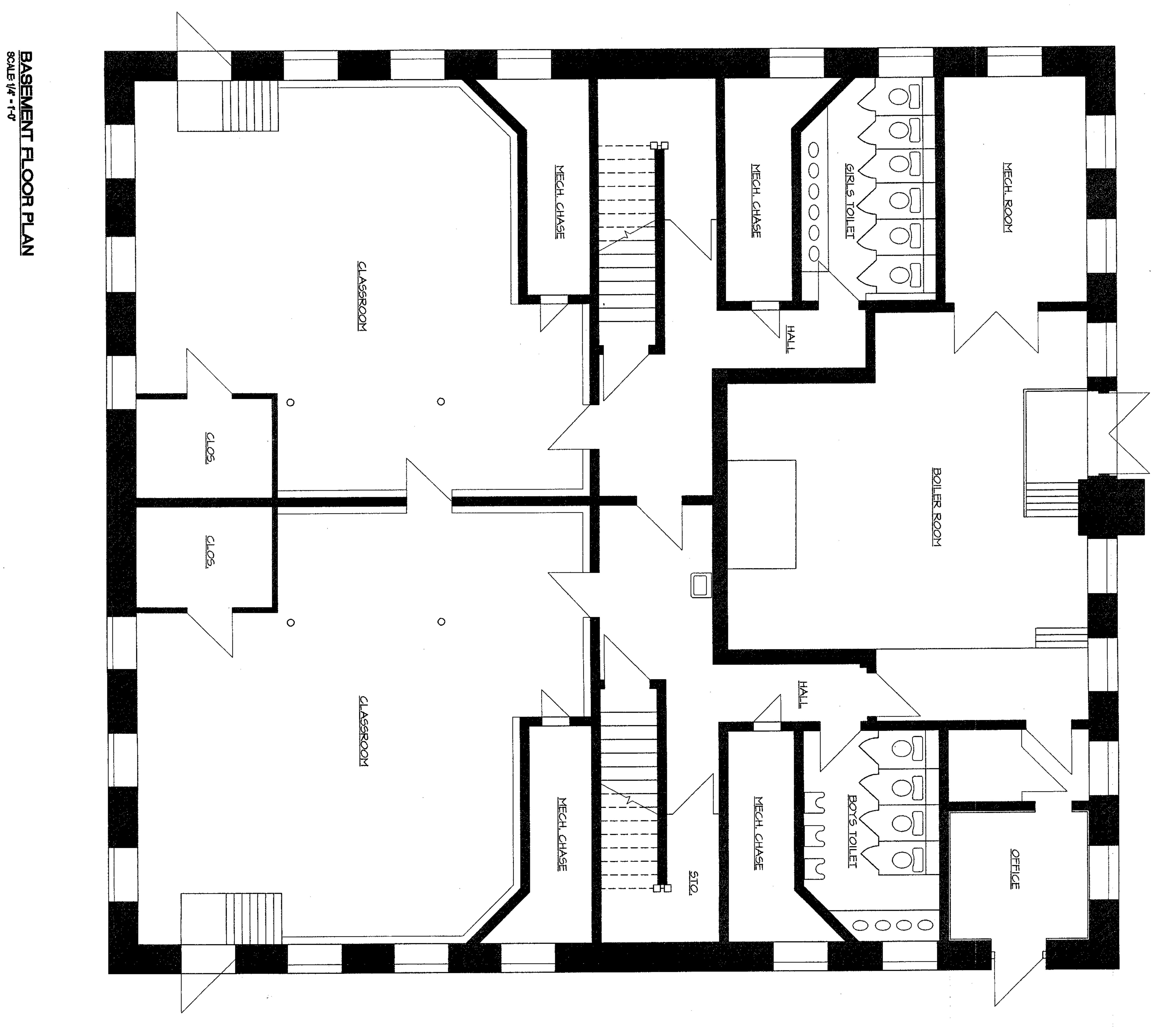


SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"



SHEET A.2.2 1462-A2C	CENTER SCHOOL EXISTING SECOND FLOOR PLAN	PROJECT NO: 97-1462 DATE: 6-20-97 DRAWN: MWN CHECKED: JMAC	SCALE: AS NOTED REV: REV: REV:	LANCASTER PUBLIC SAFETY STUDY/ SCHEMATICS MAIN STREET LANCASTER, MASSACHUSETTS	REINHARDT ASSOCIATES ARCHITECTS · ENGINEERS · INTERIOR DESIGNERS · PLANNERS

STAMP



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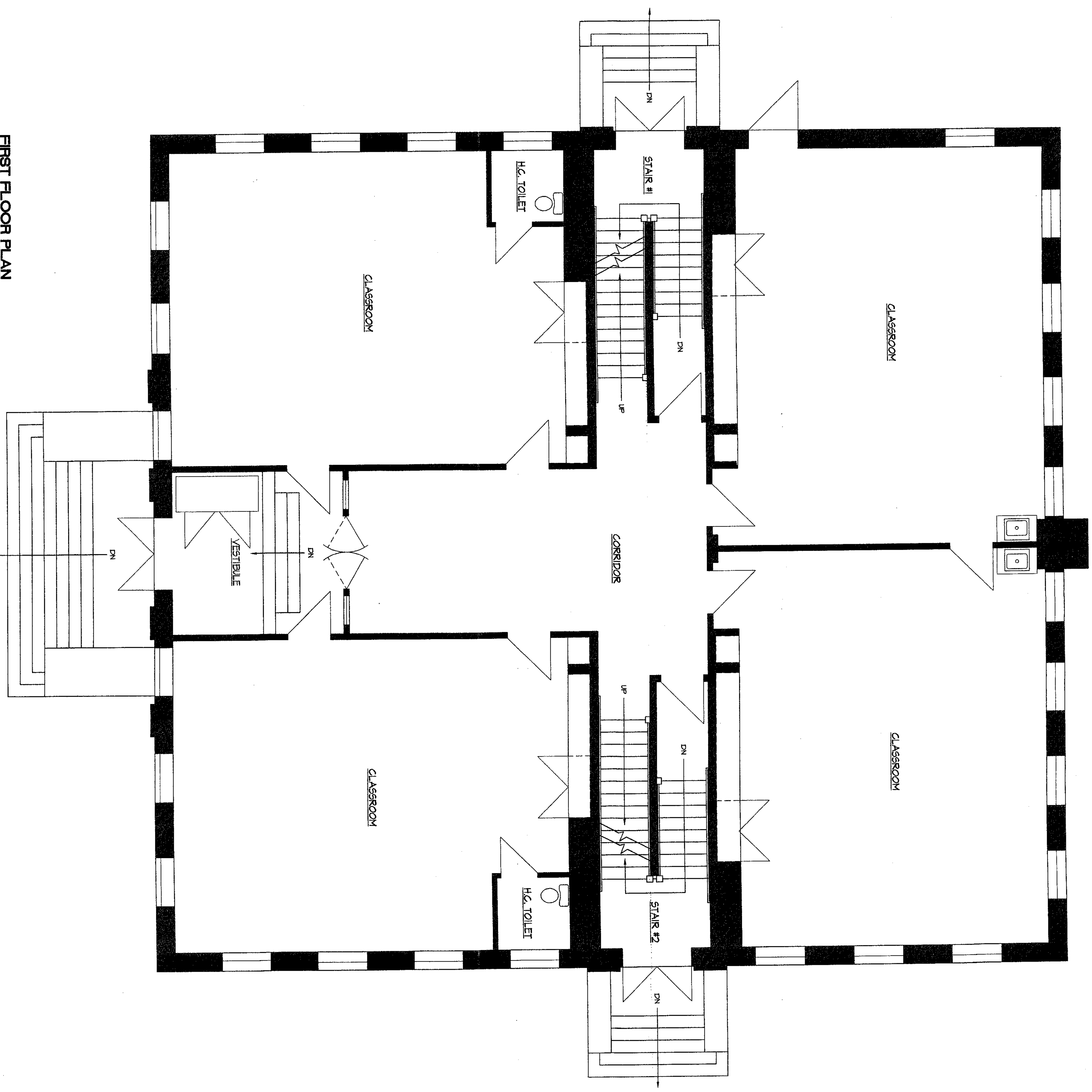
A.2	CENTER SCHOOL EXISTING BASEMENT FLOOR PLAN	DATE: 6-20-97	REV:	LANCASTER PUBLIC SAFETY STUDY/ SCHEMATICS MAIN STREET LANCASTER, MASSACHUSETTS	REINHARDT ASSOCIATES ARCHITECTS · ENGINEERS · INTERIOR DESIGNERS · PLANNERS	
1462-A2A		DRAWN: MWN	REV:			
		CHECKED: JMAC	REV:			

FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"



SHEET					
A.2.1	CENTER SCHOOL EXISTING FIRST FLOOR PLAN	PROJECT NO: 97-1462 DATE: 6-20-97 DRAWN: MWN CHECKED: JMAC	SCALE: AS NOTED REV: REV: REV:	LANCASTER PUBLIC SAFETY STUDY/ SCHEMATICS MAIN STREET LANCASTER, MASSACHUSETTS	REINHARDT ASSOCIATES ARCHITECTS · ENGINEERS · INTERIOR DESIGNERS · PLANNERS
1462-A2B					STAMP

Prescott Building, Lancaster, MA
Meeting Agenda
October 27, 2011

Design Guidelines

- Character-defining features
- Building code & Zoning
- Program of Needs

Conceptual Design

- Option A: Second floor Historical Commission
- Option B: First floor Historical Commission

What does this mean?

- Preliminary cost
- Thoughts on funding
- Going forward

CHARACTER DEFINING FEATURES

Character defining features refer to the significant observable and experiential aspects of a building that define its architectural power and personality. They are critically important considerations whenever repairs or alterations are contemplated. Inappropriate changes to historic features can undermine the historical and architectural significance of the building, sometimes irreparably. Retaining a structure's integrity is essential to eligibility for National Register of Historic Places status and for preservation grants such as Save America's Treasures, the Massachusetts Preservation Projects Fund, and Community Preservation Act funds.

This survey considers the overall shape of the Prescott Building and its materials, craftsmanship, decorative details, and various aspects of its site and environment – all elements that contribute to the building's unique character. **All features in the bulleted lists that follow should be retained to preserve the historic integrity and national significance of the Prescott Building.** Because the building retains original detail and is virtually unaltered on its exterior, nearly all of the original elements are character-defining.

SITE AND ENVIRONMENT

- On the Green at the historic town center adjacent to the library and facing Town Hall digaonally to the south and First Church diagonally to the north

Prescott Building at left and Town Hall at right.

Library at left and Prescott Building at right.

SHAPE AND MASSING

- Rectangular plan with hip roof and pedimented entrance gable

STYLISTIC FEATURES

Materials

- Brick
- Limestone??
- Granite
- Wood
- Plaster
- Glass

Decorative & Stylistic Details: Exterior

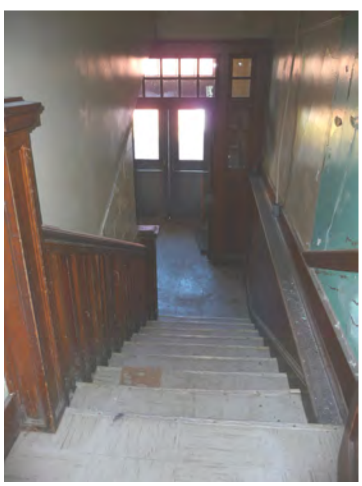
- Brick detailing, including quoins, string course, jack arches with keystones, segmental arches and pilasters
- Stone sills, water table and entry stairs
- Wood details including frieze with alternating triglyphs and metopes, dentillated cornice, console brackets at door hoods

Top right: Main entry flanked by painted brick pilasters and surmounted by a transom window; door hood supported by console brackets. Left: Alternating triglyphs and metopes at the frieze. Right: Brick jack arches at windows, corner quoins and horizontal string course over windows.

- Wood windows with multi-light (8 over 8) configurations, transom windows
- Paneled wood doors
- Painted plaster ornament at pediment gable

Decorative & Stylistic Details: Interior

- Floorplan and stairways
- Wood wainscot (beadboard and raised), paneled doors
- Door transoms, second floor skylights and laylights
- Built-in cabinetry
- Slate blackboards



menders, torrey & spencer, inc.

architecture ■ preservation

123 North Washington Street Boston, Massachusetts 02114

(p) 617.227.1477 (f) 617.227.2654

CODE ANALYSIS

10/6/2011

Prescott Building
Lancaster, MA
MTS Project No. 1033.00

Applicable Building Codes:
2009 International Existing Building Code – With Massachusetts Amendments
521 CMR Architectural Access Board
Plumbing Code
Town of Lancaster Zoning Regulations

A. Building Information

1. Gross Square Feet: 15,170 SF
2. Floors: Three
3. Total Assessed Value: $5,980,800 (combined with other Town buildings and land)
4. Building Value: $5,529,100 (combined with other Town buildings)

B. Use Group Classification

1. Offices and storage
2. First and Second Floors: Group B – Business (IBC 2009 304.1)
3. Ground level: Group S-1 Moderate-hazard storage (IBC 2009 311.2)

C. Construction Classification

1. Existing Construction Type 3B, Unprotected
2. Fire protection: Building to be equipped throughout with automatic fire suppression system

D. Occupant Load

1. Occupancy Calculations (based on maximum code allowed sf. per occupant – 780 CMR Table 1008.1.2 for each use area [if different in differing areas])
    a. Ground Floor: 17 (300 gross at 5,000 SF)
    b. First Floor: 50 (100 gross at 5,000 SF)
    c. Second Floor: 50 (100 gross at 5,000 SF)
    d. Overall Total: 117

E. Egress Requirements

1. Egress Stairway width per Occupant = 0.2" (MA Amendments to IBC 2009, 1005.1)
   Required with Calculation for Actual Occupancy: 23.4"
    1. Total per level: Two stairs provided at 42" ea.
2. Egress Door Width per Occupant = .2" (IBC 2009 1005.1)
   Required with Calculation for Actual Occupancy: 23.4
    1. Total per level: required, provided
3. Minimum Number of Exits Required (per floor) – 2 (Table 1015.1, could get away with 1)
4. Maximum Length of Exit Access Travel – 300 ft (IBC 2009 Table 1016.1)
5. Minimum Egress Passage/Corridor Width – 44"
6. Minimum Stairway Width – 44" (IBC 2009 Section 1009.1)

F. Plumbing Code – Based on 117 Occupants, 59 Men, 59 Women.

1. Restrooms Required
   For Men: 1 per 25 or 3 total.
   For Women: 1 per 20 or 3 total.
2. Lavatories: 1 per 50 or 3 total
3. Water fountains: 1 per floor or 3 total.

F. Massachusetts Architectural Access Board

1. Parking: 1 accessible space required for total parking of 15-25 spaces. Shall be van accessible.
2. Entrances: All public entrances of a building shall be accessible. (Variances will be required)
3. Door widths: 32" minimum.
4. Elevators: All multi-story buildings shall be served by a passenger elevator.
5. Toilet Rooms: At least one toilet and one sink in each toilet room must be accessible.

Code Analysis Prepared By:

Thomas Burgess
Architectural Designer

IEBC Notes:

Historic Building

1103.9 Stairway railings – Grand stairways shall be accepted without complying with the handrail and guard requirements. Existing handrails and guards at all stairs shall be permitted to remain, provided they are not structurally dangerous.

1105.4 1 HR Occupancy separation may be omitted when the building is provided with an approved sprinkler.

1105.7 Door Swing. When approved by the code official, existing front doors need not swing in the direction of exit travel, provided that other approved exits having sufficient capacity to serve the total occupant load are provided. (Applies to occupant loads over 50 in new construction)

Means of Egress

1007.3 The area of refuge is not required at open exit access or exit stairways as permitted by sections 1016.1 and 1022.1 in buildings that are equipped with an automatic sprinkler system installed in accordance with code.

Prescott Building
Program of Needs
(From meeting on 9.15.11)

Historical Commission: (square footages based on provided layout plan)

Archive Storage – 600 SF

Re-use existing storage units

Regular Four Drawer:	7 units at 2'-0" x 5'-0"
Fireproof Four Drawer:	10 units at 2'-0" x 5'-0"
Wire Rack:	8 units at 3'-0" x 4'-0"
Map Cabinet:	3 units at 3'-0" x 3'-6"

Climate Controlled Storage – 130 SF (MTS recommendation, subtracted from storage shown on plan)

Research Room – 520 SF

Tables and chairs
Computer stations
WIFI and electrical plug availability
Access to Commission staff
Occupancy: Up to 8

Collections Processing – 100 SF

Occupancy: 2-4

Orientation, Presentation, Meeting Room – 730 SF

Occupancy: 25-30
Used to project videos, give lectures and presentations
Audio visual system?

Exhibit Space – 820 SF

Casework to display special collections, possible rotating displays

Office – 120 SF

Occupancy: 1

Leasable Office Space:

One Floor – 3,500 to 4,500 SF

Secure doors
Ability to have multiple lease holders

<u>Town Storage:</u>

Storage Rooms – 3,000 to 4,000 SF (all remaining lower level space)

Secure doors
Well lit
Layout tables and storage units

<u>General:</u>

Restrooms – 250 – 300 SF

Four accessible toilet rooms
2 male, 2 female
1 of each per floor

Kitchenette – 200 SF

One per floor at 100 SF ea

Utility Closet – 50 SF

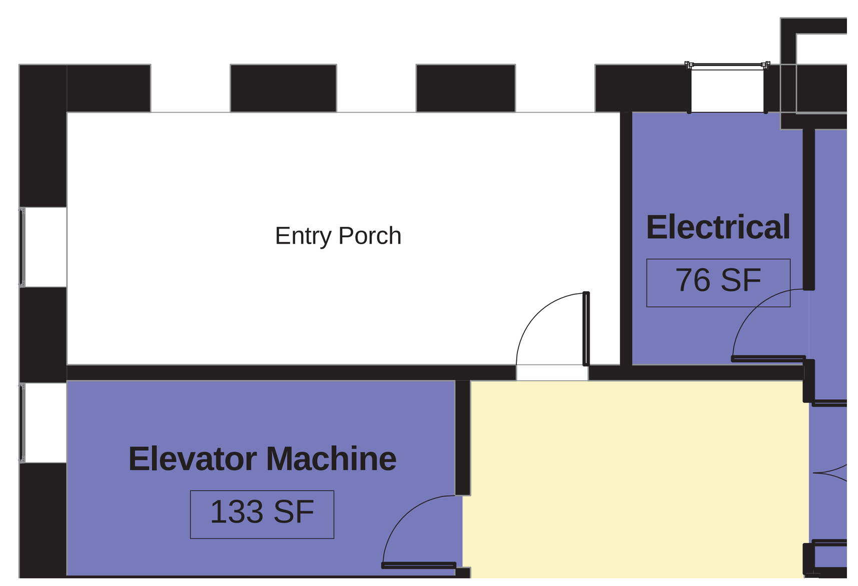
One per floor at 25 SF ea

Mechanical Room - 600 SF

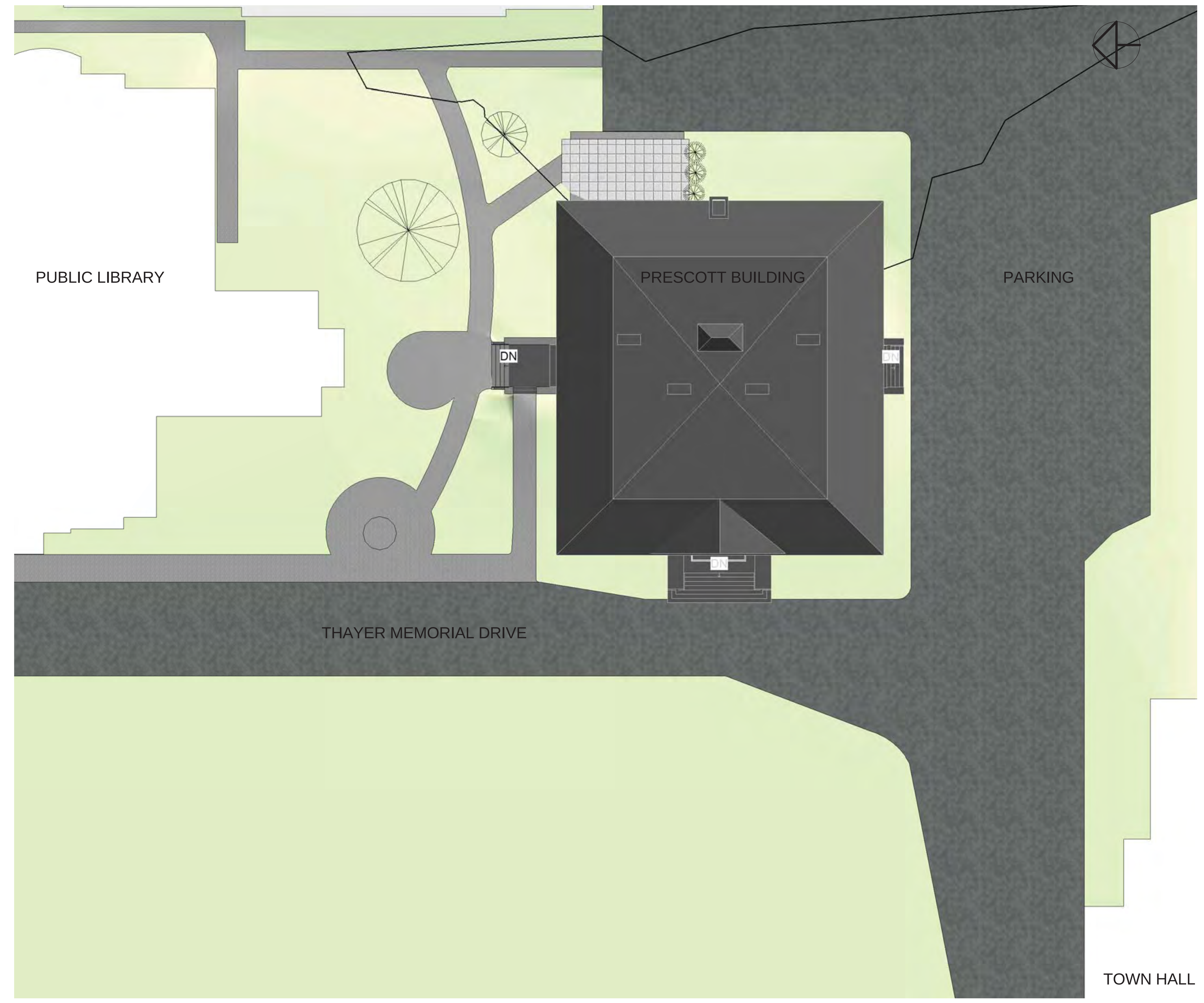
Sprinkler room
Mechanical room
Elevator machine room

Prescott Building
Entrance Options

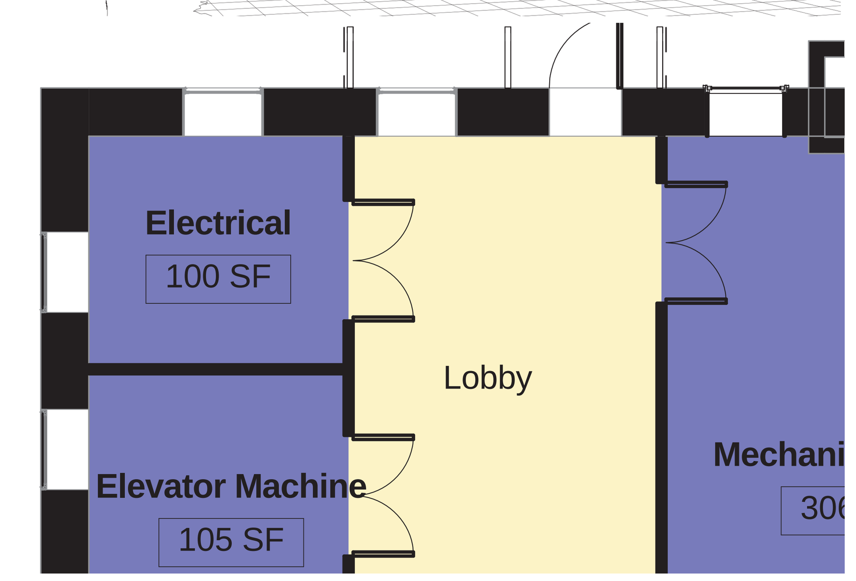
North entrance elevation



Ground level Entry option A



Site Plan



Ground level Entry option B

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Prescott Building

Option A - Second Floor Historic Commission

Level 2 option A

Exhibit space

Research room

Presentation space

Utility space

Archive space

Leasable space

Storage

Mechanical Space

Kitchenette

Historic Commission: 3,284 Square Feet

Total Archives: 980 Square Feet

Leasable Space: 2,634 Square Feet

Storage: 2,576 Square Feet

Toilet Fixtures: 8

Circulation, Rest Rooms, Kitchenette: 2,335 Square Feet

Level 1 option A

Ground level option A

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Prescott Building

Option B - First Floor Historic Commission

Level 1 option B

- Exhibit space
- Research room
- Presentation space
- Utility space
- Archive space
- Leasable space
- Storage
- Mechanical Space
- Kitchenette

Historic Commission: 3,007 Square Feet

Total Archives: 915 Square Feet

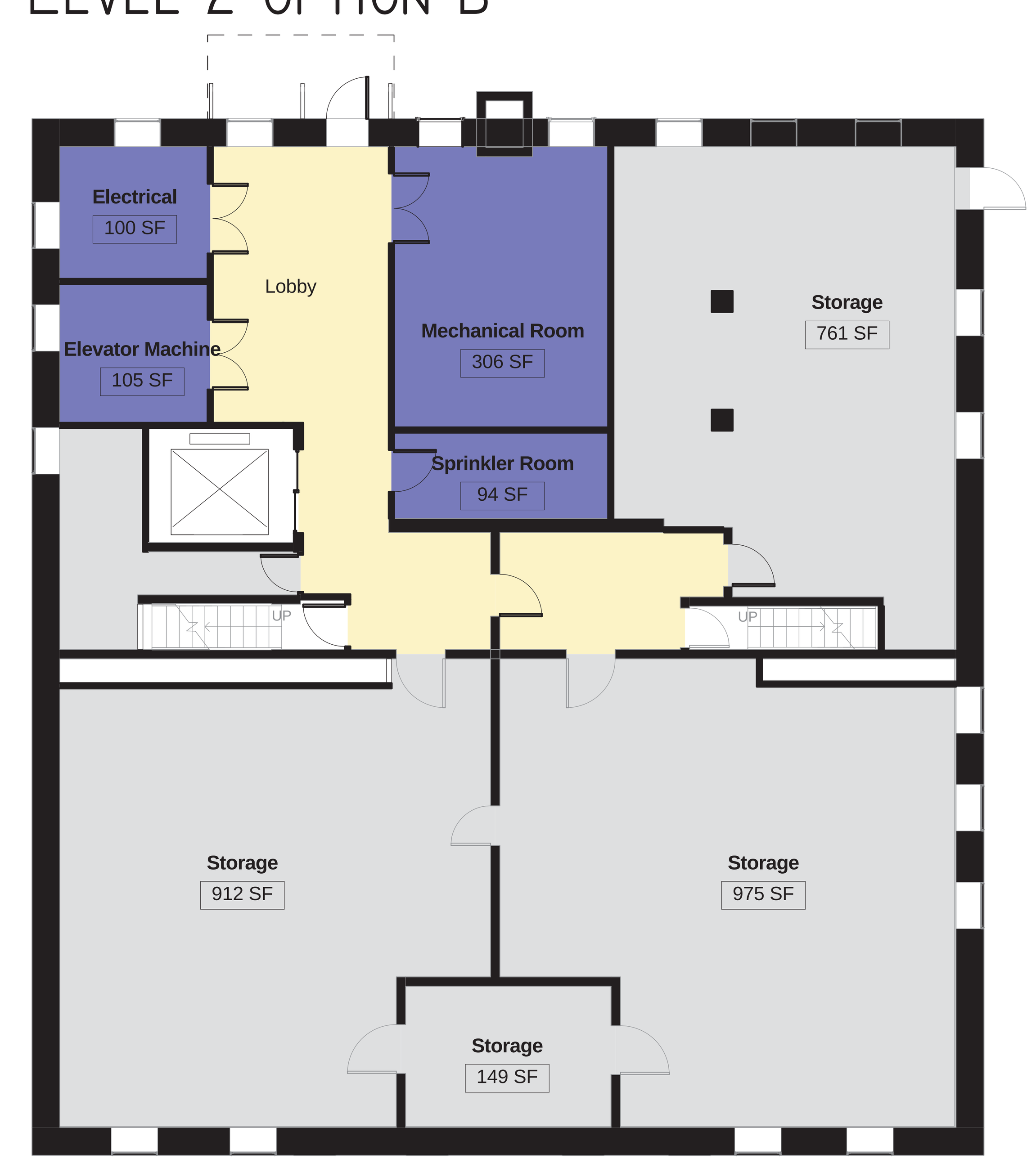
Leasable Space: 3,244 Square Feet

Storage: 2,797 Square Feet

Toilet Fixtures: 4

Circulation, rest rooms, kitchenette: 2,693 Square Feet

Level 2 option B



Ground level option B

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Opinion of Cost

Item	Description -- Scope of Work	Take off	Units	Cost/Unit	Cost	Remarks/ Comments
Interior Renovation	Repair interior finishes, upgrade mechanical, electrical, fire protection, and plumbing systems.	14250	sf	150	$2,137,500	
Structural upgrades	Floor reinforcing, framing for elevator installation, roof framing reinforcing	1	ls		$120,000	Allowance
Elevator	Four stop elevator	1	ea	140,000	$140,000	
Exterior Envelope Repairs	Repointing, painting, window restoration (three facades)	1	ls	160,000	$160,000	
Site work	New landscaping, site lighting, sloped walkway	1	ls		$120,000	Allowance
Construction Cost					**$2,677,500**	
Design Contingency		15%			$401,625	
Subtotal 1					$3,079,125	
Architectural / Engineering Fees		10%			$307,913	
	Total				**$3,387,038**	

Questions: Water and Sewer Connection?

Prepared by: Menders, Torrey Spencer, Inc.

Prescott Building

Thoughts on funding, apart from town funding:

Mass Preservation Project Fund

Administered by Mass Historical Commission

50:50 matching grant

Likely grant -$50,000 w/$50,000 match = $100,000

Potential scope for Prescott Building:

Window restoration

Exterior painting

Deadline: mid Feb 2012

Award: mid June 2012

Energy Rebates

Projected funding for energy reduction from National Grid

Question: Is Lancaster a Green Community?

Other thoughts:

Mass Development Fund (see attached information)

- Ma Cultural Facilities Fund
- Communities Service Loan fund
- Consult with grant writer at Devens

USDA Rural Development (see attached information)

Foundations

Associated Grantmakers maintains an online listing of private foundations. As it happens, our client Martha Moore is on their staff, lives in Lancaster and has been a critical leader in the restoration of the First Church. I expect Martha would be happy to talk with you.

USDA Rural Community Development Initiative Grants

Objective: To develop the capacity and ability of private, nonprofit community-based housing and community development organizations, and low income rural communities to improve housing, community facilities, community and economic development projects in rural areas.

Uses and Restrictions: Rural Community Development Initiative grants may be used for but are not limited to (a) training sub-grantees to conduct a program on home-ownership education; (b) training sub- grantees to conduct a program for minority business entrepreneurs; (c) providing technical assistance to sub-grantees on how to effectively prepare a strategic plan; (d) provide technical assistance to sub-grantees on how to access alternative funding sources; (e) building organizational capacity through board training; (f) developing training tools, such as videos, workbooks, and reference guides to be used by the sub-grantee; (g) providing technical assistance and training on how to develop successful child care facilities; and (h) providing training on effective fundraising techniques.

Basic Instructions: 7 CFR 3015, 7 CFR 3016, 7 CFR 3019, 7 CFR 3052 and Guidelines announced in NOFA, published in the Federal Register

For more information about this program, or to file an application, contact the local Rural Development office in your area.

http://www.rurdev.usda.gov/HAD-RCDI_Grants.html

Mass Development Fund

MA Cultural Facilities Fund

The Massachusetts Cultural Facilities Fund (CFF) is an initiative of the Commonwealth to increase public and private investment in cultural facilities throughout the state. The Program is administered jointly with the Massachusetts Cultural Council. Three types of grant programs are available:

- Capital Grants for expenses related to acquisition, design, construction, repair, renovation, and rehabilitation of other capital improvements or deferred maintenance of a cultural facility

- Feasibility and Technical Assistance Grants for expenses related to planning and feasibility assessment for a cultural facility
- Systems Replacement Grants for expenses to undertake the production of 20-year capital needs assessments of their buildings and mechanical systems

Grants are available to:
Nonprofit 501(c)3 organizations primarily engaged in the arts, humanities, or interpretive sciences. Eligible facilities include, but are not limited to, museums, historic sites, zoos, aquariums, theaters, concert halls, exhibition spaces, classrooms, and auditoriums, and must be:

- Owned, leased, or used by one or more nonprofit cultural organizations
- Accessible to the public

Public or private institutions of higher education that own cultural facilities that:

- Provide service and open access to the community and the general public beyond their educational mission
- Demonstrate financial need

Municipalities that own cultural facilities provided that the cultural facility is at least:

- 50,000 square feet, and
- 50% devoted to cultural purposes

All grants from the Fund must be matched by contributions from the private or public sector.

Case Study – Hanover Theatre for the Performing Arts

With funds from private and government organizations, the Worcester Center for the Performing Arts renovated and reopened the former Poli Palace in March 2008 as The Hanover Theatre. The theater, with seating for 2,300, provides a stunning venue for Broadway plays, nationally recognized performers and family-oriented shows. The CFF awarded the Theatre a $675,000 capital grant to help with this important restoration project in downtown Worcester. In the early stage of the project, MassDevelopment provided a $25,000 predevelopment loan as well as a $300,000 development loan to help fund an architectural study and partnered with the Nonprofit Finance Fund and Commonwealth National Bank to provide loans totaling $2.35 million.

Case Study – Rockport Chamber Music Festival

The Rockport Chamber Music Festival received a $22,500 Feasibility and Technical Assistance Grant to develop a marketing and development plan for a new performance arts center.

Case Study – Springfield Library & Museum Association

The Museum of Springfield History received a $675,000 capital grant from the Cultural Facilities Fund. The Museum used the funds to improve its facilities by installing an elevator and upgrading HVAC and fire/security systems.

Community Service 501(c)(3) Loan Fund

MassDevelopment is now offering flexible financing for capital improvements for community-based nonprofit organizations such as elder care centers, daycare facilities, community centers and girls' and boys' clubs. The fund will provide loans ranging from $100,000 up to $500,000.

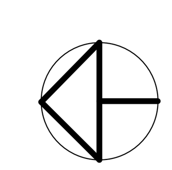
Eligible applicants must:

- be registered as a Massachusetts-based 501(c)(3) organization;
- have an operating budget of less than $5 million for each of the last five years;
- provide social, youth, or family services;
- primarily work in underserved or disadvantaged communities; and,
- be ineligible for financing under existing loan programs

Prescott Building

Option A - Second Floor Historic Commission

Level 2 Option A



- Exhibit Space
- Research Room
- Presentation Space
- Utility Space
- Archive Space
- Leasable Space
- Storage
- Mechanical Space
- Kitchenette

Historic Commission: 3,284 Square Feet

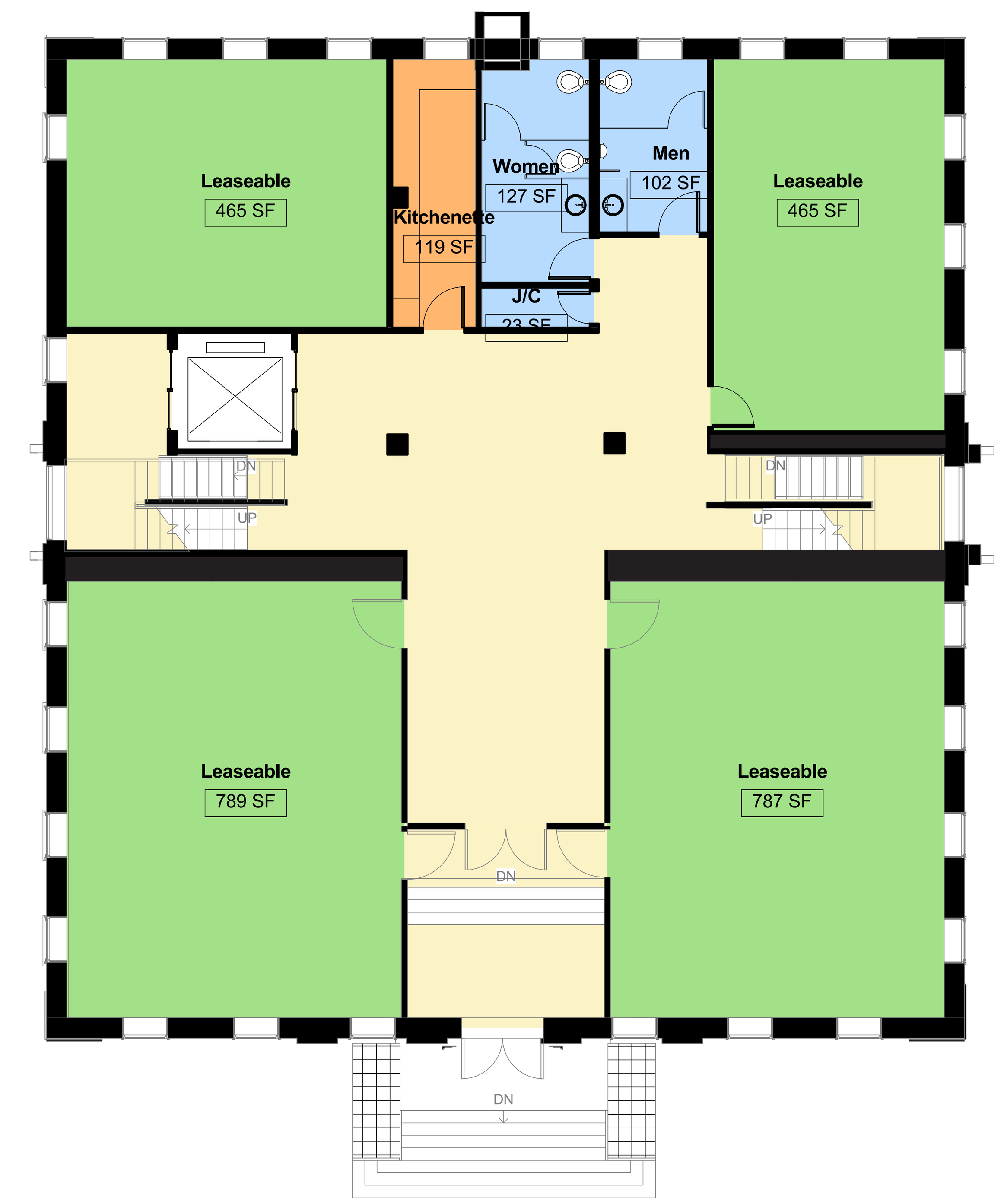
Total Archives: 980 Square Feet

Leasable Space: 2,634 Square Feet

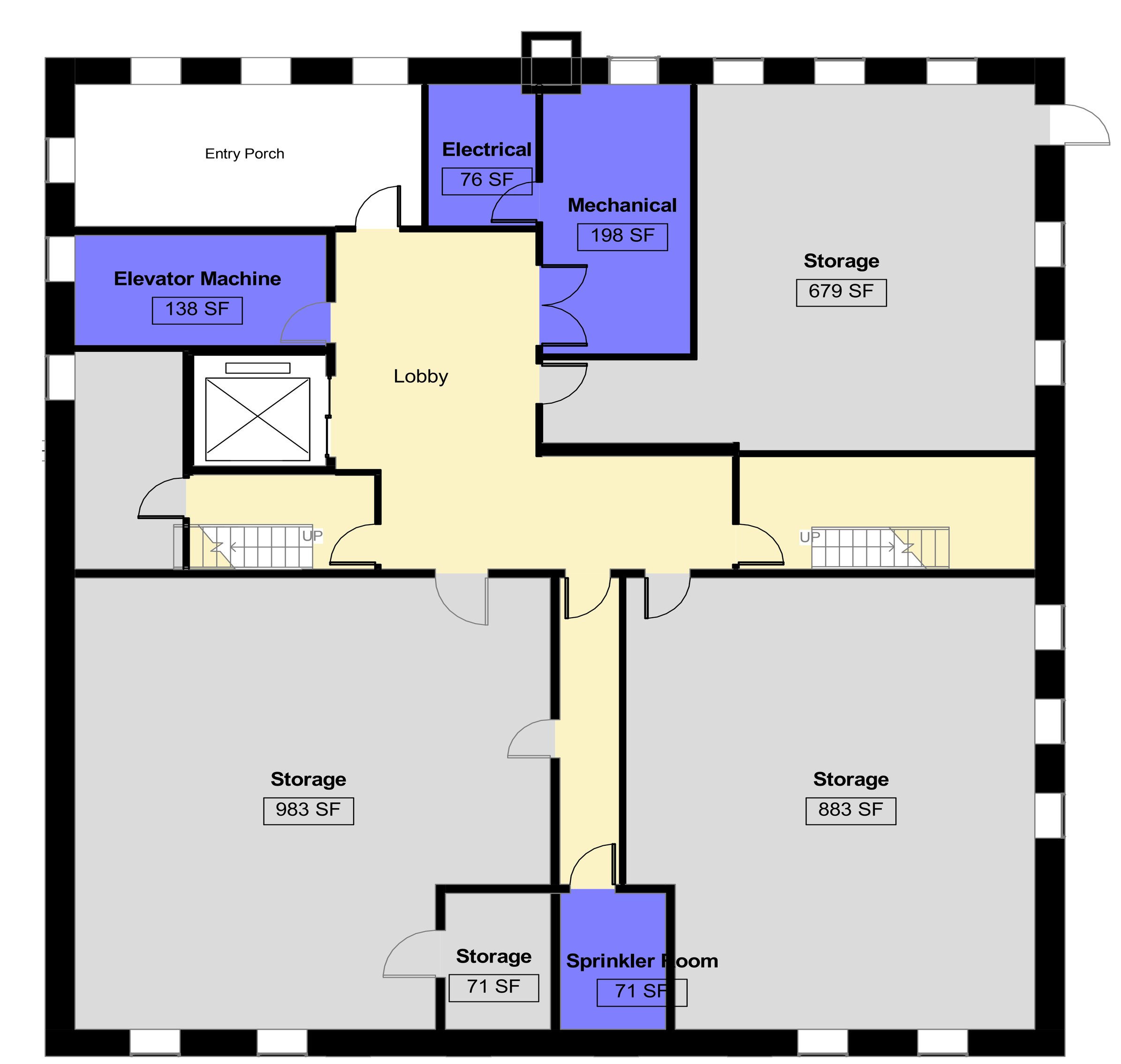
Storage: 2,616 Square Feet

Toilet Fixtures: 8

Circulation, Rest Rooms, Kitchenette: 2,335 Square Feet



Level 1 Option A



Ground Level Option A

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Prescott Building, Lancaster, MA
Meeting Agenda
December 14, 2011

Confirming Plan

- Historical Commission Spaces
- First Floor Leasing
- Storage/ Records / Porch
- Site improvements

Building Systems

- Mechanical
  - First cost versus operation
  - Green community granting
- Plumbing
  - Green factors
    - Roof run-off collection for irrigation
    - Reduced water flow fixtures
- Electrical
  - Underground
  - Transformer
- Structure
  - Attic/roof
  - Second
  - First
  - Basement

Costing

Going forward

- Final Report
- PHC/Town Schedule for moving forward
    - Project support materials

Room Legend

- Archive
- Archives (Climate Controlled)
- Closet
- Exhibit Space
- J/C
- Men
- Presentation Space
- Research Room
- Women

Prescott Building
2nd Floor

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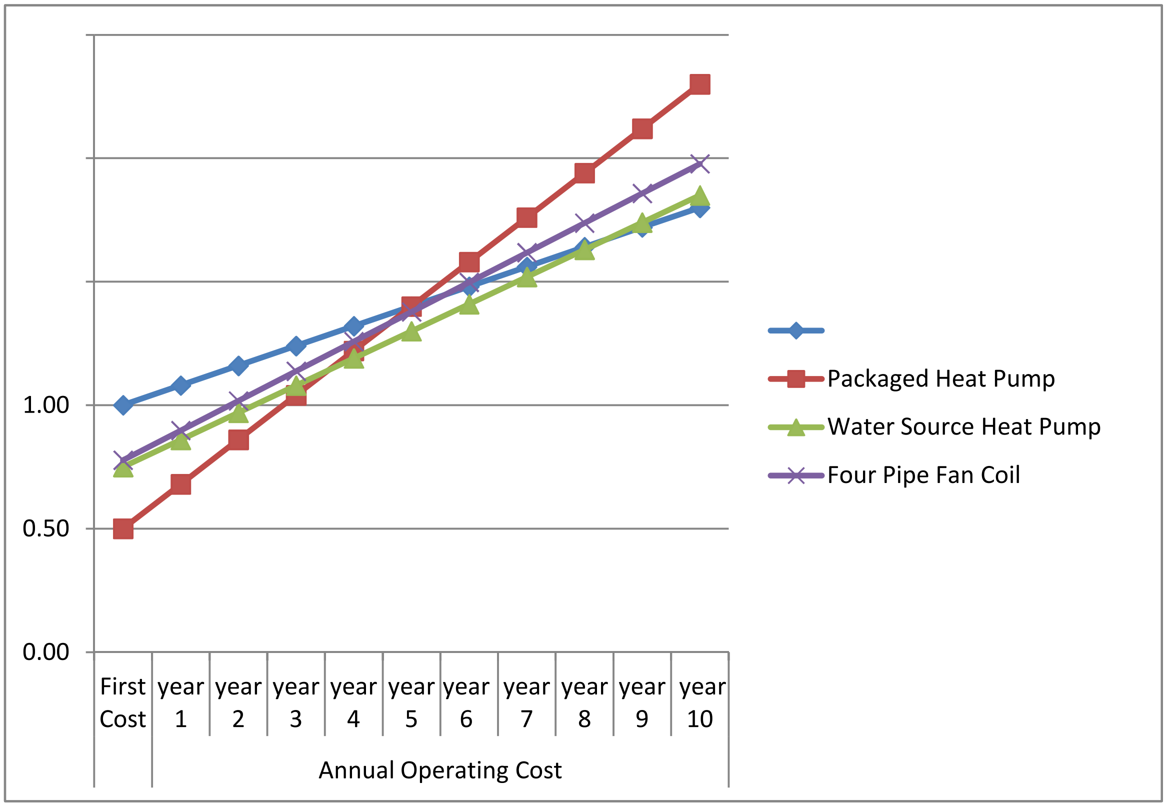
Prescott Cooling Options		Annual Operating Cost									
	First Cost	year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
Variable Refrigerant Volume	1.00	1.08	1.16	1.24	1.32	1.40	1.48	1.56	1.64	1.72	1.80
Packaged Heat Pump	0.50	0.68	0.86	1.04	1.22	1.40	1.58	1.76	1.94	2.12	2.30
Water Source Heat Pump	0.75	0.86	0.97	1.08	1.19	1.30	1.41	1.52	1.63	1.74	1.85
Four Pipe Fan Coil	0.78	0.90	1.02	1.14	1.26	1.38	1.50	1.62	1.74	1.86	1.98



PRESENTATION TO SELECTMEN 2.21.12

THE PRESCOTT BUILDING

Adaptive Reuse & Rehabilitation Plan

February 21, 2012

Menders, Torrey & Spencer

Project Team

Menders, Torrey & Spencer, Architects

- Lynne Spencer, Principal/Preservationist
- Patrick Guthrie, RA, LEED/Preservationist
- Tom Burgess, Architectural Designer
- Lynn Smiledge, Preservation Planner

Structures North Consulting Engineers

- John Wathne, PE
- Jeffrey Reese, PE

CSI Engineering, Mechanical Engineer

- Jim O’Brien, PE

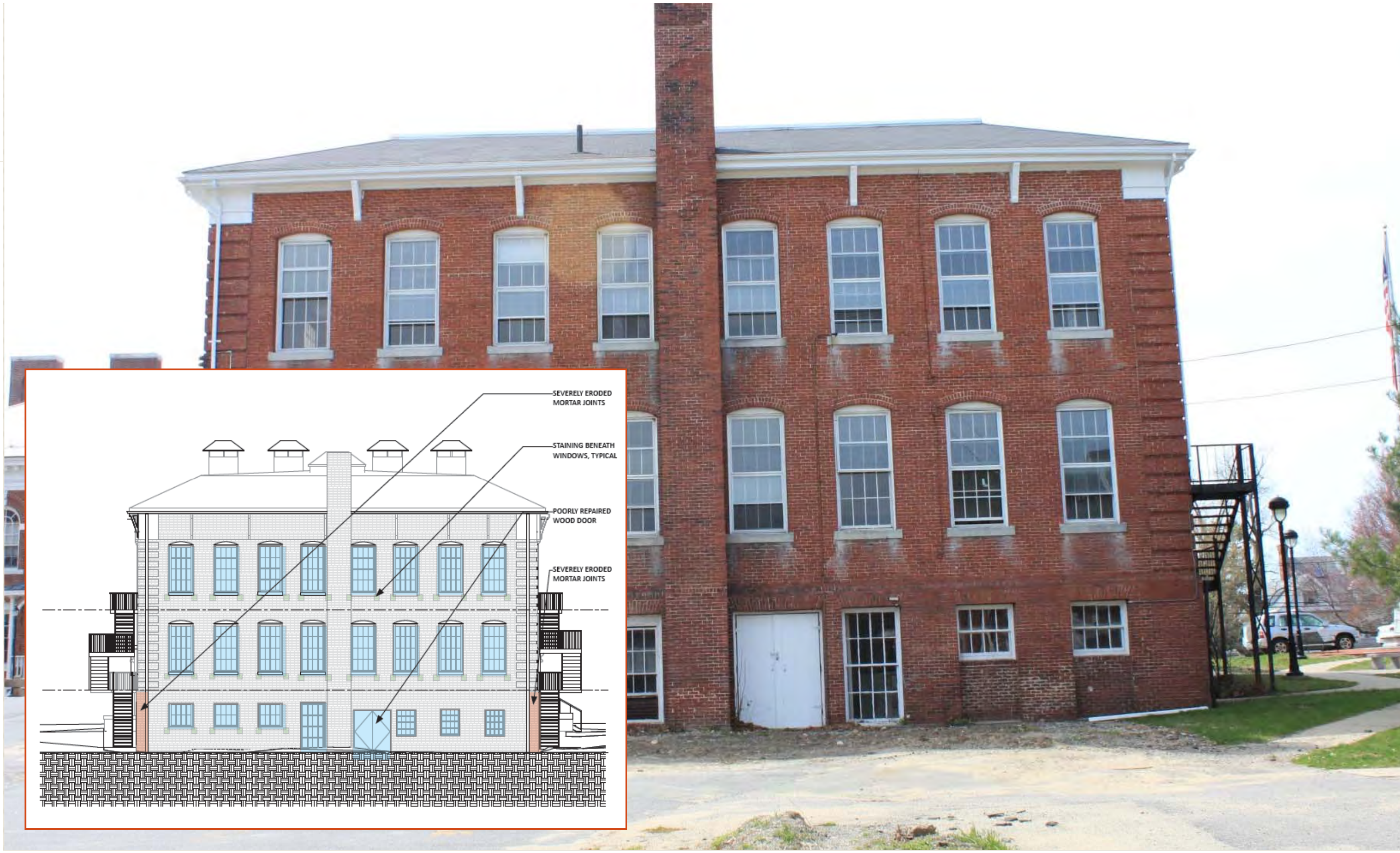
A. M. Fogarty & Associates, Cost Estimator

- Peter Timothy

Character Defining Features

Preservation Guidelines

- Retain historic building materials (brick, granite, wood)
- Respect Colonial Revival details
- Retain internal circulation and classroom configurations
- Preservation restriction, Mass. Historical Commission

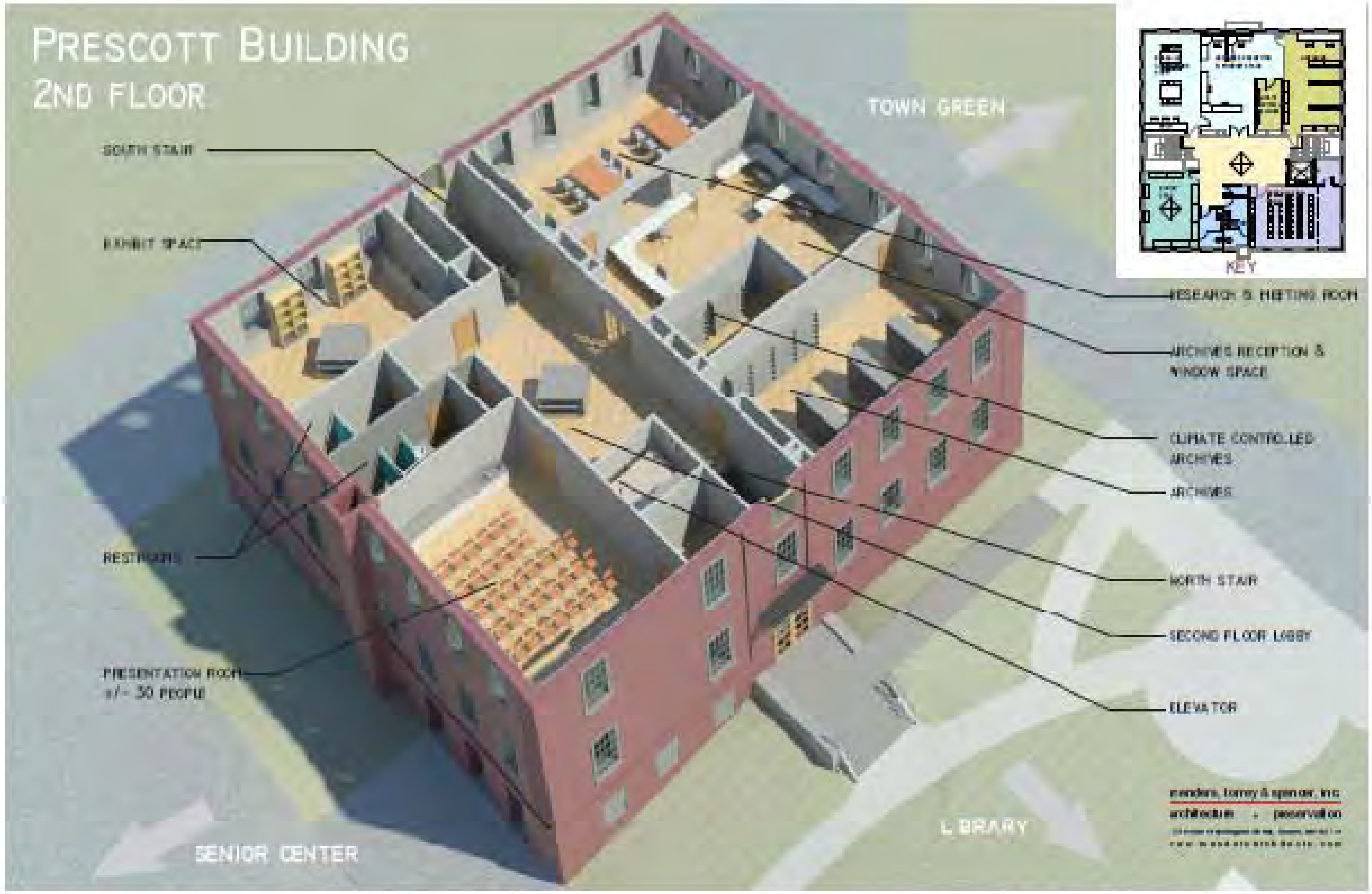


Existing Conditions - Exterior

- Envelope good condition overall: 2009 roof & façade windows
- Priority work: windows & doors on 3 elevations, masonry repointing
- Other needs: remove fire escapes, new downspouts reconstruct entrance steps

Existing Conditions - Interior

- Interior finishes need restoration
- All new mechanical, electrical, and plumbing systems required
- Building is not handicap accessible



Building Rehabilitation: Program of Needs

- Ground floor: Town records storage & leasable space
- First floor: Leasable space
- Second floor: Historical Commission

Building Rehabilitation: Requirements

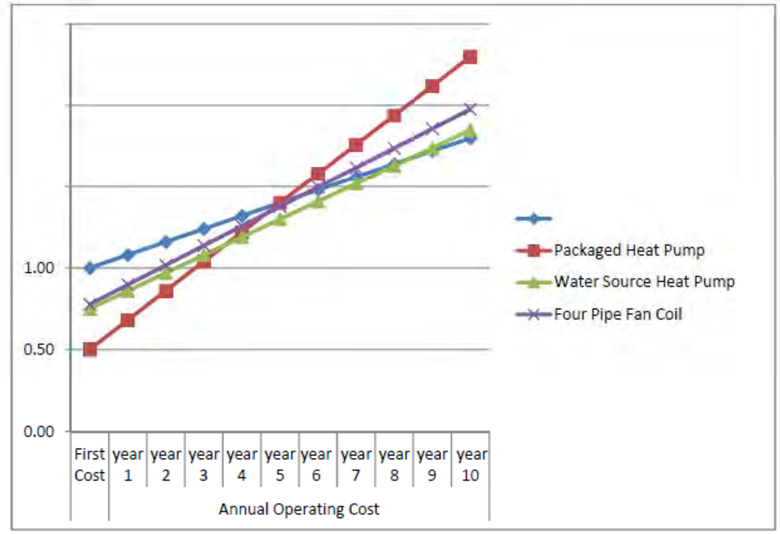
Regulatory Mandates
- Universal access
- Sprinkler system

Conservation
- Windows
- Heat recovery system
- Rainwater harvesting

Structural Reinforcement
- Roof trusses
- Meeting rooms

Prescott Cooling Options

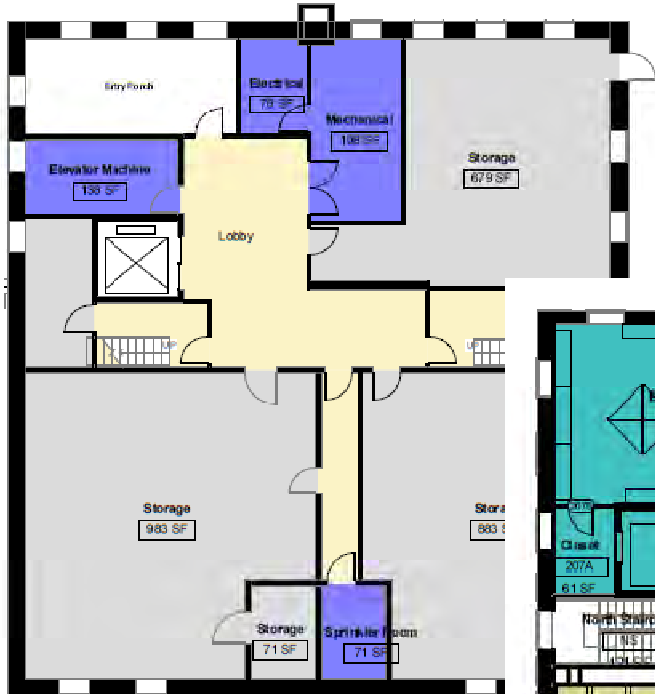
Prescott Cooling Options	First Cost	Annual Operating Cost year 1	year 2	year 3	year 4	year 5	year 6	year 7	year 8	year 9	year 10
Variable Refrigerant Volume	1.00	1.08	1.16	1.24	1.32	1.40	1.48	1.56	1.64	1.72	1.80
Packaged Heat Pump	0.50	0.68	0.86	1.04	1.22	1.40	1.58	1.76	1.94	2.12	2.30
Water Source Heat Pump	0.75	0.86	0.97	1.08	1.19	1.30	1.41	1.52	1.63	1.74	1.85
Four Pipe Fan Coil	0.78	0.90	1.02	1.14	1.26	1.38	1.50	1.62	1.74	1.86	1.98

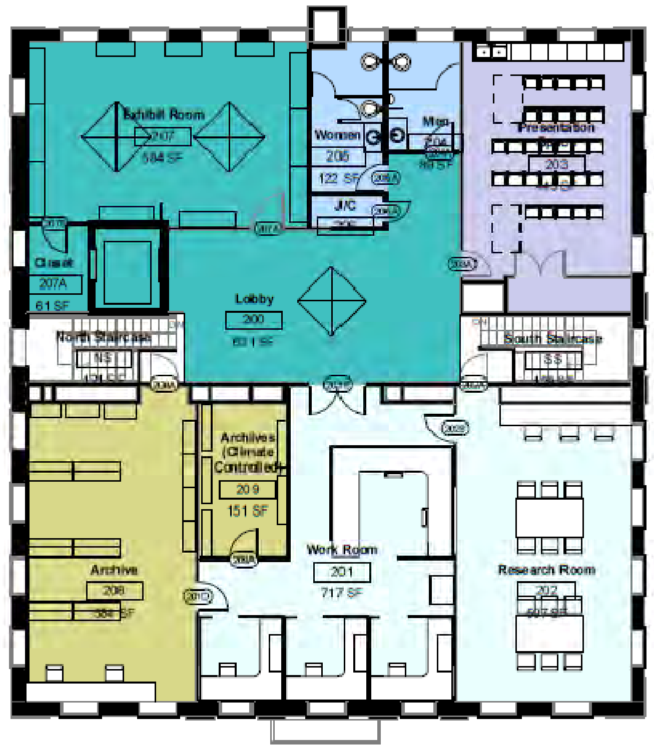


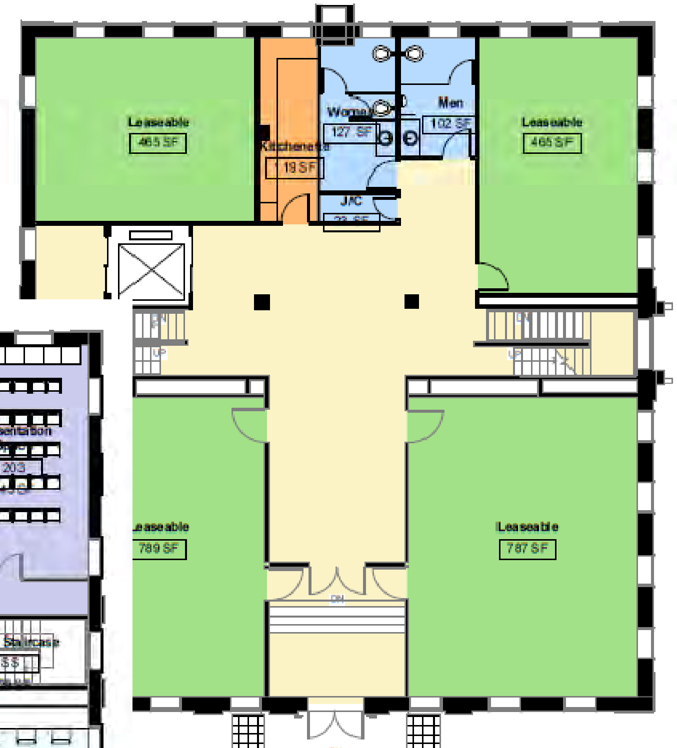
Energy Efficiency

Building Rehabilitation: Conceptual Design

- Fully accessible
- Energy efficient
- Integrates Program of Needs
- Follows *Standards for Rehabilitation of Historic Buildings*

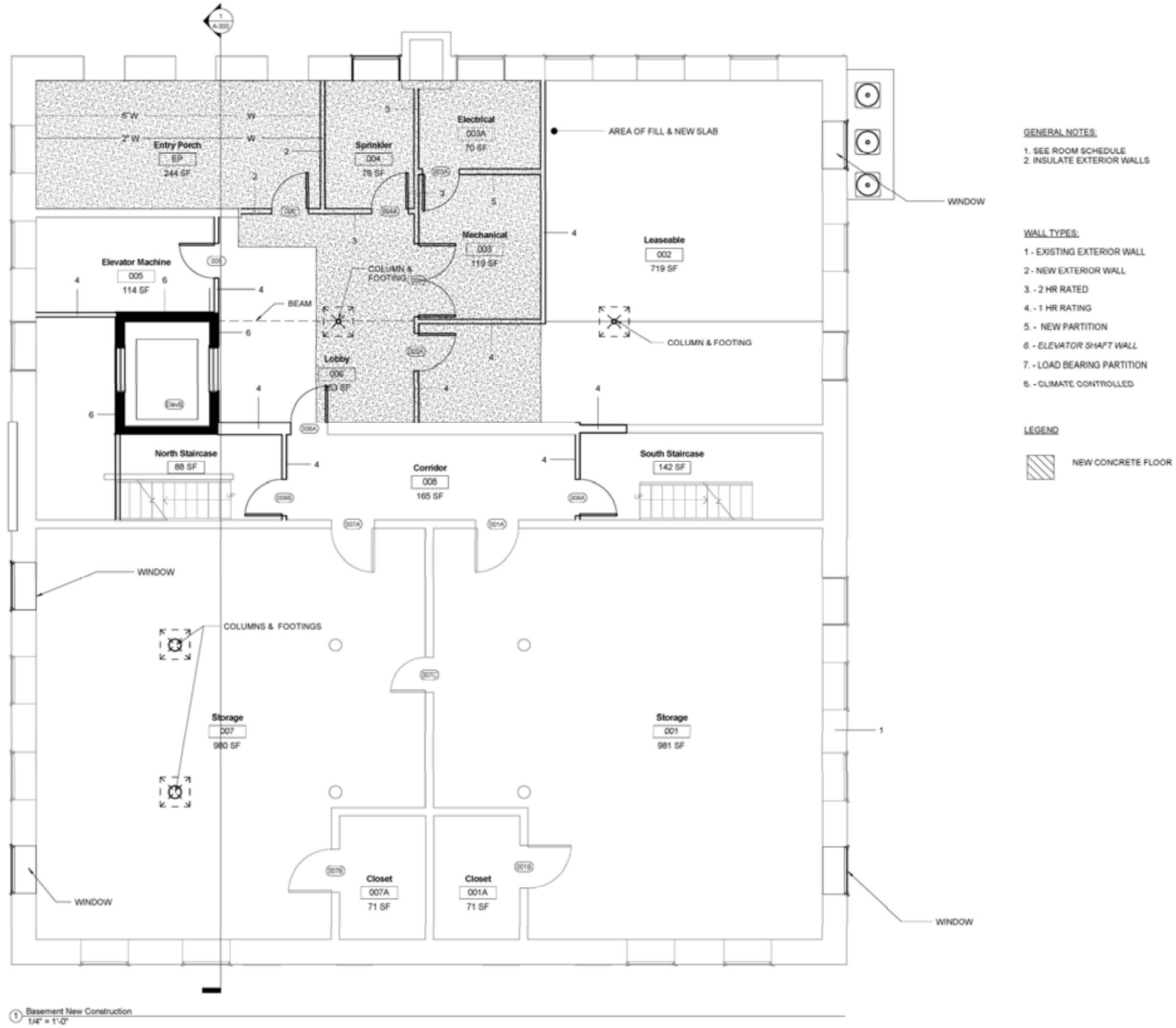






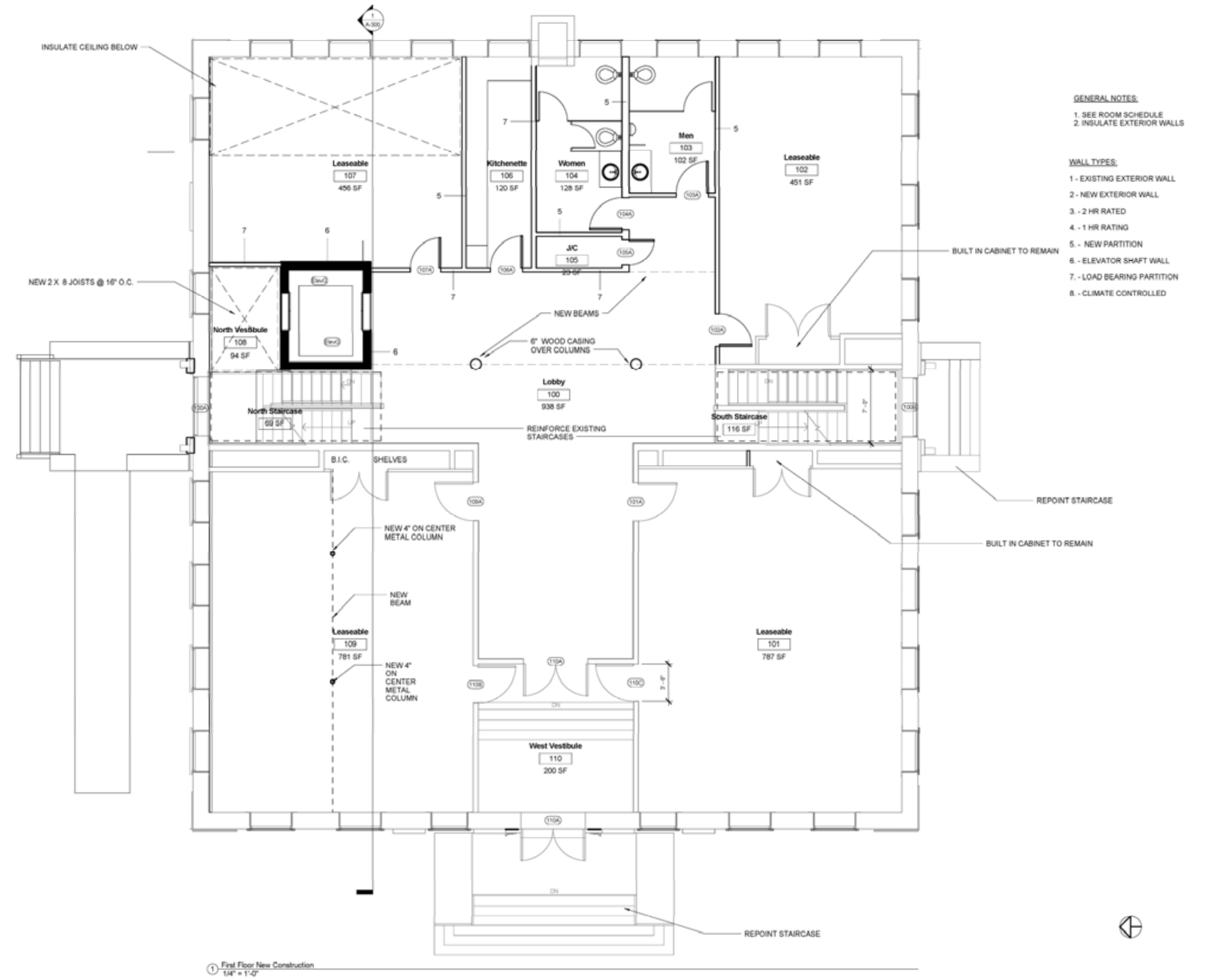
Conceptual Design: Space Allocation

Net SF on 3 floors:	**11,775**
Ground floor - Town records storage:	2,455
Ground and 1st floor leasable space:	3,195
2nd floor – Historical Commission:	3,770
Circulation and restrooms:	2,355



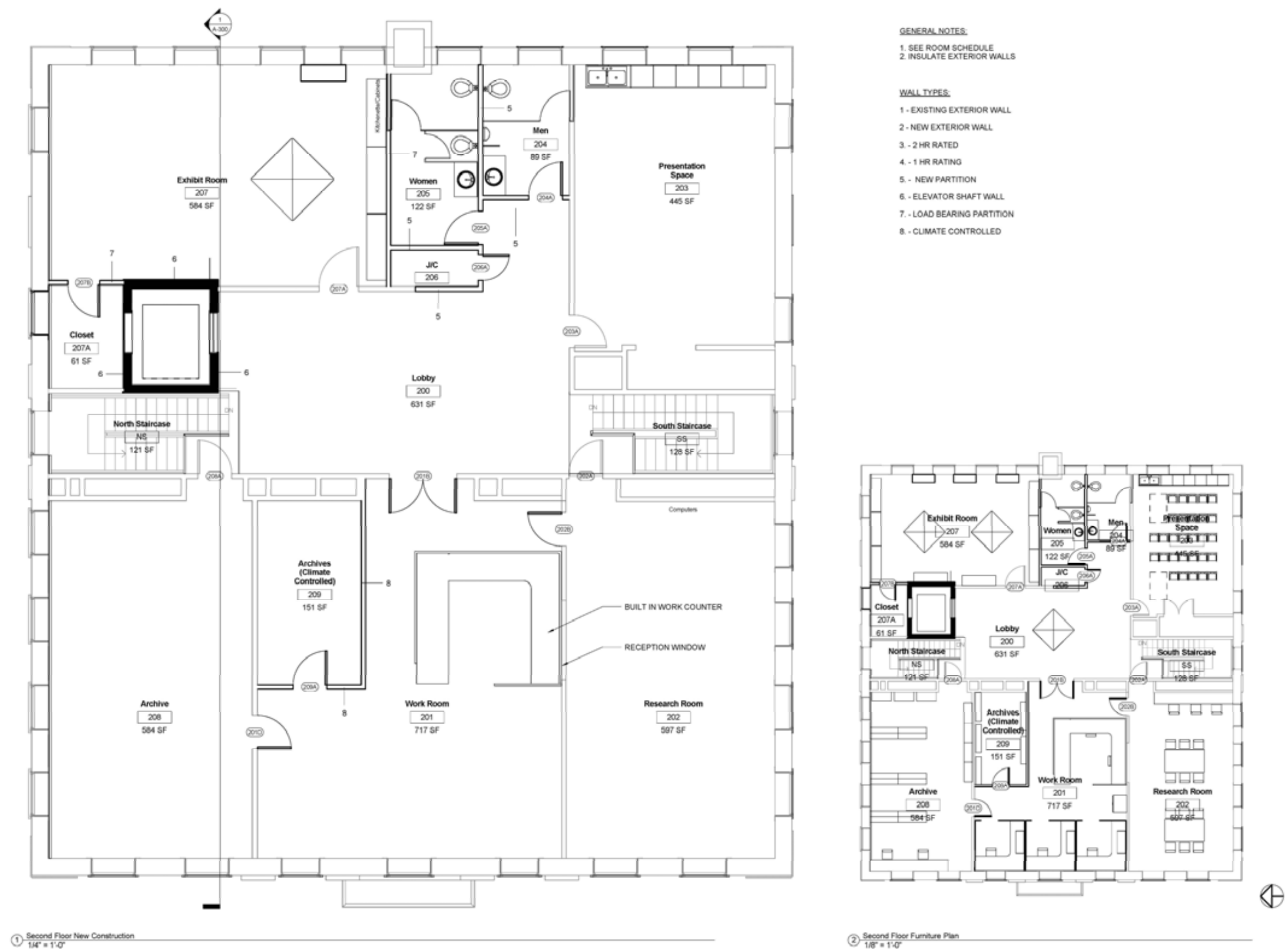
Rehabilitation: Ground Floor

- Remove old boilers and raise floor level
- Introduce open porch/accessible entrance on northwest corner
- Elevator and mechanical rooms
- Town records storage: 2,455 SF & rental or other town use: 720 SF



Rehabilitation: First Floor

- Handicap entrance off Thayer Memorial Drive
- Features 2,475 SF leasable space suitable for offices, professional space, etc.



Rehabilitation: Second Floor

- Staff and volunteer work areas, visitors’ research room
- General archives and artifacts storage
- Exhibition space
- Climate controlled room for rare documents
- Assembly room with seating for up to 35

Project Cost		3.6 million
Construction Cost		3.2 million
Soft Costs		400,000
Major Components		
Exterior Envelope	325,000	
Elevator	280,000	
Hazardous Materials	73,000	
Structural	42,000	
HVAC	516,000	
Electrical	482,000	
Plumbing	126,000	
Sprinkler System	115,000	
Site Utilities	66,000	

Budget Estimate $3.6 Million

- Soft Costs: for architectural/engineering; owners project manager, legal, permitting
- Includes complete exterior and interior rehabilitation with handicapped access entrances and elevator, building code upgrades, hazardous materials abatement, new infrastructure (HVAC, electrical, restrooms, sprinkler system, fire detection). Some exterior site work.
- Also includes limited site work plus new utilities.

Moving Forward

Exterior preservation (MPPF grant)	$325,000	2012-13
Hazardous materials abatement	$52,000	
Rehabilitation for occupancy	$2.8 m	

Moving Forward – Potential Grants

- Mass. Preservation Projects Fund
- Mass. Development – Loan Program
- Mass. Cultural Facilities Fund
- Community Development Block Grants

February 21, 2012

Menders, Torrey & Spencer